1RP - 1594

GW Sampling Report Appendix C (Part 1) Laboratory Analysis Date: March 30, 2012

APPENDIX C LABORATORY ANALYSIS

ł

 \cap

•

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 Ft. Worth, Texas 76132 E-Mail: lab@traceanalysis.com

800+378+1296 888•588•3443

806 • 794 • 1296 FAX 806 • 794 • 1298 FÁX 915+585+4944 915+585+3443 432 • 689 • 6301 FAX 432+689+6313 817 • 201 • 5260

Analytical and Quality Control Report

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

Report Date: June 14, 2007

Work Order: 7052924

Project Name: Rock Queen ESA Project Number: 2972

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

			Date	T IIIIC	Date
Sample	Description	Matrix	Taken	Taken	Received
125727	Water Station #1 MW-1	water	2007-05-24	17:25	2007-05-29

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

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

Dr. Blair Leftwich, Director

Standard Flags

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

Analytical Report

Sample: 125727 - Water Station #1 MW-1

•	Alkalinity		Analytical Method:	SM 2320B	Prep Method:	'
v -	37938		Date Analyzed:	2007-06-07	Analyzed By:	SM
Prep Batch:	32854		Sample Preparation:	2007-06-06	Prepared By:	\mathbf{SM}
			RL			
Parameter		Flag	Result	Units	Dilution	\mathbf{RL}
Hydroxide Alk	calinity		<1.00	mg/L as CaCo3	1	1.00
Carbonate All	calinity		<1.00	mg/L as CaCo3	1	1.00
Bicarbonate A	lkalinity		154	mg/L as CaCo3	1	4.00
Total Alkalinit	ty		154	mg/L as CaCo3	1	4.00

Sample: 125727 - Water Station #1 MW-1

Analysis:BTEXQC Batch:37812Prep Batch:32729		Analytical M Date Analyze Sample Prep	ed:	S 8021B 2007-06-03 2007-06-02		Prep Met. Analyzed Prepared	By: AG
		RJ	L				
Parameter Flag		Resul	t	Units	D	ilution	\mathbf{RL}
Benzene		< 0.0050	0	mg/L		5	0.00100
Toluene		< 0.0050	0	mg/L		5	0.00100
Ethylbenzene		< 0.0050	0	mg/L		5	0.00100
Xylene	· · · · · · · · · · · · · · · · · · ·	< 0.0050	0	mg/L		5	0.00100
					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.510	mg/L	5	0.500	102	23.9 - 107.4
4-Bromofluorobenzene (4-BFB)		0.449	mg/L	5	0.500	90	22.2 - 104.5

Sample: 125727 - Water Station #1 MW-1

Analysis:	Ca, Total		Analytical Method:	S 6010B	Prep Method:	S 3010A
QC Batch:	38029		Date Analyzed:	2007-06-11	Analyzed By:	TP
Prep Batch:	32755		Sample Preparation:	2007-06-04	Prepared By:	TS
			\mathbf{RL}			
Parameter		Flag	Result	Units	Dilution	\mathbf{RL}
Total Calciur	n		3040	mg/L	100	1.00

Sample: 125727 - Water Station #1 MW-1

Analysis:	Hardness	Analytical Method:	S 6010B	Prep Method:	N/A
QC Batch:	38029	Date Analyzed:	2007-06-11	Analyzed By:	TP
Prep Batch:	32755	Sample Preparation:	2007-06-04	Prepared By:	\mathbf{TS}

		RL			
Parameter	Flag	Result	Units	Dilution	\mathbf{RL}
Hardness (by ICP)		26600	mg eq CaCO3/L	1	0.00

Sample: 125727 - Water Station #1 MW-1

Analysis: QC Batch: Prep Batch:	Ion Chromatography 37610 32592	Analytical M Date Analyz Sample Prep	ed: 2007-05-29	Prep Method Analyzed By Prepared By	: AR
		RL	· ·		
Parameter	Flag	Result	Units	Dilution	\mathbf{RL}
Chloride		154000	mg/L	5000	0.500
Sulfate	, 	1800	mg/L	50	0.500

Sample: 125727 - Water Station #1 MW-1

Analysis: QC Batch: Prep Batch:	K, Total 38029 32755		Analytical Method: Date Analyzed: Sample Preparation:	S 6010B 2007-06-11 2007-06-04	Prep Method: Analyzed By: Prepared By:	ТΡ
			\mathbf{RL}			
Parameter		Flag	Result	Units	Dilution	\mathbf{RL}
Total Potassi	ium		1950	mg/L	100	1.00

Sample: 125727 - Water Station #1 MW-1

Analysis: QC Batch: Prep Batch:	Mg, Total 38029 32755		Analytical Method: Date Analyzed: Sample Preparation:	S 6010B 2007-06-11 2007-06-04	Prep Method: Analyzed By: Prepared By:	TP
			RL			
Parameter		Flag	Result	Units	Dilution	\mathbf{RL}
Total Magne	sium		4620	mg/L	100	1.00

Sample: 125727 - Water Station #1 MW-1

Analysis: QC Batch: Prep Batch:	Na, Total 38029 32755		Analytical Method: Date Analyzed: Sample Preparation:	S 6010B 2007-06-11 2007-06-04	Prep Method: Analyzed By: Prepared By:	TP
			RL			
Parameter		Flag	Result	Units	Dilution	\mathbf{RL}
Total Sodiun	n		79100	mg/L	1000	1.00

Report Date: June 14, 2007	Work Order: 7052924	Page Number: 4 of 18
2972	Rock Queen ESA	

Sample: 125727 - Water Station #1 MW-1

Analysis: QC Batch: Prep Batch:	рН 37604 32588	بر	Analytical Method: Date Analyzed: Sample Preparation:	SM 4500-H+ 2007-05-29	Prep Method: Analyzed By: Prepared By:	AR
			RL			
Parameter		Flag	Result	Units	Dilution	RL
pH			6.45	s.u.	1	0.00

Sample: 125727 - Water Station #1 MW-1

Analysis: QC Batch: Prep Batch:	38129		Analytical Method: Date Analyzed: Sample Preparation:	S 6010B 2007-06-13 2007-06-12	Prep Method: Analyzed By: Prepared By:	S 3005A TP TS
			\mathbf{RL}			
Parameter		Flag	Result	Units	Dilution	RL
Dissolved Ca	lcium		2790	mg/L	100	0.500
Dissolved Ma	agnesium		4530	mg/L	100	0.500
Dissolved Por	tassium		2210	mg/L	100	0.500
Dissolved Soc	dium		88400	mg/L	1000	0.500

Sample: 125727 - Water Station #1 MW-1

Analysis: QC Batch: Prep Batch:	TDS 37709 32678		Analytical Method: Date Analyzed: Sample Preparation:	SM 2540C 2007-05-31	Prep Method: Analyzed By: Prepared By:	AR
			RL			•
Parameter		Flag	Result	Units	Dilution	\mathbf{RL}
Total Dissolv	ed Solids		231100	mg/L	100	10.00

Sample: 125727 - Water Station #1 MW-1

Analysis: QC Batch: Prep Batch:	TPH DRO 37730 32692		Analytical M Date Analyze Sample Prep	ed: 2007-05-31		Prep M Analyz Prepar	•
			\mathbf{RL}				
Parameter	Fl	Flag Result Units		nits	Dilution	\mathbf{RL}	
DRO	· · · · · · · · · · · · · · · · · · ·		<5.00	m	g/L	1	5.00
					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
n-Triacontan	e	11.3	mg/L	1	15.0	75	70 - 130

1

Sample: 12572	27 - Water Station #1	MW-1				
QC Batch: 37	PH GRO 7813 2729	Analytical Method Date Analyzed: Sample Preparatio	2007-06-03		Prep Method: Analyzed By: Prepared By:	S 5030B AG AG
Trep Daten. 0					rieparea Dy.	no
Demonster	Ele -	RL	¥ 7	ויס		DT
Parameter GRO	Flag	Result <0.500	Units mg/L	Dil	ution 5	RL 0.100
<u>uno</u>		(0.000	iiig/ D			0.100
~		T 1. T 1		Spike	Percent	Recovery
Surrogate	(TET)			Amount	Recovery	Limits
Trifluorotoluene 4-Bromofluorob		0.435 mg/ 0.390 mg/		$0.500 \\ 0.500$	87 78	70 - 130 70 - 130
		0.000 1116/	<u> </u>	0.000		10-100
Method Blank	(1) QC Batch: 376	10				
QC Batch: 37	610	Date Analyzed:	2007-05-29		Analyzed	By: AR
•	592	QC Preparation:			Prepared 1	
Parameter	Flag		MDL esult	Units	0	\mathbf{RL}
Chloride			2.14	mg/I		0.5
Sulfate		<0.	.0485	mg/I		0.5
	· .					
Method Blank	(1) QC Batch: 3770)9				
QC Batch: 37	709	Date Analyzed:	2007-05-31		Analyzed 1	By: AR
Prep Batch: 32	678	QC Preparation:	2007-05-31		Prepared 1	By: AR
			MDL			
Parameter	,	Flag	Result	Ŭīr	nits	\mathbf{RL}
Total Dissolved			16.00		g/L	10
Method Blank	(1) QC Batch: 3773	30			<u> </u>	
INTERHOR DIALLY						
- v	730	Date Analyzed:	2007-05-31		Analyzed 1	
Prep Batch: 32	692	QC Preparation:	2007-05-31		Prepared I	By: AG
		N	IDL			
Parameter	Flag		sult	Units		\mathbf{RL}
DRO			1.13	mg/L		5

Spike

Amount

15.0

Percent

Recovery

87

Recovery

Limits

70 - 130

Sample:	140141	-	water	Station	#-	TAT AA - T	

Result

13.0

Flag

Units

mg/L

Dilution

1

Surrogate

n-Triacontane

2972		Rock Quee					
Method Blank (1)	QC Batch: 37812						
QC Batch: 37812		Date Anal	vzed: 2	007-06-03		Analy	zed By: AG
Prep Batch: 32729		QC Prepa		007-06-02			red By: AG
- r		v F -					· · · · ·
Parameter	Flag			DL sult	Uni	ts	\mathbf{RL}
Benzene			< 0.000		mg/		0.00
Toluene			< 0.000		mg/		0.00
Ethylbenzene		<0.000200			mg/		0.00
Xylene	•		< 0.000		mg/		0.00
					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.101	mg/L	1	0.100	101	60.1 - 116.8
4-Bromofluorobenzene ((4-BFB)	0.0887	mg/L	1	0.100	89	54.4 - 112.5
Method Blank (1) QC Batch: 37813	QC Batch: 37813	Date Anal		007-06-03			zed By: AG
Prep Batch: 32729		QC Prepa	ration: 2	007-06-02		Prepa	red By: AG
			MDI				
Parameter	Flag		Resul		Uni		RL
GRO			0.068	9	mg/	'L	0.1
				-	Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.0875	mg/L	1	0.100	88	70 - 130
4-Bromofluorobenzene ((4-BFB)	0.0776	mg/L	1	0.100	78	70 - 130
Method Blank (1)	QC Batch: 37938	D					
QC Batch: 37938 Prep Batch: 32854		Date Anal QC Prepa	-	007-06-07 007-06-06			zed By: SM red By: JS
			MD	L			
Parameter	Flag		Resu		Uni		RI
		<1.00			mg/L as		1
Hydroxide Alkalinity					mmm/T co		1
Hydroxide Alkalinity Carbonate Alkalinity			<1.(CaCo3	1
Hydroxide Alkalinity Carbonate Alkalinity Bicarbonate Alkalinity Total Alkalinity			<1.(<4.(<4.()0	mg/L as mg/L as mg/L as	CaCo3	4

Method (1)C Batch: 38029

QC Batch:	38029	Date Analyzed:	2007-06-11	Analyzed By:	TP
Prep Batch:	32755	QC Preparation:	2007-06-04	Prepared By:	TS

Report Date: June 14, 2007 2972			ler: 7052924 ueen ESA	Page Number: 7 of 18			
			MDL				
Parameter	Flag		Result	Units		\mathbf{RL}	
Total Calcium		<	< 0.517	mg/L	· · · · · · · · · · · · · · · · · · ·	1	
		ı	•				
Method Blank (1)	QC Batch: 38029						
	·	D (1 1				mp	
QC Batch: 38029		Date Analyzed:	2007-06-11		Analyzed By:	TP	
Prep Batch: 32755		QC Preparation:	2007-06-04	1	Prepared By:	TS	
	<i>i</i>		MDL [.]				
Parameter	Flag		Result	Units		RL	
Total Potassium			< 0.866	mg/L		1	
Method Blank (1)	QC Batch: 38029						
00 Patab. 20000		Data Anal-mail	2007 06 11		Anilyzed De-	тD	
QC Batch: 38029 Prep Batch: 32755		Date Analyzed: QC Preparation:	2007-06-11 2007-06-04		Analyzed By: Prepared By:	TP TS	
Flep Datch. 52755		GO I reparation.	2007-00-04		T Tepareu Dy.	10	
			MDL				
Parameter	Flag		Result	Units		\mathbf{RL}	
Total Magnesium			< 0.203	mg/L		1	
Method Blank (1) QC Batch: 38029 Prep Batch: 32755	QC Batch: 38029	Date Analyzed: QC Preparation:	2007-06-11 2007-06-04		Analyzed By: Prepared By:	TP TS	
			MDL				
Parameter	Flag	. F	Result	Units		\mathbf{RL}	
Total Sodium		<	0.668	mg/L		1	
Method Blank (1) QC Batch: 38129	QC Batch: 38129	Date Analyzed:	2007-06-13		Analyzed By:	$_{\mathrm{TP}}$	
Prep Batch: 32980		QC Preparation:	2007-06-12		Prepared By:	TS	
		v			1		
	, 		MDL	** •.		n 7	
Parameter	Fla	g	Result <0.0290	Units mg/I		RL 0.5	
Dissolved Calcium Dissolved Magnesium			<0.0290 <0.0740	mg/L mg/L		0.5 0.5	
Dissolved Potassium			0.451	mg/L		0.5	
Dissolved Sodium			<0.529	8, 2 mg/L		0.5	
Duplicates (1)							
QC Batch: 37604		Date Analyzed:	2007-05-29		Analyzed By:	AR	
Prep Batch: 32588		QC Preparation:	2007-05-29		Prepared By:	AR	
. op Datom 02000		go i reputation.	2001 00 20		- released to 1.		

C Batch:	37604	Date Ar	nalyzed: 2007-05-29	Analyzed By:	AR
rep Batch:	32588	. QC Pre	eparation: 2007-05-29	Prepared By:	\mathbf{AR}

ï

Param	Duplicate Result	Sample Result	Units	Di	lution	RPD	RF Lir	PD mit
pH	6.46	6.45	s.u.		1	0		5
· · · · · · · · · · · · · · · · · · ·		·····					· ·	
Duplicates (1)								
QC Batch: 37709		Date Analyzed	d: 2007-05-	31		Analy	zed By: A	٩R
Prep Batch: 32678		QC Preparatio	on: 2007-05-	31			-	٩R
	Duplic	cate Sar	nple				RF	PT
Param	Resu		-	Units	Dilution	RPD		
Total Dissolved Solids	2300	00 231	l 100 r	ng/L	100	0	2	20
Duplicates (1)								
QC Batch: 37938		Date Analyzed	1: 2007-06-	07		Analy	zed By: S	SM
Prep Batch: 32854		QC Preparatio					red By: J	
	Duplicat	e Sample					RF	PD
Param	Result	Result	U	Inits	Dilution	RPI		
Hydroxide Alkalinity	<1.00	<1.00		as CaCo3	1	0		20
Carbonate Alkalinity	<1.00	<1.00		as CaCo3	1	0		20
Bicarbonate Alkalinity Total Alkalinity	206 206	208 208	υ,	as CaCo3 as CaCo3	1 1	1 1		20 20
QC Batch: 37610 Prep Batch: 32592		Date Analyzed QC Preparatio				-		AR AR
~	LC			Spike	Matrix	-	Rec	
Param	Res		Dil.	Amount	Result	Rec.	Limi	
Chloride Sulfate	12 13		1 1	12.5 12.5	<0.0181 <0.0485	102 104	90 - 1 90 - 1	
Percent recovery is based								
	LCSD		Spike	Matrix	-	Rec.	RP	лq
Param	Result	Units Dil.	Amount	Result			RPD Lin	
Chloride	12.6	mg/L 1	12.5	<0.0181		- 110	2	
Sulfate	13.0	mg/L 1	12.5	< 0.0485	104 90	- 110	0	
Percent recovery is based	on the spike result.	RPD is based of	on the spike a	and spike du	plicate result			
Laboratory Control Sp	oike (LCS-1)							
QC Batch: 37730		Date Analyzed	l: 2007-05-	31		Analyz	zed By: A	G
Prep Batch: 32692		QC Preparatio	on: 2007-05-	31		Prepar	red By: A	G

Report Date: June 14, 2007 2972			der: 70529 Jueen ESA		Page Number: 9 of 18		
Param	LCS Result	Units	Dil	Spike	Matrix Result	Rec.	Rec. Limit

1

mg/L

25.0

< 0.711

106

70 - 130

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

26.6

Param	$\begin{array}{c} { m LCSD} \\ { m Result} \end{array}$	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	27.2	mg/L	1	25.0	<0.711	109	70 - 130	2	20
Percent recovery is based on t	he spike result.	RPD is b	ased on	the spike a	nd spike du	plicate 1	result.		

	LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
n-Triacontane	13.0	13.1	mg/L	1	15.0	86	87	70 - 130

Laboratory Control Spike (LCS-1)

DRO

QC Batch:	37812	Date Analyzed:	2007-06-03	Analyzed By:	AG
Prep Batch:	32729	QC Preparation:	2007-06-02	Prepared By:	\mathbf{AG}

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Benzene	0.103	mg/L	1	0.100	< 0.000200	103	76.4 - 120.5
Toluene	0.103	mg/L	1	0.100	< 0.000200	~ 103	79.2 - 117.8
Ethylbenzene	0.0997	mg/L	1	0.100	< 0.000200	100	78.8 - 117.9
Xylene	0.299	mg/L	1	0.300	< 0.000300	100	80 - 120.1

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	0.103	mg/L	1	0.100	< 0.000200	103	76.4 - 120.5	0	20
Toluene	0.104	mg/L	1	0.100	<0.000200	104	79.2 - 117.8	1	20
Ethylbenzene	0.100	mg/L	1	0.100	< 0.000200	100	78.8 - 117.9	0	20
Xylene	0.301	mg/L	1	0.300	< 0.000300	100	80 - 120.1	1	20

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

	LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate	\mathbf{Result}	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	0.0939	0.0915	mg/L	1	0.100	94	92	59.5 - 117.8
4-Bromofluorobenzene (4-BFB)	0.0981	0.0978	mg/L	1	0.100	98	98	63.2 - 122.4

Laboratory Control Spike (LCS-1)

QC Batch: Prep Batch:	37813 32729		Analyzed: reparation:	2007-06 2007-06		Analyzed By: Prepared By:			
		LCS			Spike	Matrix		Rec.	
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit	
GRO		0.841	mg/L	1	1.00	< 0.0590	84	70 - 130	

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

i

l

ł

1 1

.

D	LCSD	T T •,	0.1	Spike	Mat		n		ec.	סמס	RPD
Param GRO	<u>Result</u> 0.793	Units mg/L		Amount 1.00	Res <0.0		Rec. 79		mit 130	RPD 6	Limit 20
									130	0	
Percent recovery is based on the	spike result.	RPD is	based on	the spike a	and spil	ke dupli	icate r	result.			
	LC	S I	LCSD			Spike	e.	LCS	L	CSD	Rec.
Surrogate	Res		Result	Units	Dil.	Amou		Rec.		lec.	Limit
Trifluorotoluene (TFT)	0.10		0.114	mg/L	1	0.100		105		14	70 - 130
4-Bromofluorobenzene (4-BFB)	0.09).0887	mg/L	1	0.100		95	•	89	70 - 130
					,	•					
Laboratory Control Spike (L	CS-1)										
QC Batch: 38029		Date A	nalyzed:	2007-06-	-11				An	alyzed E	By: TP
Prep Batch: 32755			eparation							pared E	
2.0p 2.00000 02,000		4011	op	2001.00	01					parea 2	J. 20
	LC				Spi			trix			Rec.
Param	Res		Units	Dil.	Amo			sult	Re		Limit
Total Calcium	51	.7	mg/L	1	50	.0	<0.	.517	1()3	85 - 115
Percent recovery is based on the	spike result.	RPD is	based on	the spike a	and spil	ce dupli	icate r	esult.			
	LCSD			Spike	Mat			$R\epsilon$			RPD
Param	Result	Units		Amount	Res		Rec.	Lin		RPD	Limit
				¥0.0	<0.8	517	104	85 -	115	1	20
Total Calcium Percent recovery is based on the Laboratory Control Spike (L	-	mg/I RPD is		50.0 the spike a					110	<u> </u>	20
Percent recovery is based on the	spike result.	RPD is		the spike a 2007-06-	and spil				Ana	lyzed B pared B	y: TP
Percent recovery is based on the Laboratory Control Spike (La QC Batch: 38029	spike result. CS-1)	RPD is Date A QC Pr	based on	the spike a 2007-06-	and spil 11 04	æ dupli	icate r	esult.	Ana	lyzed B	y: TP y: TS
Percent recovery is based on the Laboratory Control Spike (L QC Batch: 38029 Prep Batch: 32755	spike result. CS-1) LC	RPD is Date A QC Pr CS	based on malyzed: eparation:	the spike a 2007-06- 2007-06-	and spil 11 04 Spil	æ dupli	icate r Ma	result. trix	Ana Pre	lyzed B pared B	y: TP y: TS Rec.
Percent recovery is based on the Laboratory Control Spike (L QC Batch: 38029 Prep Batch: 32755 Param	spike result. CS-1) LC Res	RPD is Date A QC Pr CS sult	based on analyzed: eparation: Units	the spike a 2007-06-	and spil 11 04 Spil Amo	ke unt	icate r Ma Res	result. trix sult	Ana Pre Re	ulyzed B pared B c.	y: TP y: TS Rec. Limit
Percent recovery is based on the Laboratory Control Spike (L QC Batch: 38029 Prep Batch: 32755 Param Total Potassium	spike result. CS-1) LC Res 51	RPD is Date A QC Pr CS ult .5	based on analyzed: eparation: Units mg/L	the spike a 2007-06- 2007-06- Dil. 1	and spil 11 04 Spil Amo 50.	ke unt 0	Ma Res <0.	trix sult 866	Ana Pre	ulyzed B pared B c.	y: TP y: TS Rec.
Percent recovery is based on the Laboratory Control Spike (L QC Batch: 38029 Prep Batch: 32755 Param	spike result. CS-1) LC Res 51 spike result.	RPD is Date A QC Pr CS ult .5	based on analyzed: eparation: Units mg/L	the spike a 2007-06- 2007-06- Dil. 1 the spike a	and spil 11 04 Spil Amo 50. and spil	ke unt 0 ke dupli	Ma Res <0.	trix sult 866 esult.	Ana Pre Re 10	ulyzed B pared B c.	y: TP y: TS Rec. Limit 85 - 115
Percent recovery is based on the F Laboratory Control Spike (L QC Batch: 38029 Prep Batch: 32755 Param Total Potassium Percent recovery is based on the s	spike result. CS-1) LC Res 51 spike result. LCSD	RPD is Date A QC Pr 2S ult .5 RPD is	based on analyzed: eparation: Units mg/L based on	the spike a 2007-06- 2007-06- Dil. 1 the spike a Spike	and spil 11 04 Spil Amo 50. and spil Mat	ke unt 0 ke dupli	Ma Res <0. icate r	trix sult 866 esult. Re	Ana Pre <u>Re</u> 10	llyzed B pared B c 3	y: TP y: TS Rec. Limit 85 - 115 RPD
Percent recovery is based on the F Laboratory Control Spike (L QC Batch: 38029 Prep Batch: 32755 Param Total Potassium Percent recovery is based on the se Param	spike result. CS-1) LC Res 51 spike result. LCSD Result	RPD is Date A QC Pr 2S ult .5 RPD is Units	based on analyzed: eparation: Units mg/L based on Dil.	the spike a 2007-06- 2007-06- Dil. 1 the spike a Spike Amount	and spil 11 04 Spil Amo 50. and spil Mat Ress	ke unt 0 ke dupli rix ult I	Ma Res <0. icate r	trix sult 866 esult. Re Lin	Ana Pre Re 10 c.	lyzed B pared B c. 3 RPD	y: TP y: TS Rec. Limit 85 - 115 RPD Limit
Percent recovery is based on the F Laboratory Control Spike (L QC Batch: 38029 Prep Batch: 32755 Param Total Potassium Percent recovery is based on the se Param Total Potassium	spike result. CS-1) LC Res 51 spike result. LCSD Result 52.0	RPD is Date A QC Pr CS ult .5 RPD is Units mg/L	based on analyzed: eparation: Units mg/L based on Dil. , 1	the spike a 2007-06- 2007-06- Dil. 1 the spike a Spike Amount 50.0	and spil 11 04 Spii Amo 50. and spil Mat Ress <0.8	ke unt 0 rix alt I 866	Ma Res <0. icate r Rec. 104	trix sult 866 esult. Re Lim 85 -	Ana Pre Re 10 c.	llyzed B pared B c 3	y: TP y: TS Rec. Limit 85 - 115 RPD
Percent recovery is based on the F Laboratory Control Spike (L QC Batch: 38029 Prep Batch: 32755 Param Total Potassium Percent recovery is based on the se Param	spike result. CS-1) LC Res 51 spike result. LCSD Result 52.0	RPD is Date A QC Pr CS ult .5 RPD is Units mg/L	based on analyzed: eparation: Units mg/L based on Dil. , 1	the spike a 2007-06- 2007-06- Dil. 1 the spike a Spike Amount 50.0	and spil 11 04 Spii Amo 50. and spil Mat Ress <0.8	ke unt 0 rix alt I 866	Ma Res <0. icate r Rec. 104	trix sult 866 esult. Re Lim 85 -	Ana Pre Re 10 c.	lyzed B pared B c. 3 RPD	y: TP y: TS Rec. Limit 85 - 115 RPD Limit
Percent recovery is based on the F Laboratory Control Spike (L QC Batch: 38029 Prep Batch: 32755 Param Total Potassium Percent recovery is based on the se Param Total Potassium Percent recovery is based on the se	spike result. CS-1) LC Res 51 spike result. LCSD Result 52.0 spike result.	RPD is Date A QC Pr CS ult .5 RPD is Units mg/L	based on analyzed: eparation: Units mg/L based on Dil. , 1	the spike a 2007-06- 2007-06- Dil. 1 the spike a Spike Amount 50.0	and spil 11 04 Spii Amo 50. and spil Mat Ress <0.8	ke unt 0 rix alt I 866	Ma Res <0. icate r Rec. 104	trix sult 866 esult. Re Lim 85 -	Ana Pre Re 10 c.	lyzed B pared B c. 3 RPD	y: TP y: TS Rec. Limit 85 - 115 RPD Limit
Percent recovery is based on the F Laboratory Control Spike (L QC Batch: 38029 Prep Batch: 32755 Param Total Potassium Percent recovery is based on the se Param Total Potassium Percent recovery is based on the se Laboratory Control Spike (Le	spike result. CS-1) LC Res 51 spike result. LCSD Result 52.0 spike result.	RPD is Date A QC Pr 2S ult .5 RPD is <u>mg/L</u> RPD is	based on analyzed: eparation: <u>Units</u> mg/L based on <u>Dil.</u> , <u>1</u> based on	the spike a 2007-06- 2007-06- Dil. 1 the spike a Spike Amount 50.0 the spike a	and spil 11 04 Spil Amo 50. and spil Mat Resu <0.8 and spil	ke unt 0 rix alt I 866	Ma Res <0. icate r Rec. 104	trix sult 866 esult. Re Lim 85 -	Ana Pre Re 10 c. nit 115	lyzed B pared B c. 3 RPD 1	y: TP y: TS Rec. Limit 85 - 115 RPD Limit 20
Percent recovery is based on the F Laboratory Control Spike (L QC Batch: 38029 Prep Batch: 32755 Param Total Potassium Percent recovery is based on the s Param Total Potassium Percent recovery is based on the s Laboratory Control Spike (Le QC Batch: 38029	spike result. CS-1) LC Res 51 spike result. LCSD Result 52.0 spike result.	RPD is Date A QC Pr 2S ult .5 RPD is Mg/L RPD is Date A	based on analyzed: eparation: <u>Units</u> mg/L based on <u>Dil.</u> , <u>1</u> based on	the spike a 2007-06- 2007-06- Dil. 1 the spike a Spike Amount 50.0 the spike a 2007-06-	and spil 11 04 Spil Amo 50. and spil Mat Resu <0.8 and spik 11	ke unt 0 rix alt I 866	Ma Res <0. icate r Rec. 104	trix sult 866 esult. Re Lim 85 -	Ana Pre Re 10 c. nit 115	lyzed B pared B c. 3 RPD 1 lyzed B	y: TP y: TS Rec. Limit 85 - 115 RPD Limit 20 y: TP
Percent recovery is based on the F Laboratory Control Spike (L QC Batch: 38029 Prep Batch: 32755 Param Total Potassium Percent recovery is based on the s Param Total Potassium Percent recovery is based on the s Laboratory Control Spike (Le QC Batch: 38029	spike result. CS-1) LC Res 51 spike result. LCSD Result 52.0 spike result.	RPD is Date A QC Pr 2S ult .5 RPD is Mg/L RPD is Date A	based on analyzed: eparation: <u>Units</u> mg/L based on <u>Dil.</u> , <u>1</u> based on	the spike a 2007-06- 2007-06- Dil. 1 the spike a Spike Amount 50.0 the spike a 2007-06-	and spil 11 04 Spil Amo 50. and spil Mat Resu <0.8 and spik 11	ke unt 0 rix alt I 866	Ma Res <0. icate r Rec. 104	trix sult 866 esult. Re Lim 85 -	Ana Pre Re 10 c. nit 115	lyzed B pared B c. 3 RPD 1	y: TP y: TS Rec. Limit 85 - 115 RPD Limit 20 y: TP
Percent recovery is based on the F Laboratory Control Spike (L QC Batch: 38029 Prep Batch: 32755 Param Total Potassium Percent recovery is based on the s Param Total Potassium Percent recovery is based on the s Laboratory Control Spike (Le QC Batch: 38029	spike result. CS-1) LC Res 51 spike result. LCSD Result 52.0 spike result. CS-1)	RPD is Date A QC Pr 2S ult .5 RPD is Mg/L RPD is Date A QC Pr	based on analyzed: eparation: <u>Units</u> mg/L based on <u>Dil.</u> , <u>1</u> based on	the spike a 2007-06- 2007-06- Dil. 1 the spike a Spike Amount 50.0 the spike a 2007-06-	and spil 11 04 Spil Amo 50. and spil Mat Resu <0.8 and spil 11 04	ke unt 0 ee dupli rix ult I 366 se dupli	Ma Res <0. icate r Rec. 104 cate r	trix sult 866 esult. Re Lim 85 - esult.	Ana Pre Re 10 c. nit 115	lyzed B pared B c. 3 RPD 1 lyzed B	y: TP y: TS Rec. Limit 85 - 115 RPD Limit 20 y: TP y: TS
Percent recovery is based on the F Laboratory Control Spike (L QC Batch: 38029 Prep Batch: 32755 Param Total Potassium Percent recovery is based on the s Param Total Potassium Percent recovery is based on the s Laboratory Control Spike (Le QC Batch: 38029	spike result. CS-1) LC Res 51 spike result. LCSD Result 52.0 spike result.	RPD is Date A QC Pr 2S ult .5 RPD is Mg/L RPD is Date A QC Pr	based on analyzed: eparation: <u>Units</u> mg/L based on <u>Dil.</u> , <u>1</u> based on	the spike a 2007-06- 2007-06- Dil. 1 the spike a Spike Amount 50.0 the spike a 2007-06-	and spil 11 04 Spil Amo 50. and spil Mat Resu <0.8 and spik 11	ke unt 0 ke dupli rix ult I 366 ke	Ma Res <0. icate r Rec. 104	trix sult 866 esult. Re Lim 85 - esult.	Ana Pre Re 10 c. nit 115	lyzed B pared B c. 3 RPD 1 lyzed B pared B	y: TP y: TS Rec. Limit 85 - 115 RPD Limit 20 y: TP

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

T

ł

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Magnesium	51.0	mg/L		50.0	<0.203	102	85 - 115	1	20
Percent recovery is based on (the spike result.			n the spike a		uplicate			
Laboratory Control Spike	(LCS-1)								
QC Batch: 38029		Date A	.nalyzed:	2007-06-	-11		Ar	alyzed B	v: TP
Prep Batch: 32755			eparation					epared B	
	LC	cs			Spike	Ma	trix		Rec.
Param	Res		Units	Dil.	Amount	Res		с.	Limit
Total Sodium	51	.3	mg/L	1	50.0		668 10		7.3 - 12
Percent recovery is based on t	the spike result.	RPD is	based or	1 the spike a	and spike di	uplicate	result.		
	LCSD			Spike	Matrix		Rec.		RPI
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limi
Total Sodium	52.0	mg/L	1	50.0	< 0.668	104	87.3 - 124	1	20
Percent recovery is based on t Laboratory Control Spike QC Batch: 38129 Prep Batch: 32980	-	Date A	nalyzed:	2007-06-	13	apneate	An	alyzed B	
Laboratory Control Spike QC Batch: 38129	(LCS-1)	Date A QC Pre	.nalyzed:	2007-06-	13 12	-	An Pr		y: TS
Laboratory Control Spike QC Batch: 38129 Prep Batch: 32980	(LCS-1)	Date A QC Pro	nalyzed: eparation	2007-06- 1: 2007-06-	13 12 Spike	Mat	An Pro	epared B	y: TS Rec.
Laboratory Control Spike QC Batch: 38129 Prep Batch: 32980 Param	(LCS-1) LC Resu	Date A QC Pro S ult	.nalyzed: eparation Units	2007-06- 1: 2007-06- Dil.	13 12 Spike Amount	Mat	An Pro orix ult Rea	epared B	y: TS Rec. Limit
Laboratory Control Spike QC Batch: 38129 Prep Batch: 32980 Param Dissolved Calcium	(LCS-1) LC Resu 51.	Date A QC Pro S ult 4	nalyzed: eparation Units mg/L	2007-06- 1: 2007-06- Dil. 1	13 12 Spike Amount 50.0	Mat Res <0.0	An Pro ult Re 2290 10	epared By	y: TS Rec. Limit .1 - 12
Laboratory Control Spike QC Batch: 38129 Prep Batch: 32980 Param Dissolved Calcium Dissolved Magnesium	(LCS-1) LC Rest 51. 51.	Date A QC Pro S ult 4 4	nalyzed: eparation Units mg/L mg/L	2007-06- 1: 2007-06- Dil. 1 1	13 12 Spike <u>Amount</u> 50.0 50.0	Mat Res <0.0 <0.0	An Pro ult Rev 290 10 740 10	epared B c. 3 79 3 80	y: TS Rec. Limit 0.1 - 12 0.2 - 12
Laboratory Control Spike QC Batch: 38129 Prep Batch: 32980 Param Dissolved Calcium	(LCS-1) LC Resu 51.	Date A QC Pro S ult 4 2	nalyzed: eparation Units mg/L	2007-06- 1: 2007-06- Dil. 1	13 12 Spike Amount 50.0	Mat Res <0.0	An Pro ult Rev 290 10 740 10 307 10	epared By c. 3 79 3 80 2 78	y: TS Rec. Limit 0.1 - 12 0.2 - 12 0.8 - 11
Laboratory Control Spike QC Batch: 38129 Prep Batch: 32980 Param Dissolved Calcium Dissolved Magnesium Dissolved Potassium	(LCS-1) LC Rest 51. 51. 51. 52.	Date A QC Pro S ult 4 2 1	nalyzed: eparation Units mg/L mg/L mg/L mg/L	2007-06- 1: 2007-06- Dil. 1 1 1 1 1	13 12 Spike <u>Amount</u> 50.0 50.0 50.0 50.0 50.0	Mat Res <0.0 <0.0 <0.1 <0.1	An Pro ult Re 2290 10 740 10 307 10 529 10	epared By c. 3 79 3 80 2 78	y: TS Rec. Limit 0.1 - 12 0.2 - 12 0.8 - 11
Laboratory Control Spike QC Batch: 38129 Prep Batch: 32980 Param Dissolved Calcium Dissolved Magnesium Dissolved Potassium Dissolved Sodium	(LCS-1) LC Rest 51. 51. 51. 52.	Date A QC Pro S ult 4 2 1	nalyzed: eparation Units mg/L mg/L mg/L mg/L	2007-06- 1: 2007-06- Dil. 1 1 1 1 1	13 12 Spike <u>Amount</u> 50.0 50.0 50.0 50.0 50.0	Mat Res <0.0 <0.0 <0.1 <0.1	An Pro ult Re 2290 10 740 10 307 10 529 10	epared By c. 3 79 3 80 2 78	y: TS Rec. Limit 0.1 - 12 0.2 - 12 0.8 - 11 0.4 - 12
Laboratory Control Spike QC Batch: 38129 Prep Batch: 32980 Param Dissolved Calcium Dissolved Magnesium Dissolved Potassium Dissolved Sodium Percent recovery is based on t Param	(LCS-1) LC Resu 51. 51. 51. 52. che spike result.	Date A QC Pro S ult 4 2 1	nalyzed: eparation Units mg/L mg/L mg/L mg/L	2007-06- 2007-06- Dil. 1 1 1 1 1 1 1 1 1 1 1 1 1	13 12 Spike <u>Amount</u> 50.0 50.0 50.0 50.0 50.0 and spike du	Mat Res <0.0 <0.0 <0.1 <0.1	An Pro vix ult Re 2290 10 740 10 307 10 529 10 result.	epared By c. 3 79 3 80 2 78	y: TS Rec. Limit 0.1 - 12 0.2 - 12 0.3 - 11 0.4 - 12 RPI Limi
Laboratory Control Spike QC Batch: 38129 Prep Batch: 32980 Param Dissolved Calcium Dissolved Magnesium Dissolved Sodium Percent recovery is based on the second s	(LCS-1) LC Rest 51. 51. 52. the spike result. LCSD Result 51.6	Date A QC Pro S ult 4 4 2 1 RPD is Units mg/L	nalyzed: eparation Units mg/L mg/L based on Dil. 1	2007-06- 2007-06- Dil. 1 1 1 1 1 1 1 1 50.0	13 12 Spike Amount 50.0 50.0 50.0 50.0 50.0 und spike du Matrix Result <0.0290	Mat Res <0.0 <0.1 <0.1 iplicate Rec. 103	An Pro- crix ult Rea 2290 10 740 10 307 10 529 10 result. Rec. Limit 79.1 - 121	epared By 3 79 3 80 2 78 4 79 RPD 0	y: TS Rec. Limit 0.1 - 12 0.2 - 12 0.3 - 11 0.4 - 12 RPI Limi 20
Laboratory Control Spike QC Batch: 38129 Prep Batch: 32980 Param Dissolved Calcium Dissolved Magnesium Dissolved Sodium Percent recovery is based on the second s	(LCS-1) LC Rest 51. 51. 52. the spike result. LCSD Result 51.6 51.5	Date A QC Pro S ult 4 4 2 1 RPD is <u>Units</u> mg/L mg/L	nalyzed: eparation mg/L mg/L mg/L based on Dil. 1 1	2007-06- 2007-06- Dil. 1 1 1 1 1 1 1 1 1 1 50.0 50.0 50.0	13 12 Spike Amount 50.0 50.0 50.0 50.0 and spike du Matrix Result <0.0290 <0.0740	Mat Res <0.0 <0.1 <0.1 iplicate Rec. 103 103	An Pro- crix ult Ree 2290 10 740 10 307 10 529 10 7529 10 result. Rec. Limit 79.1 - 121 80.2 - 120	epared B 2. 79 3 80 2 78 4 79 RPD 0 0 0	y: TS Rec. Limit 0.1 - 12 0.2 - 12 0.3 - 11 0.4 - 12 RPI Limi 20 20
Laboratory Control Spike QC Batch: 38129 Prep Batch: 32980 Param Dissolved Calcium Dissolved Magnesium Dissolved Sodium Percent recovery is based on the statement of the	(LCS-1) LC Rest 51. 51. 52. the spike result. LCSD Result 51.6 51.5 51.3	Date A QC Pro- S ult 4 4 2 1 RPD is <u>Units</u> mg/L mg/L	nalyzed: eparation mg/L mg/L mg/L based on Dil. 1 1 1 1	2007-06- 2007-06- Dil. 1 1 1 1 1 1 1 1 1 50.0 50.0 50.0 50.0	13 12 Spike Amount 50.0 50.0 50.0 50.0 0 0.0 50.0 40.0290 <0.0740 <0.307	Mat Res <0.0 <0.0 <0.3 0 101 103 103 103	An Pro- crix ult Ree 2290 10 740 10 307 10 529 10 7529 10 result. Rec. Limit 79.1 - 121 80.2 - 120 78.8 - 114	epared B 2 79 3 80 2 78 4 79 RPD 0 0 0 0 0	y: TS Rec. Limit 0.1 - 12 0.2 - 12 0.3 - 11 0.4 - 12 RPI Limi 20 20 20 20
Laboratory Control Spike QC Batch: 38129 Prep Batch: 32980 Param Dissolved Calcium Dissolved Magnesium Dissolved Potassium Dissolved Sodium Percent recovery is based on t Param Dissolved Calcium Dissolved Calcium Dissolved Potassium Dissolved Potassium Dissolved Sodium	(LCS-1) LC Rest 51. 51. 52. the spike result. LCSD Result 51.6 51.5 51.3 51.6	Date A QC Pro- S ult 4 4 2 1 RPD is mg/L mg/L mg/L mg/L	nalyzed: eparation mg/L mg/L mg/L based on Dil. 1 1 1 1 1	2007-06- 2007-06- Dil. 1 1 1 1 1 1 1 1 1 1 1 1 1	13 12 Spike Amount 50.0 50.0 50.0 50.0 50.0 and spike du Matrix Result <0.0290 <0.0740 <0.307 <0.529	Mat Res <0.0 <0.0 <0.1 <0.1 (0.1 (0.1) (0.	An Pre- virix 2290 100 740 100 307 10 529 100 result. Rec. Limit 79.1 - 121 80.2 - 120 78.8 - 114 79.4 - 123	epared B 2. 79 3 80 2 78 4 79 RPD 0 0 0	y: TS Rec. Limit 0.1 - 12 0.2 - 12 0.3 - 11 0.4 - 12 RPI Limi 20 20
Laboratory Control Spike QC Batch: 38129 Prep Batch: 32980 Param Dissolved Calcium Dissolved Magnesium Dissolved Potassium Dissolved Sodium Percent recovery is based on the statement of the	(LCS-1) LC Rest 51. 51. 52. the spike result. LCSD Result 51.6 51.5 51.3 51.6	Date A QC Pro- S ult 4 4 2 1 RPD is <u>Units</u> mg/L mg/L mg/L mg/L RPD is	nalyzed: eparation mg/L mg/L mg/L based on Dil. 1 1 1 1 1	2007-06- 2007-06- Dil. 1 1 1 1 1 1 1 1 1 1 1 1 1	13 12 Spike Amount 50.0 50.0 50.0 50.0 50.0 and spike du Matrix Result <0.0290 <0.0740 <0.307 <0.529	Mat Res <0.0 <0.0 <0.1 <0.1 (0.1 (0.1) (0.	An Pre- virix 2290 100 740 100 307 10 529 100 result. Rec. Limit 79.1 - 121 80.2 - 120 78.8 - 114 79.4 - 123	epared B 2 79 3 80 2 78 4 79 RPD 0 0 0 0 0	y: TS Rec. Limit 0.1 - 12 0.2 - 12 0.3 - 11 0.4 - 12 RPI Limi 20 20 20 20
Laboratory Control Spike QC Batch: 38129 Prep Batch: 32980 Param Dissolved Calcium Dissolved Magnesium Dissolved Potassium Dissolved Sodium Percent recovery is based on the statement of the	(LCS-1) LC Resu 51. 51. 52. the spike result. LCSD Result 51.6 51.5 51.3 51.6 the spike result.	Date A QC Pro- S ult 4 4 2 1 RPD is <u>Units</u> mg/L mg/L mg/L mg/L RPD is 25727	nalyzed: eparation mg/L mg/L mg/L based on Dil. 1 1 1 1 1	2007-06- 2007-06- Dil. 1 1 1 1 1 1 1 1 1 1 1 1 1	13 12 Spike Amount 50.0 50.0 50.0 50.0 and spike du Matrix Result <0.0290 <0.0740 <0.307 <0.529 and spike du	Mat Res <0.0 <0.0 <0.1 <0.1 (0.1 (0.1) (0.	An Pro- pro- pro- pro- pro- pro- pro- pro- p	epared B 2 79 3 80 2 78 4 79 RPD 0 0 0 0 0	y: TS Rec. Limit 0.1 - 12 0.2 - 12 0.3 - 11 0.4 - 12 RPI Limi 20 20 20 20

continued ...

Report Date: June 14, 2007 2972

Page Number: 12 of 18

natrix spikes continued	M	s			Spike	Ma	trix		Rec.
Param	Res		Units	Dil.	Amount	Res		lec.	Limit
	М	S			Spike	Ma	trix		Rec.
Param	Res		Units	Dil.	Amount	Res		lec.	Limit
Chloride	1 1770		mg/L	50	625	179	679 -4	427	90 - 11
Sulfate	23) 0	mg/L	50	625	179	6.67	95	90 - 11
Percent recovery is based on th	ie spike result.	RPD is	based on	the spike a	nd spike du	plicate r	esult.		
	MSD			Spike	Matrix		Rec.		RPI
Param	Result	Units		Amount	Result	Rec.	Limit	RPD	Lim
Chloride	2 178000	mg/L		625	179679	-267	90 - 110	1	
Sulfate	2420	mg/L	50	625	1796.67	100	90 - 110	1	
ercent recovery is based on th	-		based on	the spike a	nd spike du	plicate r	esult.		
· · · ·	iked Sample: 12	6001							
QC Batch: 38029			nalyzed:	2007-06-1				alyzed l	
Prep Batch: 32755		QC Pre	eparation:	2007-06-0)4		\Pr	epared I	By: TS
	M				Spike	Ma			Rec.
Param	Res		Units	Dil.	Amount	Res		<u>.ec.</u>	Limit
Total Calcium	65.		mg/L	1	50.0	14		03	75 - 12
Percent recovery is based on th	ie spike result.	RPD is	based on	the spike a	nd spike du	plicate r	esult.		
	MSD			Spike	Matrix		Rec.		RPI
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limi
Cotal Calcium	65.1	mg/L	1	50.0	14.2	102	75 - 125	1	20
ercent recovery is based on th	-		based on t	the spike a	nd spike du	plicate r	esult.		
Matrix Spike (MS-1) Spi	iked Sample: 12	6001							
	iked Sample: 12		nalvzed:	2007-06-1	1		An	alvzed H	Bv: TF
2C Batch: 38029	iked Sample: 12	Date A	nalyzed:	2007-06-1 2007-06-0				alyzed H epared H	•
QC Batch: 38029	iked Sample: 12	Date A	•						•
QC Batch: 38029	iked Sample: 12	Date A QC Pre	•		94	Mat	Pre		
2C Batch: 38029 Prep Batch: 32755	-	Date A QC Pre	•			Mat Res	Pre		ÿ: TS
C Batch: 38029 Frep Batch: 32755 Param	M	Date A QC Pre	eparation:	2007-06-0	94 Spike		Pre trix ult R	epared E	By: TS Rec. Limit
OC Batch: 38029 Prep Batch: 32755 Param Cotal Potassium	MS Rest 55.	Date A QC Pre S ilt 9	Units mg/L	2007-06-0 Dil. 1	Spike Amount 50.0	Res 3.	Pre trix ult R 6 1	epared E	By: TS Rec. Limit
QC Batch: 38029	MS Rest 55.	Date A QC Pre S ilt 9	Units mg/L	2007-06-0 Dil. 1 the spike an	Spike Amount 50.0	Res 3.	Pre trix ult R 6 1	epared E	By: TS Rec.
QC Batch: 38029 Prep Batch: 32755 Param Cotal Potassium	MS Rest 55. ne spike result.	Date A QC Pre S ilt 9	Units mg/L	2007-06-0 Dil. 1	Spike Amount 50.0 nd spike du	Res 3.	Pre trix ult R 6 1 esult.	epared E	By: TS Rec. Limit 75 - 12
2C Batch: 38029 Prep Batch: 32755 Param Potal Potassium Percent recovery is based on th	MS Rest 55. ne spike result.	Date A QC Pre S ilt 9 RPD is	Units mg/L based on t	2007-06-0 Dil. 1 the spike an Spike	Spike Amount 50.0 nd spike du Matrix	Res 3. plicate re	Pre trix ult R 6 1 esult. Rec.	epared E ec. 05	By: TS Rec. Limit 75 - 12 RPI

2972									
Matrix Spike (MS-1) Sp	oiked Sample: 12	6001							
QC Batch: 38029		Date A	nalyzed:	2007-06-	11		A	nalyzed E	y: TP
Prep Batch: 32755			eparation:	2007-06-	04			repared B	•
	MS	5			Spike	Ma	trix		Rec.
Param	Resu		Units	Dil.	Amount			Rec.	Limit
Fotal Magnesium	55.	1	mg/L	1	50.0			103	75 - 12
Percent recovery is based on t	he spike result. I	RPD is	based on	the spike a	nd spike du	iplicate r	esult.	<u>.</u>	
	MSD			Spike	Matrix		Rec.		RPI
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limi
Total Magnesium	54.0	mg/L	1	50.0	3.55	101	75 - 125	2	20
ercent recovery is based on t	he spike result.]	RPD is	based on	the spike a	nd spike dı	iplicate r	esult.		
Matrix Spike (MS-1) Sp	oiked Sample: 120	6001							
		Dete A		0007 00	1 7				(T) F
QC Batch: 38029			nalyzed:	2007-06-				nalyzed B	
Prep Batch: 32755		QU F IE	eparation:	2007-06-0	J4		F I	epared B	y: TS
	2.6	r			Cuilta	Ма	.		Dee
					Spike	ma	trix		Rec.
) aram	MS		Unite	Dil	-	Ro	and E	200	Limit
	Resu	ılt	Units	Dil.	Amount			lec.	Limit 75 - 12
Fotal Sodium	Resu 3 769	ılt 9	mg/L	1	Amount 50.0	70)5	Rec.	
Fotal Sodium	Resu 3 769	ılt 9	mg/L	1	Amount 50.0	70)5		
Fotal Sodium	Resu 3 769	ılt 9 RPD is	mg/L	1 the spike a Spike	Amount 50.0 nd spike du Matrix	70)5	128	75 - 12 RPI
Potal Sodium Percent recovery is based on t Param	Resu 3 769 he spike result. 1 MSD Result	ılt 9 RPD is Units	mg/L based on Dil.	1 the spike a Spike Amount	Amount 50.0 nd spike du Matrix Result	7(oplicate r Rec.	05 : esult. Rec. Limit	RPD	75 - 12 RPI Limi
Potal Sodium Percent recovery is based on t Param Potal Sodium	Result 3 769 he spike result. 1 MSD Result 766	ılt 9 RPD is Units mg/L	mg/L based on r Dil. 1	1 the spike a Spike Amount 50.0	Amount 50.0 nd spike du Matrix Result 705	7(iplicate r Rec. 122	05 esult. Rec. Limit 75 - 125	128	75 - 12 RPI
Fotal Sodium Percent recovery is based on the state of th	Result 3 769 he spike result. I MSD Result 766 he spike result. I iked Sample: 127	It 9 RPD is <u>Units</u> mg/L RPD is 7171 Date An	mg/L based on r Dil. 1	1 the spike a Spike Amount 50.0	Amount 50.0 nd spike du Matrix Result 705 nd spike du	7(iplicate r Rec. 122	05 esult. Rec. Limit 75 - 125 esult. Ar	RPD	75 - 12 RPI Limi 20 y: TP
Fotal Sodium Percent recovery is based on the state of th	Result 3 769 he spike result. I MSD Result 766 he spike result. I iked Sample: 127	It 9 RPD is <u>Units</u> mg/L RPD is 7171 Date An	mg/L based on t Dil. 1 based on t nalyzed:	1 the spike a <u>Amount</u> 50.0 the spike a 2007-06-	Amount 50.0 nd spike du Matrix Result 705 nd spike du	7(iplicate r Rec. 122	05 esult. Rec. Limit 75 - 125 esult. Ar	RPD 0	75 - 12 RPI Limi 20 y: TP
Fotal Sodium Percent recovery is based on the state of th	Result 3 769 he spike result. I MSD Result 766 he spike result. I iked Sample: 127 MS	It 9 RPD is mg/L RPD is 7171 Date An QC Pre	mg/L based on t Dil. 1 based on t nalyzed:	1 the spike a <u>Amount</u> 50.0 the spike a 2007-06- 2007-06-	Amount 50.0 nd spike du Matrix Result 705 nd spike du	70 pplicate r 122 pplicate r Matr	05 esult. Rec. Limit 75 - 125 esult. Ar Pr	RPD 0	75 - 12 RPI Limi 20 y: TP y: TS Rec.
Fotal Sodium Percent recovery is based on the state of th	Result 3 769 he spike result. I MSD Result 766 he spike result. I iked Sample: 127 MS Resu	It 9 RPD is mg/L RPD is 7171 Date An QC Pre	mg/L based on t Dil. 1 based on t nalyzed: cparation: Units	1 the spike a Amount 50.0 the spike a 2007-06- 2007-06- Dil.	Amount 50.0 nd spike du Matrix Result 705 nd spike du 13 12 Spike Amount	70 pplicate r 122 pplicate r Matr Resu)5 esult. Rec. Limit 75 - 125 esult. An Pr ix lt Re	RPD 0 nalyzed B epared B	75 - 12 RPI Limi 20 y: TP y: TS Rec. Limit
Fotal Sodium Percent recovery is based on the state of th	Resu 3 769 he spike result. I MSD Result 766 he spike result. I iked Sample: 127 MS Resu 142	It 9 RPD is mg/L RPD is 7171 Date An QC Pre	mg/L based on t Dil. 1 based on t nalyzed: paration: Units mg/L	1 the spike a <u>Amount</u> 50.0 the spike a 2007-06- 2007-06- 2007-06- 1	Amount 50.0 nd spike du Matrix Result 705 nd spike du 13 12 Spike Amount 50.0	70 pplicate r 122 pplicate r mplicate r Matr Resu 92.3	05 esult. Rec. Limit 75 - 125 esult. An Pr ix lt Re 3 99	RPD 0 halyzed B epared B	75 - 12 RPI Limi 20 y: TP y: TS Rec. Limit 9 - 130
Percent recovery is based on the Percent recovery is based on the Percent Sodium Percent recovery is based on the Matrix Spike (MS-1) Sp PC Batch: 38129 Prep Batch: 32980 Param Dissolved Calcium Dissolved Magnesium	Result 3 769 he spike result. I MSD Result 766 he spike result. I iked Sample: 127 MS Resu 142 98.1	It 9 RPD is mg/L RPD is 7171 Date An QC Pre	mg/L based on t Dil. 1 based on t nalyzed: paration: Units mg/L mg/L	1 the spike a <u>Amount</u> 50.0 the spike a 2007-06- 2007-06- 2007-06- 1 1	Amount 50.0 nd spike du Matrix Result 705 nd spike du 13 12 Spike Amount 50.0 50.0	70 pplicate r 122 pplicate r pplicate r Resu 92.3 49)5 esult. Rec. Limit 75 - 125 esult. esult. An Pr ix lt Re 3 99 98	RPD 0 halyzed B epared B c. 3 7'	75 - 12 RPI Limi 20 y: TP y: TS Rec. Limit 9 - 130 7.9 - 12:
Percent recovery is based on the Percent recovery is based on the	Resu 3 769 he spike result. 1 MSD Result 766 he spike result. 1 iked Sample: 127 MS Resu 142 98.1 61.9	It 9 RPD is mg/L RPD is 7171 Date An QC Pre	mg/L based on t Dil. 1 based on t nalyzed: paration: Units mg/L mg/L mg/L	1 the spike a <u>Amount</u> 50.0 the spike a 2007-06- 2007-06- 2007-06- 1 1 1	Amount 50.0 nd spike du Matrix Result 705 nd spike du 13 12 Spike Amount 50.0 50.0 50.0 50.0	70 pplicate r 122 pplicate r pplicate r Resu 92.: 49 10.:)5 esult. Rec. Limit 75 - 125 esult. esult. Ar Pr ix lt Re 3 99 98 7 10	RPD 0 halyzed B epared B c. 3 7 2 7	75 - 12 RPI Limi 20 y: TP y: TS Rec. Limit 9 - 130 7.9 - 12: 5.8 - 11'
Percent recovery is based on the Percent recovery is based on the Param Percent Sodium Percent recovery is based on the Matrix Spike (MS-1) Sp Patch: 38129 Prep Batch: 32980 Prep Batch: 32980 Param Dissolved Calcium Dissolved Magnesium Dissolved Potassium Dissolved Sodium	Result 3 769 he spike result. 1 MSD Result 766 he spike result. 1 iked Sample: 127 iked Sample: 127 MS Result 142 98.1 61.9 4 244	It 9 RPD is mg/L RPD is 7171 Date An QC Pre	mg/L based on t Dil. 1 based on t nalyzed: paration: mg/L mg/L mg/L mg/L	1 the spike a Spike Amount 50.0 the spike a 2007-06- 2007-06- 2007-06- 1 1 1 1 1	Amount 50.0 nd spike du Matrix Result 705 nd spike du 13 12 Spike Amount 50.0 50.0 50.0 50.0 50.0	70 pplicate r Rec. 122 pplicate r pplicate r 92.3 49 10.3 180)5 esult. Rec. Limit 75 - 125 esult. An Pr ix lt Re 3 98 7 10 0 12	RPD 0 halyzed B epared B c. 3 7 2 7	75 - 12 RPI Limi 20 y: TP y: TS Rec.
Fotal Sodium Percent recovery is based on the state of th	Resu 3 769 he spike result. I MSD Result 766 he spike result. I iked Sample: 127 iked Sample: 127 MS Resu 142 98.1 61.9 4 244 he spike result. I	It 9 RPD is mg/L RPD is 7171 Date An QC Pre	mg/L based on t Dil. 1 based on t nalyzed: paration: mg/L mg/L mg/L mg/L	1the spike aAmount50.0the spike a2007-062007-06Dil.1111the spike a	Amount 50.0 nd spike du Matrix Result 705 nd spike du 13 12 Spike Amount 50.0 50.0 50.0 50.0 50.0 50.0 50.0	70 pplicate r Rec. 122 pplicate r pplicate r 92.3 49 10.3 180	25 esult. Rec. Limit 75 - 125 esult. An Pr ix lt Re 3 99 98 7 10 0 12 esult.	RPD 0 halyzed B epared B c. 3 7 2 7	75 - 12 RPI Limi 20 y: TP y: TS Rec. Limit 9 - 130 7.9 - 12: 3.8 - 11' 4.2 - 12:
Percent recovery is based on the Percent recovery is based on the Dissolved Calcium Dissolved Potassium Dissolved Sodium Percent recovery is based on the	Resu 3 769 he spike result. I MSD Result 766 he spike result. I iked Sample: 127 iked Sample: 127 MS Resu 142 98.1 61.9 4 244 he spike result. I MSD	It Units MCPD is Units MCPD is RPD is 7171 Date An QC Pre	mg/L based on t Dil. 1 based on t nalyzed: paration: units mg/L mg/L mg/L based on t	1 the spike a Amount 50.0 the spike a 2007-06 2007-06 Dil. 1 1 1 the spike a Spike	Amount 50.0 nd spike du Matrix Result 705 nd spike du 13 12 Spike Amount 50.0 50.0 50.0 50.0 50.0 50.0 50.0 50.	70 pplicate r 122 pplicate r pplicate r 92.5 49 10.7 180 pplicate r	25 esult. Rec. Limit 75 - 125 esult. An Pr ix lt Ret 3 99 98 7 10 0 12 esult. Rec.	RPD 0 halyzed B epared B c. 3 7' 2 7(8 8 8 8	75 - 12 RPI Limi 20 y: TP y: TS Rec. Limit 9 - 130 7.9 - 12: 3.8 - 11' 4.2 - 12! RPI
Percent recovery is based on the Percent Potassium Dissolved Calcium Dissolved Potassium Dissolved Sodium Percent recovery is based on the Param	Resul 3 769 he spike result. I MSD Result 766 he spike result. I iked Sample: 127 iked Sample: 127 MS Resul 142 98.1 61.9 4 244 he spike result. I MSD Result	It Units MCPD is Units MCPD is 7171 Date An QC Pre	mg/L based on the Dil. 1 based on the malyzed: eparation: Units mg/L mg/L mg/L based on the Dil.	1 the spike a Amount 50.0 the spike a 2007-06-: 2007-06-: 2007-06-: Dil. 1 2007-00-:	Amount 50.0 nd spike du Matrix Result 705 nd spike du 13 12 Spike Amount 50.0 50.0 50.0 50.0 50.0 50.0 50.0 md spike du Matrix Result	70 pplicate r 122 pplicate r pplicate r 92.: 49 10.: 180 pplicate r Rec.	25 esult. Rec. Limit 75 - 125 esult. An Pr ix lt Re 3 99 96 7 10 0 12 esult. Rec. Limit	RPD 0 halyzed B epared B c. 3 7' 2 76 8 8' RPD	75 - 12 RPI Limi 20 y: TP y: TP y: TS Rec. Limit 9 - 130 7.9 - 12: 3.8 - 11' 4.2 - 12: RPE Limi
2C Batch: 38129	Resu 3 769 he spike result. I MSD Result 766 he spike result. I iked Sample: 127 iked Sample: 127 MS Resu 142 98.1 61.9 4 244 he spike result. I MSD	It Units MCPD is Units MCPD is RPD is 7171 Date An QC Pre	mg/L based on t Dil. 1 based on t nalyzed: paration: units mg/L mg/L mg/L based on t	1 the spike a Amount 50.0 the spike a 2007-06 2007-06 Dil. 1 1 1 the spike a Spike	Amount 50.0 nd spike du Matrix Result 705 nd spike du 13 12 Spike Amount 50.0 50.0 50.0 50.0 50.0 50.0 50.0 50.	70 pplicate r 122 pplicate r pplicate r 92.5 49 10.7 180 pplicate r	25 esult. Rec. Limit 75 - 125 esult. An Pr ix lt Ret 3 99 98 7 10 0 12 esult. Rec.	RPD 0 halyzed B epared B c. 3 7' 2 7(8 8 8 8	75 - 12 RPI Limi 20 y: TP y: TS Rec. Limit 9 - 130 7.9 - 12: 3.8 - 11' 4.2 - 12: RPI

³Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control. ⁴Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control. matrix spikes continued ...

	MSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{Result}	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Dissolved Potassium	62.7	mg/L	1	50.0	10.7	104	76.8 - 117	1	20
Dissolved Sodium	239	mg/L	1	50.0	180	118	84.2 - 120	2	20

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

Standard (ICV-1)

QC Batch:	37604		Date Ar	alyzed: 2007-0	Analyzed By: AR		
			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
pH		s.u.	7.00	7.06	101	98 - 102	2007-05-29

Standard (CCV-1)

QC Batch:	37604		Date An	alyzed: 2007-0)5-29	Ana	lyzed By: AR
			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
pH		s.u.	7.00	7.18	102	98 - 102	2007-05-29

Standard (ICV-1)

QC Batch:	37610		Date Ana	alyzed: 2007-0	5-29	Ana	yzed By: AR
Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride Sulfate		mg/L mg/L	12.5 12.5	12.6 12.7	101 102	90 - 110 90 - 110	2007-05-29 2007-05-29

Standard (CCV-1)

QC Batch:	37610		Date Ana	lyzed: 2007-0	5-29	Anal	yzed By: AR
Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	12.5	12.6	101	90 - 110	2007-05-29
Sulfate		mg/L	12.5	12.7	102	90 - 110	2007-05-29
			1000, 1000, 1000, 1000, 1000, 1000, 1000, 1000, 1000, 1000, 1000, 1000, 1000, 1000, 1000, 1000, 1000, 1000, 100				

Standard (ICV-1)

QC Batch: 37709

Date Analyzed: 2007-05-31

Analyzed By: AR

Report Date: June 14, 2 2972	2007		Work Order: 7 Rock Queen			Page Number: 15 of 18						
Param	Flag	Units	True F	CVs ound Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed					
Total Dissolved Solids		ng/L	1000	1047	105	90 - 110	2007-05-31					
Standard (CCV-1)				,								
QC Batch: 37709		Date A	nalyzed: 200	7-05-31		Analy	zed By: AR					
Param	Flag	•	True F	CCVs ound Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed					
Total Dissolved Solids		ng/L	-	060.0	<u>96</u>	90 - 110	2007-05-31					
Standard (ICV-1) QC Batch: 37730		Date A	nalyzed: 200	7-05-31		Analy	zed By: AG					
		ICVs True	ICVs Found	Р	ICVs ercent	Percent Recovery	Date					
Param Flag DRO	Units mg/L	<u>Conc.</u> 250	<u>Conc.</u> 277	Re	ecovery 111	Limits 85 - 115	Analyzed 2007-05-31					
Standard (CCV-1) QC Batch: 37730		Date A	nalyzed: 200	7-05-31		Analy	zed By: AG					
Param Flag	Units	CCVs True Conc.	CCVs Found Conc.	Р	CCVs ercent ecovery	Percent Recovery Limits	Date Analyzed					
DRO	mg/L	250	278		111	85 - 115	2007-05-31					
Standard (ICV-1) QC Batch: 37812		Date A	nalyzed: 200	7-06-03		Analy	zed By: AG					
		ICVs True			ICVs Percent	Percent Recovery	Date					
Param Fla		Conc			Recovery	Limits	Analyzed					
						85 - 115	2007-06-03					
						85 - 115 85 - 115	2007-06-03 2007-06-03					
-						85 - 115	2007-06-03					
Benzene Foluene Ethylbenzene Kylene Standard (CCV-1)	mg/L mg/L mg/L mg/L	0.100 0.100 0.100 0.300) 0.104) 0.103) 0.102) 0.304	4 3 2 4	104 103 102 101	85 - 85 - 85 -	- 115 - 115 - 115 - 115 - 115					
Batch: 37812		Date A	nalyzed: 200	7-06-03		Analy	zed By: AG					

.

.

,

1

•

Report	Date:	June	14,	2007
2972				

Work Order: 7052924 Rock Queen ESA Page Number: 16 of 18

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.102	102	85 - 115	2007-06-03
Toluene		mg/L	0.100	0.102	102	85 - 115	2007-06-03
Ethylbenzene		mg/L	0.100	0.0996	100	85 - 115	2007-06-03
Xylene		mg/L	0.300	0.299	100	85 - 115	2007-06-03

Standard (ICV-1)

QC Batch:	37813		Date An	alyzed: 2007-0	06-03	Ana	lyzed By: AG
			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		mg/L	1.00	0.872	87	85 - 115	2007-06-03

Standard (CCV-1)

QC Batch:	37813		Date An	alyzed: 2007-0)6-03	Ana	lyzed By: AG
			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		mg/L	1.00	0.981	98 \	85 - 115	2007-06-03

Standard (ICV-1)

QC Batch: 37938	3	Date	Analyzed:	2007-06-07		Analy	zed By: SM
,			ICVs	ICVs	ICVs	Percent	
·			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Alkalinity		mg/L as CaCo3	250	244	98	90 - 110	2007-06-07

Standard (CCV-1)

QC Batch: 37938		Da	ate Analyzed:	2007-06-07		Analy	zed By: SM
			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Alkalinity		mg/L as CaCo	3 250	244	98	90 - 110	2007-06-07

Standard (ICV-1)

QC Batch: 38029

Date Analyzed: 2007-06-11

Analyzed By: TP

2972			Rock (Queen ESA		·	
Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Calcium		mg/L	50.0	51.7	103	90 - 110	2007-06-11
			·····	·····			
Standard (ICV-1)							
QC Batch: 38029			Date Analyzed	2007-06-11		Anal	yzed By: TP
			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Potassium		mg/L	50.0	51.6	103	90 - 110	2007-06-11
Standard (ICV-1)							
QC Batch: 38029			Date Analyzed:	2007-06-11		Anal	yzed By: TP
			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Limits	Analyzed		
Total Magnesium		mg/L	50.0	Conc. 51.6	Recovery 103	90 - 110	2007-06-11
Standard (ICV-1)							
QC Batch: 38029			Date Analyzed:	2007-06-11		Anal	yzed By: TP
			ICVs	ICVs	ICVs	Percent	
-	-		True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Sodium		mg/L	50.0	50.6	101	90 - 110	2007-06-11
Standard (CCV-1))						
QC Batch: 38029			Date Analyzed:	2007-06-11		Anal	yzed By: TP
			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Calcium		mg/L	50.0	50.8	102	90 - 110	2007-06-11
Standard (CCV-1)							
QC Batch: 38029	,		Date Analyzed:	2007-06-11	•	Anab	yzed By: TP
20 Daton. 00049			·		COL		,
			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Total Potassium	+ 145	mg/L	50.0	<u>49.0</u>	<u>98</u>	90 - 110	2007-06-11
							•

•

Report Date: June 14, 2007 Work Order: 7052924 Page Number: 18 of 18 2972 Rock Queen ESA Standard (CCV-1) Analyzed By: TP QC Batch: 38029 Date Analyzed: 2007-06-11 CCVs **CCVs CCVs** Percent True Found Percent Recovery Date Param Flag Units Conc. Conc. Recovery Limits Analyzed **Total Magnesium** mg/L 50.0 90 - 110 2007-06-11 50.1 100 Standard (CCV-1) QC Batch: 38029 Date Analyzed: 2007-06-11 Analyzed By: TP **CCVs CCVs CCVs** Percent Found Recovery True Percent Date Param Flag Units Conc. Conc. Recovery Limits Analyzed **Total Sodium** mg/L 50.0 47.4 95 90 - 110 2007-06-11 Standard (ICV-1) QC Batch: 38129 Analyzed By: TP Date Analyzed: 2007-06-13 ICVs ICVs ICVs Percent True Found Percent Recovery Date Param Flag Units Conc. Conc. Recovery Limits Analyzed **Dissolved** Calcium mg/L 50.0 51.7 103 90 - 110 2007-06-13 **Dissolved Magnesium** mg/L 50.052.010490 - 110 2007-06-13 **Dissolved Potassium** mg/L 50.051.5103 90 - 110 2007-06-13 **Dissolved Sodium** mg/L 50.050.4101 90 - 110 2007-06-13 Standard (CCV-1) QC Batch: 38129 Date Analyzed: 2007-06-13 Analyzed By: TP **CCVs CCVs CCVs** Percent True Found Percent Recovery Date Param Flag Units Conc. Limits Analyzed Conc. Recovery **Dissolved** Calcium 50.0 49.0 90 - 110 2007-06-13 mg/L 98 **Dissolved Magnesium** 50.050.2100 90 - 110 2007-06-13 mg/L **Dissolved Potassium** 2007-06-13 90 - 110 mg/L 50.049.699 **Dissolved Sodium** 2007-06-13 50.0104 90 - 110 mg/L 51.8

I

·			10	52	920	4													
Analysis Request	and Chain of Custod					<u> </u>						AGE			· · · · · · · · · · · · · · · · · · ·	C	er:		
	······································				<u>,</u>				(Circ					QUES Meth		Vo.)			
	R ENVIRONMENTAL	$\iota \upsilon$	Kľ						8 8	Π								T	
	0 N. Big Spring St. lland, Texas 79705						TRADOK		昭田										
(432) 682-4559		(432) 68	2-39	46			- K - F	昭記として										
	SITE RANAGER. GRAN Miller	NERS	PF	ESER METH	VATIVE IOD	-	Ants un	(1)	31 3			\$20/054	8210/0825		Chlaride			100	
PROJECT NO.: PROJECT I	NAME: Roch Queen ESA	DF CONTAINERS				/608	/808		8 4g 4s	Lee	Volatile	8240/8		/808 ava	pH, TDS,	50	(ALF)		ONS
LAB I.D. NUMBER DATE TIME XX B	SAMPLE IDENTIFICATION	NUMBER OF	HCL	HN03	NONE	BTEX 8080/608	MTBE 8020/602	PAH 8870	RCRA Métals ág ás Ba C TCLP Métals ág ás Ba C	TCLP Volati	TCLP Semi	RCI C.C.MS Vol.	GC.MS Semi. Vol. 8270/62	PCB's 8080/808	BOD. 133. pH.	Gamma Spec.	Alpha Beta (Ali Drw /A-bartes)	Several Anoral	1
	ater Station #1-MW-1	3	1.	X		X	y											\mathbf{D}	KIT
lize X															T				
															T				
															\uparrow			1	
			╉		+-+-	┼╌╽		╋		┼┤		-	$\left - \right $		┽╴		+	-+	╏╌┨╌┠╴
		╉╌╊╌	┥╌╂			+		╌┼╌╂		┼┤		_				┝╌┼			┝╌┼╌┼
										$\left \right $		_	_						┠╌┠╌
														}					
									1						\top			1	
					1-1-			┨┨				1	\square		+		\neg	+	╞╼┼╾┼
	ate: 5-29-0" REGENTER AV. (Signature)	1_1_	Date	· 5:	AT	24	.SA	MPLE	BY:	(P7)			<u>,</u>					22	-07
RELINQUISHED BY: (Signature) Di	ate: RECEIVED BY: (Signature)	. 40	> Date	<u>: آ</u>	20.07	7		MPLE	l Van SHIR	PED	.√-∕š BY:	(Circi	•			ime:			
RELINQUISHED BY: (Signature) Di	ime: (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	eg_	Date	s:	:00			der Ind d	ELIVE	RED			IUS IPS			911.L IER:			
RECEIVING LABORATORY:	ime:		Tim	<u></u>			- 170	GHILAN	DER	CONT	CACT	PER	50N:				nulta NH C	by: barge	•
ADDRESS:	ZIP: DATE:	TIME:				······································										Au	thort ion		No
SAMPLE CONDITION WHEN RECEIVED:	MATRIX: W-Water A-Air SD-Solid SSoli SL-Siudge O-Othar			emarks CS	P24		410	>	<u></u>		<u> </u>	<u></u> .				I			Ax

.

-- -- -

1

Please Fill out all copies - Laboratory retains yellow copy - Return original copy to Highlander Environmental Corp. - 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 • 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

WBENC: 237019

HUB:1752439743100-86536NCTRCAWFWB38444Y0909

Certifications

DBE: VN 20657

NELAP Certifications

Lubbock: T104704219-08-TX LELAP-02003 Kansas E-10317 El Paso: T104704221-08-TX LELAP-02002

Midland: T104704392-08-TX

Analytical and Quality Control Report

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

Report Date: December 7, 2009

Work Order: 9112515

Project Location:Chavez Co., NMProject Name:Celero/Rock QueenProject Number:115-6403134A

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
215835	MW-1	water	2009-11-24	14:25	2009-11-25
215836	MW-2	water	2009-11-24	14:10	2009-11-25
215837	MW-3	water	2009-11-24	14:00	2009-11-25
215838	MW-4	water	2009-11-24	15:00	2009-11-25

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 25 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Michael abril

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

Standard Flags

ŧ

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

Case Narrative

Samples for project Celero/Rock Queen were received by TraceAnalysis, Inc. on 2009-11-25 and assigned to work order 9112515. Samples for work order 9112515 were received intact without headspace and at a temperature of 3.2 deg. C.

Prep Prep QC Analysis Test Method Batch Date Batch Date Alkalinity SM 2320B 56132 2009-12-01 at 10:04 2009-12-01 at 16:04 65677 BTEX S 8021B 56178 2009-12-02 at 10:28 65725 2009-12-02 at 10:28 BTEX S 8021B 562352009-12-06 at 20:57 65798 2009-12-06 at 20:57 Ca, Dissolved S 6010B 2009-12-02 at 09:55 56137 65745 2009-12-03 at 14:57 Chloride (IC) E 300.0 56093 2009-11-30 at 12:22 65660 2009-12-01 at 08:59 Hardness S 6010B 56137 2009-12-02 at 09:55 2009-12-03 at 14:57 65745 K, Dissolved S 6010B 56137 2009-12-02 at 09:55 65745 2009-12-03 at 14:57 Mg, Dissolved S 6010B 56137 2009-12-02 at 09:55 65745 2009-12-03 at 14:57 Na, Dissolved S 6010B 56137 2009-12-02 at 09:55 2009-12-03 at 14:57 65745 pН SM 4500-H+ 56049 2009-11-25 at 11:09 65589 2009-11-25 at 12:09 SO4 (IC) E 300.0 56093 2009-11-30 at 12:22 65660 2009-12-01 at 08:59 TDS SM 2540C 56115 2009-12-01 at 10:13 65808 2009-12-07 at 14:46

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

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 9112515 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: December 7, 2009 115-6403134A Work Order: 9112515 Celero/Rock Queen Page Number: 4 of 25 Chavez Co., NM

Analytical Report

Sample: 215835 - MW-1

Laboratory: Analysis: QC Batch: Prep Batch:	Midland Alkalinity 65677 56132		Analytical Method: Date Analyzed: Sample Preparation:	SM 2320B 2009-12-01 2009-12-01	Prep Method: Analyzed By: Prepared By:	AR
			RL			
Parameter		Flag	Result	Units	Dilution	\mathbf{RL}
Hydroxide Al	kalinity		<1.00	mg/L as CaCo3	1	1 00

÷ •~~6	reobare	011100	Diracion	1013
	<1.00	mg/L as CaCo3	1	1.00
	<1.00	mg/L as CaCo3	1	1.00
	97.0	mg/L as CaCo3	1	4.00
	97.0	mg/L as CaCo3	1	4.00
	1.00	<1.00 <1.00 97.0	<1.00 mg/L as CaCo3 <1.00	<1.00 mg/L as CaCo3 1 <1.00

Sample: 215835 - MW-1

Laboratory: Analysis: QC Batch: Prep Batch:	Midland BTEX 65798 56235		Analytical M Date Analyz Sample Prep	zed:	S 8021B 2009-12-06 2009-12-06		Prep Meth Analyzed 1 Prepared 1	By: tn
			R	L				
Parameter	\mathbf{F} lag		Resul	lt	Units]	Dilution	RL
Benzene			0.0016	0	mg/L		1	0.00100
Toluene			< 0.0010	0	mg/L		1	0.00100
Ethylbenzene			< 0.0010	0	mg/L		1	0.00100
Xylene			< 0.0010	0	mg/L		1	0.00100
~						Spike	Percent	Recovery
Surrogate		Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotolue	ene (TFT)		0.0736	mg/L	1	0.100	74	70.9 - 119.8
4-Bromofluor	obenzene (4-BFB)	1	0.0530	mg/L	· 1	0.100	53	68.1 - 118.8

Sample: 215835 - MW-1

Analysis: QC Batch:	Lubbock Cations 65745 56137		Analytical Method: Date Analyzed: Sample Preparation:	S 6010B 2009-12-03 2009-12-02	Prep Method: Analyzed By: Prepared By:	RR
			\mathbf{RL}			
Parameter		Flag	Result	Units	Dilution	\mathbf{RL}
Dissolved Cal	cium		2060	mg/L	100	1.00
					· · · · · · · · · · · · · · · · · · ·	

¹Surrogate 4-BFB out due to matrix interference. Sample was reran on 12-06-2009 to confirm matrix interference results.

.

Report Date: December 7, 2009 115-6403134A		Work Order: 9112515 Celero/Rock Queen		Page Number: 5 of 25 Chavez Co., NM	
sample 215835 continued.					
		\mathbf{RL}			
Parameter	Flag	\mathbf{Result}	Units	Dilution	RL
Dissolved Potassium		1840	. mg/L	100	1.00
Dissolved Magnesium		3630	mg/L	100	1.00
		70000	mg/L	100	1.00
Dissolved Sodium Sample: 215835 - MW-					
		Analytical Method:	E 300.0	Prep Method:	N/A
Sample: 215835 - MW- Laboratory: Midland				Prep Method: Analyzed By:	N/A AR
Sample: 215835 - MW- Laboratory: Midland Analysis: Chloride (IC QC Batch: 65660		Analytical Method:	E 300.0	-	•
Sample: 215835 - MW- Laboratory: Midland Analysis: Chloride (IC QC Batch: 65660		Analytical Method: Date Analyzed:	E 300.0 2009-12-01	Analyzed By:	AR
Sample: 215835 - MW- Laboratory: Midland Analysis: Chloride (IC QC Batch: 65660 Prep Batch: 56093		Analytical Method: Date Analyzed: Sample Preparation:	E 300.0 2009-12-01	Analyzed By:	AR

Sample: 215835 - MW-1

į

Laboratory: Lubbo Analysis: Hardne QC Batch: 65745 Prep Batch: 56137		Analytical Method: Date Analyzed: Sample Preparation	2009-12-03	Prep Method: Analyzed By: Prepared By:	RR
		\mathbf{RL}			
Parameter	Flag	Result	Units	Dilution	\mathbf{RL}
Hardness (by ICP)		20100	mg eq CaCO3/L	, 1	0.00

Sample: 215835 - MW-1

,

Laboratory: Analysis: QC Batch: Prep Batch:	Midland pH 65589 56049		Analytical Method: Date Analyzed: Sample Preparation:	SM 4500-H+ 2009-11-25 2009-11-25	Prep Method: Analyzed By: Prepared By:	AR
Parameter	·	Flag	RL Result	Units	Dilution	RL.
pH		<u>v</u>	5.15	s.u.	1	0.00

Sample: 215835 - MW-1					
Laboratory: Midland					
Analysis: SO4 (IC)		Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch: 65660		Date Analyzed:	2009-12-01	Analyzed By:	ÁR
Prep Batch: 56093		Sample Preparation:	2009-11-30	Prepared By:	AR
		RL			
Parameter Fla	g	Result	Units	Dilution	\mathbf{RL}
Sulfate	×	1600	mg/L	50	0.500
Sample: 215835 - MW-1					
Laboratory: Midland					
Analysis: TDS		Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch: 65808		Date Analyzed:	2009-12-07	Analyzed By:	AR
Prep Batch: 56115		Sample Preparation:	2009-12-01	Prepared By:	AR
		RL			
Parameter	Flag	Result	Units	Dilution	RL
Total Dissolved Solids	0	220000	mg/L	10	10.0
					u dilinin f
Sample: 215836 - MW-2					

Laboratory: Analysis:	Midland Alkalinity	Analytical Method:	SM 2320B	-	Prep Method:	NI/A
QC Batch:	65677	Date Analyzed:	2009-12-01		Analyzed By:	
Prep Batch:	56132	Sample Preparation:	2009-12-01		Prepared By:	AR

		\mathbf{RL}			
Parameter	Flag	Result	Units	Dilution	\mathbf{RL}
Hydroxide Alkalinity		<1.00	mg/L as CaCo3	1	1.00
Carbonate Alkalinity		<1.00	mg/L as CaCo3	1	1.00
Bicarbonate Alkalinity		127	mg/L as CaCo3	1	4.00
Total Alkalinity		127	mg/L as CaCo3	1	4.00

Sample: 215836 - MW-2

ł.

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	65725	Date Analyzed:	2009-12-02	Analyzed By:	tn
Prep Batch:	56178	Sample Preparation:	2009-12-02	Prepared By:	tn

Report Date: December 7, 2009 115-6403134A			Work Order: 9112515 Celero/Rock Queen			Page Number: 7 of 25 Chavez Co., NM		
Parameter	Flag		R Resul		Units	ח	ilution	RL
Benzene	Tiag		<0.0010		mg/L·	D	1	0.00100
Toluene			< 0.0010	-	mg/L		1	0.00100
Ethylbenzene			< 0.0010	0	mg/L		1	0.00100
Xylene			< 0.0010	0	mg/L		1	0.00100
						Spike	Percent	Recovery
Surrogate		Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			0.105	mg/L	1	0.100	105	70.9 - 119.8
4-Bromofluorobenzene (4-	BFB)		0.0895	mg/L	1	0.100	90	68.1 - 118.8

Sample: 215836 - MW-2

Laboratory:LubbockAnalysis:CationsQC Batch:65745Prep Batch:56137		Analytical Method: Date Analyzed: Sample Preparation:	S 6010B 2009-12-03 2009-12-02	Prep Method: Analyzed By: Prepared By:	S 3005A RR KV
		\mathbf{RL}			
Parameter	Flag	Result	Units	Dilution	\mathbf{RL}
Dissolved Calcium	······	1010	mg/L	10	1.00
Dissolved Potassium		$\boldsymbol{270}$	mg/L	10	1.00
Dissolved Magnesium		633	mg/L	-10	1.00
Dissolved Sodium		10800	mg/L	100	1.00

Sample: 215836 - MW-2

Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (IC) 65660 56093	Analytical Method: Date Analyzed: Sample Preparation:	E 300.0 2009-12-01 2009-11-30	Prep Method: Analyzed By: Prepared By:	AR
		RL			
Parameter	\mathbf{Flag}	Result	Units	Dilution	\mathbf{RL}
Chloride		19900	mg/L	500	0.500

ł

Sample: 215836 - MW-2

Laboratory:	Lubbock				
Analysis:	Hardness	Analytical Method:	S 6010B	Prep Method:	N/A
QC Batch:	65745	Date Analyzed:	2009-12-03	Analyzed By:	RR
Prep Batch:	56137	Sample Preparation:	2009-12-02	Prepared By:	KV

Flag W-2	RL Result 5130	Units	Dilution	
			Dilution	
	5130			RL
W-2		mg eq CaCO3/L	1	0.00
		. •		
	·			
	Analytical Method	SM 4500-H+	Prep Method:	N/A
				AR
		2009-11-25	Prepared By:	AR
			• -	. '
Flag		Unita	Dilution	\mathbf{RL}
iag				0.00
W-2				
W-2 Flag	Analytical Method: Date Analyzed: Sample Preparation: RL Result 413	E 300.0 2009-12-01 2009-11-30 Units mg/L	Prep Method: Analyzed By: Prepared By: Dilution 50	N/A AR AR RL 0.500
	Date Analyzed: Sample Preparation: RL Result 413 Analytical Method: Date Analyzed: Sample Preparation:	2009-12-01 2009-11-30 Units	Analyzed By: Prepared By: Dilution	AR AR RL 0.500 N/A AR
Flag	Date Analyzed: Sample Preparation: RL Result 413 Analytical Method: Date Analyzed:	2009-12-01 2009-11-30 Units mg/L SM 2540C 2009-12-07	Analyzed By: Prepared By: Dilution 50 Prep Method: Analyzed By:	AR AR RL 0.500 N/A AR
-	Flag	Analytical Method: Date Analyzed: Sample Preparation: RL Flag Result 6.97	Date Analyzed: 2009-11-25 Sample Preparation: 2009-11-25 RL Flag Result Units	Date Analyzed:2009-11-25Analyzed By:Sample Preparation:2009-11-25Prepared By:RLRLJuitsDilution

.

Analysis:	Alkalinity	Analytical Method:	SM 2320B	Prep Method:	N/A
QC Batch:	65677	Date Analyzed:	2009-12-01	Analyzed By:	AR
Prep Batch:	56132	Sample Preparation:	2009-12-01	Prepared By:	AR
_					
			· .		

Report Date: December 7, 2009 115-6403134A			rder: 9112515 /Rock Queen	Page Number: 9 of 25 Chavez Co., NM	
Parameter	Flag	RL Result	Units	Dilution	RL
Hydroxide Alkalinity		<1.00	mg/L as CaCo3	1	1.00
Carbonate Alkalinity		<1.00	mg/L as CaCo3	1	1.00
Bicarbonate Alkalinity		92.0	mg/L as CaCo3	1	4.00
Total Alkalinity		92.0	mg/L as CaCo3	1	4.00

Sample: 215837 - MW-3

`.

Laboratory: Analysis: QC Batch: Prep Batch:	Midland BTEX 65725 56178		Analytical M Date Analyz Sample Prej	zed:	S 8021B 2009-12-02 2009-12-02		Prep Meth Analyzed Prepared 1	By: tn
			R	L				
Parameter	Flag		Resul	t	Units	D	liution	\mathbf{RL}
Benzene			< 0.0010	0	mg/L		1	0.00100
Toluene			< 0.0010	0	mg/L		1	0.00100
Ethylbenzene			< 0.0010	0	mg/L		1	0.00100
Xylene			< 0.0010	0	mg/L		1	0.00100
						Spike	Percent	Recovery
Surrogate		Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotolue	ne (TFT)		0.0967	mg/L	1	0.100	97	70.9 - 119.8
4-Bromofluor	obenzene (4-BFB)		0.0812	mg/L	1	0.100	81	68.1 - 118.8

Sample: 215837 - MW-3

Laboratory: Lubbock Analysis: Cations QC Batch: 65745 Prep Batch: 56137		Analytical Method: Date Analyzed: Sample Preparation:	S 6010B 2009-12-03 2009-12-02	Prep Method: Analyzed By: Prepared By:	S 3005A RR KV
		\mathbf{RL}			
Parameter	Flag	Result	Units	Dilution	RL
Dissolved Calcium		6030	mg/L	100	1.00
Dissolved Potassium		323	mg/L	10	1.00
Dissolved Magnesium		2150	mg/L	10	1.00
Dissolved Sodium		29900	mg/L	100	1.00

Report Date: December 7, 2009 115-6403134A			er: 9112515 ock Queen 	Page Number: 1 Chavez Co		
Sample: 21	5837 - MV	N-3				
Laboratory:	Midland					
Analysis:	Chloride ((IC)	Analytical Metho	d: E 300.0	Prep Method:	N/
QC Batch:	65660		Date Analyzed:	2009-12-01	Analyzed By:	AF
Prep Batch:	56093		Sample Preparati	on: 2009-11-30	Prepared By:	AF
			RL			
Parameter		Flag	Result	Units	Dilution	R
Chloride			59500	mg/L	5000	0.5
Sample: 21	5927 - MW	W. 9				
-		- J				
Laboratory:				0.00100		R T 4
Analysis:	Hardness		Analytical Method:	S 6010B	Prep Method:	N/
QC Batch:	65745		Date Analyzed:	2009-12-03	Analyzed By:	RF
Prep Batch:	56137		Sample Preparation	: 2009-12-02	Prepared By:	ΚV
D		-	RL		BH	_
Parameter		Flag	Result	Units	Dilution	R
Hardness (by	$^{\prime}$ ICP)		23900	mg eq CaCO3/L	1	0.
Zampla, 91	5097 RAT	X7 9				
Laboratory: Analysis: QC Batch:		₩-3	Analytical Method: Date Analyzed: Sample Preparation:	SM 4500-H+ 2009-11-25 2009-11-25	Prep Method: Analyzed By: Prepared By:	ÁR
Laboratory: Analysis: QC Batch:	Midland pH 65589	₩-3	Date Analyzed:	2009-11-25	Analyzed By:	ÁR
Laboratory: Analysis: QC Batch: Prep Batch:	Midland pH 65589	₩-3 Flag	Date Analyzed: Sample Preparation:	2009-11-25	Analyzed By:	AF AF
Sample: 21 Laboratory: Analysis: QC Batch: Prep Batch: Parameter pH	Midland pH 65589		Date Analyzed: Sample Preparation: RL	2009-11-25 2009-11-25	Analyzed By: Prepared By:	AF AF F
Laboratory: Analysis: QC Batch: Prep Batch: Parameter	Midland pH 65589 56049	Flag	Date Analyzed: Sample Preparation: RL Result	2009-11-25 2009-11-25 Units	Analyzed By: Prepared By: Dilution	AR AR R 0.0
Laboratory: Analysis: QC Batch: Prep Batch: Parameter pH Sample: 21 Laboratory: Analysis:	Midland pH 65589 56049 5837 - MV Midland	Flag	Date Analyzed: Sample Preparation: RL Result 6.02 Analytical Method:	2009-11-25 2009-11-25 Units s.u.	Analyzed By: Prepared By: Dilution 1 Prep Method:	AF AF 0.0
Laboratory: Analysis: QC Batch: Prep Batch: Parameter pH Sample: 21 Laboratory: Analysis: QC Batch:	Midland pH 65589 56049 5837 - MV Midland SO4 (IC)	Flag	Date Analyzed: Sample Preparation: RL Result 6.02	2009-11-25 2009-11-25 Units s.u. E 300.0 2009-12-01	Analyzed By: Prepared By: Dilution 1	AF AF 0.0
Laboratory: Analysis: QC Batch: Prep Batch: Parameter pH Sample: 21 Laboratory:	Midland pH 65589 56049 5837 - MV Midland SO4 (IC) 65660	Flag	Date Analyzed: Sample Preparation: RL Result 6.02 Analytical Method: Date Analyzed:	2009-11-25 2009-11-25 Units s.u. E 300.0 2009-12-01	Analyzed By: Prepared By: Dilution 1 Prep Method: Analyzed By:	AF AF R 0.(
Laboratory: Analysis: QC Batch: Prep Batch: Parameter pH Sample: 21 Laboratory: Analysis: QC Batch:	Midland pH 65589 56049 5837 - MV Midland SO4 (IC) 65660	Flag	Date Analyzed: Sample Preparation: RL Result 6.02 Analytical Method: Date Analyzed: Sample Preparation:	2009-11-25 2009-11-25 Units s.u. E 300.0 2009-12-01	Analyzed By: Prepared By: Dilution 1 Prep Method: Analyzed By:	N/ AR AR 0.0 N/ AR AR AR

Report Date: December 7, 2009 115-6403134A		Work Order Celero/Roo	Page Number: 11 of 2 Chavez Co., N		
Sample: 215837 - MW-3					
Laboratory: Midland					
Analysis: TDS		Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch: 65808		Date Analyzed:	2009-12-07	Analyzed By:	\mathbf{AR}
Prep Batch: 56115		Sample Preparation:	2009-12-01	Prepared By:	AR
		RL			
Parameter	Flag	Result	Units	Dilution	\mathbf{RL}
Total Dissolved Solids		108000	mg/L	100	10.0

Sample: 215838 - MW-4

•

Analysis: Al QC Batch: 65	idland kalinity 677 132	Analytical Method: Date Analyzed: Sample Preparation	SM 2320B 2009-12-01 : 2009-12-01	Prep Method: Analyzed By: Prepared By:	N/A AR AR
		\mathbf{RL}			
Parameter	Flag	Result	Units	Dilution	\mathbf{RL}
Hydroxide Alkali	inity	<1.00	mg/L as CaCo3	1	1.00
Carbonate Alkal	inity	<1.00	mg/L as CaCo3	1	1.00
Bicarbonate Alka	alinity	118	mg/L as CaCo3	1	4.00
Total Alkalinity	·	118	mg/L as CaCo3	1	4.00

Sample: 215838 - MW-4

Laboratory: Analysis: QC Batch: Prep Batch:	Midland BTEX 65725 56178			Analytical M Date Analyz Sample Prej	zed:	S 8021B 2009-12-02 2009-12-02		Prep Meth Analyzed 1 Prepared 1	By: tn
				R	ն	÷			
Parameter		Flag		Resul	t	Units	D	ilution	RL
Benzene				< 0.0010	0	mg/L		1	0.00100
Toluene				< 0.0010	0	mg/L		1	0.00100
Ethylbenzene	:			< 0.0010	0	mg/L	. ``	1	0.00100
Xylene				< 0.0010	0	mg/L		1	0.00100
				1			Spike	Percent	Recovery
Surrogate			Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotolue	ene (TFT)			0.106	mg/L	1	0.100	106	70.9 - 119.8
4-Bromofluor	obenzene (4-E	BFB)		0.0896	mg/L	1	0.100	90	68.1 - 118.8

Report Date: December 7, 200 115-6403134A		Work Orde Celero/Ro		Page Number: Chavez (
Sample: 215838 - MW-4					
Laboratory: Lubbock		· ·			
Analysis: Cations		Analytical Method:	S 6010B	Prep Method: S	3005A
QC Batch: 65745		Date Analyzed:	2009-12-03		RR
Prep Batch: 56137		Sample Preparation:	2009-12-02		٢V
		\mathbf{RL}			
Parameter	Flag	Result	Units	Dilution	\mathbf{RL}
Dissolved Calcium		791	mg/L	10	1.00
Dissolved Potassium		76.7	mg/L	1	1.00
Dissolved Magnesium	•	253	mg/L	1	1.00
Dissolved Sodium		4880	mg/L	100	1.00
QC Batch: 65660 Prep Batch: 56093		Date Analyzed: Sample Preparatio RL	2009-12-01 on: 2009-11-30	Analyzed By: Prepared By:	
Parameter Flag	,	Result	Units	Dilution	RL
Chloride		9360	mg/L	1000	0.500
Sample: 215838 - MW-4 Laboratory: Lubbock Analysis: Hardness QC Batch: 65745 Prep Batch: 56137		Analytical Method: Date Analyzed: Sample Preparation:	S 6010B 2009-12-03 2009-12-02	Prep Method Analyzed By: Prepared By:	$\mathbf{R}\mathbf{R}$
		RL			
Parameter	Flag	Result	Units	Dilution	RL
Hardness (by ICP)		3020	mg eq CaCO3/L	1	0.00
Sample: 215838 - MW-4					-

Laboratory:					
Analysis:	pH	Analytical Method:	SM 4500-H+	Prep Method:	N/A
QC Batch:	65589	Date Analyzed:	2009-11-25	Analyzed By:	\mathbf{AR}
Prep Batch:	56049	Sample Preparation:	2009-11-25	Prepared By:	AR
-				• , , , , , , , , , , , , , , , , , , ,	
			. · · ·		

Report Date: 115-6403134A	December	7, 2009	Work Order Celero/Roo		Page Number: 1 Chavez Co	
			RL			
Parameter		Flag	Result	Units	Dilution	\mathbf{RL}
pH			7.35	s.u.	1	0.00
Sample: 215	838 - MV	V-4				
Laboratory:	Midland					
•	SO4 (IC)		Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	65660		Date Analyzed:	2009-12-01	Analyzed By:	ÁŔ
	56093		Sample Preparation:		Prepared By:	AR
			RL			
Parameter		Flag	Result	Units	Dilution	\mathbf{RL}
Sulfate		- 100	286	mg/L	5	0.500
Analysis: QC Batch:	Midland TDS 65808 56115		Analytical Method: Date Analyzed: Sample Preparation:	SM 2540C 2009-12-07 2009-12-01	Prep Method: Analyzed By: Prepared By:	N/A AR AR
Analysis: QC Batch: Prep Batch:	TDS 65808	Flag	Date Analyzed: Sample Preparation: RL	2009-12-07 2009-12-01	Analyzed By: Prepared By:	AR AR
Analysis: QC Batch: Prep Batch: Parameter	TDS 65808 56115	Flag	Date Analyzed: Sample Preparation:	2009-12-07	Analyzed By:	AR
Analysis: QC Batch: Prep Batch: Parameter Total Dissolve Method Blas QC Batch:	TDS 65808 56115 ed Solids	Flag QC Batch: 65660	Date Analyzed: Sample Preparation: RL Result 22600 Date Analyzed: 20	2009-12-07 2009-12-01 Units	Analyzed By: Prepared By: Dilution	AR AR RL
Analysis: QC Batch: Prep Batch: Parameter Total Dissolve Method Blas QC Batch:	TDS 65808 56115 ed Solids nk (1) 65660		Date Analyzed: Sample Preparation: RL Result 22600 Date Analyzed: 20	2009-12-07 2009-12-01 Units mg/L 009-12-01 009-11-30	Analyzed By: Prepared By: Dilution 100 Analyzed By:	AR AR RL 10.0
Analysis: QC Batch: Prep Batch: Parameter Total Dissolve Method Blas QC Batch:	TDS 65808 56115 ed Solids nk (1) 65660		Date Analyzed: Sample Preparation: RL Result 22600 Date Analyzed: 20 QC Preparation: 20	2009-12-07 2009-12-01 Units mg/L 009-12-01 009-11-30	Analyzed By: Prepared By: Dilution 100 Analyzed By:	AR AR RL 10.0
Analysis: QC Batch: Prep Batch: Parameter Total Dissolve Method Bla: QC Batch: Prep Batch: Prep Batch: Parameter	TDS 65808 56115 ed Solids nk (1) 65660	QC Batch: 65660	Date Analyzed: Sample Preparation: RL Result 22600 Date Analyzed: 20 QC Preparation: 20 MDI	2009-12-07 2009-12-01 Units mg/L 009-12-01 009-11-30	Analyzed By: Prepared By: Dilution 100 Analyzed By: Prepared By:	AR AR 10.0 AR AR AR
Analysis: QC Batch: Prep Batch: Parameter Total Dissolve Method Bla: QC Batch: Prep Batch:	TDS 65808 56115 ed Solids nk (1) 65660 56093	QC Batch: 65660	Date Analyzed: Sample Preparation: RL Result 22600 Date Analyzed: 20 QC Preparation: 20 MDI Result	2009-12-07 2009-12-01 Units mg/L 009-12-01 009-11-30	Analyzed By: Prepared By: Dilution 100 Analyzed By: Prepared By: Units	AR AR 10.0 AR AR
Analysis: QC Batch: Prep Batch: Parameter Total Dissolve Method Bla: QC Batch: Prep Batch: Prep Batch: Parameter Chloride Method Blai	TDS 65808 56115 ed Solids nk (1) 65660 56093	QC Batch: 65660 Flag	Date Analyzed: Sample Preparation: RL Result 22600 Date Analyzed: 20 QC Preparation: 20 MDI Result <0.475	2009-12-07 2009-12-01 Units mg/L 009-12-01 009-11-30	Analyzed By: Prepared By: Dilution 100 Analyzed By: Prepared By: Units	AR AR 10.0 AR AR AR

Report Date: December 7, 2009 115-6403134A			Work Order: 9112515 Celero/Rock Queen				Page Number: 14 of 2 Chavez Co., NM		
			MI	DL					
Parameter	Parameter Flag		Result			Units			
Sulfate		<0.217			mg	;/L		0.8	
Method Blank (1)	QC Batch: 65677								
QC Batch: 65677		Date An	alyzed:	2009-12-01			Analyzed By:	AR	
Prep Batch: 56132		QC Prep	aration:	2009-12-01			Prepared By:	AR	
			M	DL					
Parameter	Flag	•	Res	sult		nits		RI	
Hydroxide Alkalinity				00	U	s CaCo3		1	
Carbonate Alkalinity				00		s CaCo3		1	
Bicarbonate Alkalinity				1.00 1.00		s CaCo3		4	
Total Alkalinity					mg/L a	s CaCo3		4	
Method Blank (1)	QC Batch: 65725								
QC Batch: 65725		Date An	alvzed:	2009-12-02			Analyzed By	: tn	
Prep Batch: 56178				2009-12-02			Prepared By		
				MDL					
Parameter	Flag			esult	Un			RL	
Benzene			< 0.00		mg			0.001	
Toluene			< 0.00		mg			0.001	
Ethylbenzene Xylene		<0.000200 <0.000900			mg		0.001		
1 ky 10410			<u></u>		mg	<u> </u>		0.001	
					Spike	Perce			
Surrogate	Flag	Result	Units	Dilution	Amount	Recove			
Trifluorotoluene (TFT)		0.108	mg/L	1	0.100	108			
4-Bromofluorobenzene (4	BFB)	0.0928	mg/L	1	0.100	93	70.6 -	107.5	
Method Blank (1)	QC Batch: 65745								
QC Batch: 65745		Data An	Juzed	2000_19_02		,	Analyzed By:	RR	
Prep Batch: 56137		Date Analyzed: 2009-12-03 QC Preparation: 2009-12-02					Prepared By:	KV	
				MDL					
Parameter	Flag			Result		Units		RL	

.

	,						
Report Date: December 115-6403134A	7, 2009			der: 9112515 Rock Queen			umber: 15 of 25 Chavez Co., NM
				,			<u> </u>
method blank continued	•••						
∽ ,	171-			MDL		T T .,	DI
Parameter Dissolved Potassium	Flag	<u>g</u>		Colored Result		Units	<u>RL</u> 1
Dissolved Magnesium				<0.172 <0.160		mg/L mg/L	1
Dissolved Magnesium Dissolved Sodium				<0.0500		mg/L	1
						<u>mb/ D</u>	
Method Blank (1)	QC Batch: 65798						
			1 1	2000 10 00			1 ID (
QC Batch: 65798 . Prep Batch: 56235		Date An		2009-12-06 2009-12-06			alyzed By: tn
Prep Batch: 56235		QU r rep	paration:	2009-12-00	•	Frej	pared By: tn
				MDL	•		
Parameter	Flag			Result		nits	RL
Benzene				000300	mg		0.001
Toluene Eth-shares				00200	mg		0.001
Ethylbenzene				100200 100900	mg		0.001 0.001
Xylene			<0.0	00900	mg	,/Ь	0.001
					Spike	Percent	Recovery
Surrogate	Flag	Result	Units		Amount	Recovery	Limits
Trifluorotoluene (TFT)	4 DINI)	0.0997	mg/L		0.100	100	73.6 - 116.6
4-Bromofluorobenzene (4	<u>1-Rlr)</u>	0.0860	mg/L	1	0.100	86	70.6 - 107.5
Method Blank (1)	QC Batch: 65808						
QC Batch: 65808		Date Ana	alvzed:	2009-12-07		Analy	yzed By: AR
Prep Batch: 56115				2009-12-01			ared By: AR
-		-		MDL			
Parameter	Fla	aor		Result		Units	RL
Total Dissolved Solids		15		<9.75		mg/L	10
					,		
Duplicates (1) Dup	licated Sample: 2158	43					
	-	Date Ana	-lade	2009-11-25		Analı	yzed By: AR
QC Batch: 65589 Prep Batch: 56049		QC Prepa		2009-11-25			yzed By: AR ared By: AR
t Ich parent and is		AC TICK	AI (66)()11.	2000-11 #0			neu by
	Duplicate	Sample	_			•	RPD
Param	Result	Result		Units	Dilution	RPD	Limit
pH	7.61	7.55	<u> </u>	s.u.	1	1	1.5
pm	1.01			<i></i>		· · ·	

Report Date: December 7, 2009 115-6403134A			Page	Number: Chavez (
Duplicates (1) Duplicated Sa	mple: 215843							
QC Batch: 65677 Prep Batch: 56132		e Analyzed: Preparation:	2009-12-0 2009-12-0				alyzed By epared By	
Param	Duplicate Result	Sample Result		nits	Dilutio	n	RPD	RPD Limit
Hydroxide Alkalinity	<1.00	<1.00		is CaCo3	1		0	20
Carbonate Alkalinity	<1.00	<1.00		is CaCo3	1		0	20
Bicarbonate Alkalinity Total Alkalinity	95.0 95.0	$\frac{114}{114}$	0,	is CaCo3 is CaCo3	1 1		18 18	20 20
Duplicates (1) Duplicated Sa QC Batch: 65808 Prep Batch: 56115	- Dat	e Analyzed: Preparation:	2009-12-0 2009-12-0				alyzed By epared By	
Trop Batteri. 00110	\$C	r reparation.	2005-12-0			11	opurcu Dy	
	Duplicate	Sample	9					RPD
· · · · · · · · · · · · · · · · · · ·	Result	Result		nits	Dilution	R	PD	Limit
			U	nits g/L	Dilution 100	R	4	Limit 10
Total Dissolved Solids Laboratory Control Spike (LC QC Batch: 65660	Result 9500 CS-1)	Result 9100 e Analyzed:	U m 2009-12-0	9/L)1		An	4 alyzed By	10 7: AR
Param Total Dissolved Solids Laboratory Control Spike (LC QC Batch: 65660 Prep Batch: 56093	Result 9500 CS-1)	Result 9100	U m	9/L)1		An	4	10 7: AR
Total Dissolved Solids Laboratory Control Spike (LC QC Batch: 65660 Prep Batch: 56093	Result 9500 CS-1) Date QC LCS	Result 9100 e Analyzed: Preparation:	U m 2009-12-0 2009-11-3	ng/L 01 50 Spike	100 Matriz	An Pr	4 alyzed By epared By	10 7: AR 1: AR Rec.
Total Dissolved Solids Laboratory Control Spike (LC QC Batch: 65660 Prep Batch: 56093 Param	Result 9500 CS-1) Date QC LCS Result	Result 9100 e Analyzed: Preparation: Units	U m 2009-12-0 2009-11-3 Dil.	ng/L 01 50 Spike Amount	100 Matriz Result	An Pr c	4 alyzed By epared By Sec.	10 r: AR r: AR Rec. Limit
Total Dissolved Solids Laboratory Control Spike (LC QC Batch: 65660 Prep Batch: 56093 Param Chloride	Result 9500 CS-1) Date QC LCS Result 26.1	Result 9100 e Analyzed: Preparation: Units mg/L	U m 2009-12-0 2009-11-3 Dil. 1	ng/L 01 30 Spike Amount 25.0	100 Matrix Result <0.475	An Pr 5 I	4 alyzed By epared By Sec.	10 7: AR 1: AR Rec.
Total Dissolved Solids Laboratory Control Spike (LC QC Batch: 65660	Result 9500 CS-1) Date QC LCS Result 26.1	Result 9100 e Analyzed: Preparation: Units mg/L	U m 2009-12-0 2009-11-3 Dil. 1	ng/L 01 30 Spike Amount 25.0	100 Matrix Result <0.475	An Pr 5 I	4 alyzed By epared By Sec.	10 r: AR r: AR Rec. Limit
Total Dissolved Solids Laboratory Control Spike (LC QC Batch: 65660 Prep Batch: 56093 Param Chloride	Result 9500 CS-1) Date QC LCS Result 26.1	Result 9100 e Analyzed: Preparation: Units mg/L	U m 2009-12-0 2009-11-3 Dil. 1	ng/L 01 30 Spike Amount 25.0	100 Matrix Result <0.475	An Pr 5 I	4 alyzed By epared By Sec.	10 r: AR r: AR Rec. Limit
Total Dissolved Solids Laboratory Control Spike (LC QC Batch: 65660 Prep Batch: 56093 Param Chloride	Result 9500 CS-1) Data QC LCS Result 26.1 pike result. RPE LCSD	Result 9100 e Analyzed: Preparation: Units mg/L	U m 2009-12-0 2009-11-3 Dil. 1 .he spike an	ng/L 01 30 Spike Amount 25.0 nd spike du	100 Matrix Result <0.473 uplicate resu Rec.	An Pr 5 R 5 1	4 alyzed By epared By Sec.	10 7: AR 7: AR 8: AR 10 10 10 10

QC Batch: Prep Batch:		Date Analyzed: QC Preparation:	Analyzed By: Prepared By:	
	·			

Report Date: December 7, 2009 115-6403134A				k Order: 9 pro/Rock (5					17 of 25 Co., NM
		\mathbf{CS}				Spike		Aatrix			Rec.
Param		sult	Units		•	Amount		Result			Limit
Sulfate	2	4.3	mg/I	<u> </u>		25.0	<	<0.217	9	7	90 - 110
Percent recovery is based on the s	pike result	. RPD	is based	on the sp	ike an	d spike d	luplicat	e resu	lt.		
Param	$\begin{array}{c} { m LCSD} \\ { m Result} \end{array}$	Un	its Di	Spil l. Amo		Matrix Result	Rec		Rec. Limit	RPD	RPD Limit
Sulfate	24.8	mg				<0.217	99		0 - 110	$\frac{10}{2}$	
Percent recovery is based on the s			·		·	· · · ·	uplicat				
Laboratory Control Spike (LC	CS-1)										
QC Batch: 65725		Dat	e Analyze	ed: 2009	9-12-0	2			An	alyzed	By: tn
Prep Batch: 56178			Preparat		9-12-0					epared l	-
	\mathbf{LC}	q		*	Sn	ike	Mati	riv			Rec.
Param	Resi		Units	Dil.	-	ount	Rest		Rec.		Limit
Benzene	0.09		mg/L	1		.00	< 0.000		98		4 - 111.8
Toluene	0.09		mg/L	1		.00	< 0.000		97		.3 - 110
Ethylbenzene	0.09		mg/L	- 1		.00	< 0.000		98		3 - 113.1
Xylene	0.29		mg/L	1		800	< 0.000		·97		9 - 113.6
Percent recovery is based on the s	oike result.	RPD		on the spi	ike and	l spike d	uplicate	e resul	t.		
	-		,	-		-					
	LCSD		,	Spike		latrix	_		Rec.		RPD
Param	Result	Units		Amount		lesult	Rec.		imit	RPD	Limit
Benzene	0.100	mg/L		0.100		.000300	100		- 111.8	2	20
Toluene	0.100	mg/L		0.100		000200	100		3 - 110	3	20
Ethylbenzene	0.0994	mg/L		0.100		000200	99		- 113.1	2	20
Xylene	0.296	mg/L		0.300		.000900	99		- 113.6	2	20
Percent recovery is based on the s	pike result.	RPD	is based	on the spi	ike and	l spike d	uplicate	e resul	t.		
	LC	S	LCSD			Spil	(e	LCS	LCSD		Rec.
Surrogate	Resi		Result	Units	Dil.	Amo		Rec.	Rec.		Limit
Trifluorotoluene (TFT)	0.10		0.102	mg/L	1	0.10		104	102		2 - 119.6
4-Bromofluorobenzene (4-BFB)	0.09		0.0926	mg/L	1	0.10		94	93		- 109.8
Laboratory Control Spike (LC	19 1)		- '								
Laboratory Control Spike (LC	.3-1)										
QC Batch: 65745		Date	Analyze	d: 2009	-12-03				Anal	yzed By	r: RR
Prep Batch: 56137			Preparati		-12-02					ared By	
		90				a .:					
		CS	. .	D		Spike		latrix	~		Rec.
Param		sult	Units	Dil.		Amount 50.0		esult 0.117	Re 10		Limit 85 - 115
Dissolved Calcium		9	mg/L	1							

Report Date: December 7, 2009 115-6403134A	Work Order: 9112515 Celero/Rock Queen					Page Number: 18 of 2 Chavez Co., NM			
control spikes continued	LCS		×	Spike	Matrix		Rec.		
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit		
Dissolved Potassium	50.7	mg/L	1	50.0	< 0.172	101	85 - 115		
Dissolved Magnesium	50.5	mg/L	1	50.0	< 0.160	101	85 - 115		
Dissolved Sodium	51.1	mg/L	1	50.0	< 0.0500	102	85 - 115		

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

	LCSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Dissolved Calcium	50.8	mg/L	1	50.0	< 0.117	102	85 - 115	2	20
Dissolved Potassium	50.0	mg/L	1	50.0	< 0.172	100	85 - 115	1	20
Dissolved Magnesium	49.7	mg/L	1	50.0	< 0.160	99	85 - 115	2	20
Dissolved Sodium	49.7	mg/L	1	50.0	< 0.0500	99	85 - 115	3	20

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

Laboratory Control Spike (LCS-1)

QC Batch:	65798	Date Analyzed:	2009-12-06	Analyzed By:	tn -
Prep Batch:	56235	QC Preparation:	2009-12-06	Prepared By:	tn

Param	$\begin{array}{c} \mathrm{LCS} \\ \mathrm{Result} \end{array}$	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	0.101	mg/L	1	0.100	< 0.000300	101	79.4 - 111.8
Toluene	0.101	mg/L	1	0.100	< 0.000200	101	79.3 - 110
Ethylbenzene	0.100	mg/L	1	0.100	< 0.000200	100	73.8 - 113.1
Xylene	0.300	mg/L	1	0.300	< 0.000900	100	73.9 - 113.6

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

	LCSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Benzene	0.103	mg/L	1	0.100	< 0.000300	103	79.4 - 111.8	2	20
Toluene	0.102	mg/L	1	0.100	< 0.000200	102	79.3 - 110	1	20
Ethylbenzene	0.102	mg/L	1	0.100	< 0.000200	102	73.8 - 113.1	2	20
Xylene	0.304	mg/L	1	0.300	< 0.000900	101	73.9 - 113.6	1	20

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

	LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	0.101	0.0995	mg/L	1	0.100	101	100	76.2 - 119.6
4-Bromofluorobenzene (4-BFB)	0.0939	0.0925	mg/L	1	0.100	94	92	77.9 - 109.8

Report Date: December 7, 2009 115-6403134A		Work Or Celero/I		<u>.</u>	Page		: 19 of 25 Co., NM	
Laboratory Control Spike (LC	CS-1)							
QC Batch: 65808 Prep Batch: 56115		ate Analyzed: C Preparation:	2009-12-0 2009-12-0				nalyzed E repared E	-
-	LCS	** 1.	2.1	Spike	Mat		D	Rec.
Param Total Dissolved Solids	Result 972		 	Amount 1000	Rest <9.		Rec 97	Limit 90 - 110
		mg/L					91	90 - 110
Percent recovery is based on the s	pike result. Ri	PD is based on i	tne spike a	na spike au	plicate re	suit.		
	LCSD		Spike	Matrix	_	Rec.		RPD
Param	`	Units Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Total Dissolved Solids		ng/L 1	1000	<9.75	101	90 - 110	4	10
Percent recovery is based on the s	pike result. Iti	D is based on	ле вріке а	na spike da	pheatere			
Matrix Spike (MS-1) Spiked	l Sample: 2158	43						
QC Batch: 65660	D	ate Analyzed:	2009-12-0)1		Α	nalyzed E	By: AR
Prep Batch: 56093		C Preparation:	2009-11-3	30		P	repared B	By: AR
	-	- · 1 · · · · ·		-				•
	MS				Mata	rix		Bec.
	MS Result	-	Dil.	Spike Amount	Matı Resı		Rec.	Rec. Limit
Param		-		Spike		ilt l	Rec. 2327	Limit
Param Chloride	Result 2 5330	Units mg/L	Dil.	Spike Amount 27.5	Resu 469	ılt 1 0 2		Limit
Param Chloride	Result 2 5330	Units mg/L	Dil.	Spike Amount 27.5	Resu 469	ılt 1 0 2		Limit
Param Chloride Percent recovery is based on the sp	Result 2 5330 pike result. RF MSD	Units mg/L	Dil. 5 the spike a	Spike Amount 27.5 nd spike du	Resu 469	ılt l 0 2 sult.		Limit 90 - 110
Param Chloride Percent recovery is based on the sp Param	Result ² 5330 pike result. RF MSD Result	Units mg/L PD is based on t	Dil. 5 .he spike a Spike	Spike Amount 27.5 nd spike du Matrix	Resu 469 plicate re	ılt l 0 2 sult. Rec.	2327	Limit 90 - 110 RPD
Param Chloride Percent recovery is based on the sy Param Chloride 3	Result ² 5330 pike result. RF MSD Result 5320 r	Units mg/L PD is based on t Units Dil. ng/L 5	Dil. 5 the spike at Spike Amount 27.5	Spike Amount 27.5 nd spike du Matrix Result 4690	Resu 469 plicate re Rec. 2291	ılt 1 0 2 sult. Rec. Limit 90 - 110	2327 RPD	Limit 90 - 110 RPD
Param Chloride Percent recovery is based on the sp Param Chloride 3 Percent recovery is based on the sp	Result ² 5330 pike result. RF MSD Result 1 5320 r pike result. RF	Units mg/L PD is based on t Units Dil. ng/L 5 PD is based on t	Dil. 5 the spike at Spike Amount 27.5	Spike Amount 27.5 nd spike du Matrix Result 4690	Resu 469 plicate re Rec. 2291	ılt 1 0 2 sult. Rec. Limit 90 - 110	2327 RPD	Limit 90 - 110 RPD
Param Chloride Percent recovery is based on the sp Param Chloride 3 Percent recovery is based on the sp	Result ² 5330 pike result. RF MSD Result 5320 r	Units mg/L PD is based on t Units Dil. ng/L 5 PD is based on t	Dil. 5 the spike at Spike Amount 27.5	Spike Amount 27.5 nd spike du Matrix Result 4690	Resu 469 plicate re Rec. 2291	ılt 1 0 2 sult. Rec. Limit 90 - 110	2327 RPD	Limit 90 - 110 RPD
Param Chloride Percent recovery is based on the sp Param Chloride ³ Percent recovery is based on the sp Matrix Spike (MS-1) Spiked	Result ² 5330 pike result. RF MSD Result 1 5320 r pike result. RF Sample: 2158	Units mg/L PD is based on t Units Dil. ng/L 5 PD is based on t	Dil. 5 the spike at Spike Amount 27.5	Spike Amount 27.5 nd spike du Matrix Result 4690 nd spike du	Resu 469 plicate re Rec. 2291	ılt 0 2 sult. Rec. Limit 90 - 110 sult.	2327 RPD	Limit 90 - 110 RPD Limit
Param Chloride Percent recovery is based on the sp Param Chloride ³ Percent recovery is based on the sp Matrix Spike (MS-1) Spiked QC Batch: 65660	Result ² 5330 pike result. RF MSD Result 1 5320 r pike result. RF Sample: 2158 Da	Units mg/L PD is based on t Units Dil. ng/L 5 PD is based on t 43	Dil. 5 Spike av Spike Amount 27.5 She spike av	Spike Amount 27.5 nd spike du Matrix Result 4690 nd spike du	Resu 469 plicate re Rec. 2291	ilt 1 0 2 sult. Rec. Limit 90 - 110 sult. A	8327 RPD 0	Limit 90 - 110 RPD Limit
Param Chloride Percent recovery is based on the sp Param Chloride ³ Percent recovery is based on the sp Matrix Spike (MS-1) Spiked QC Batch: 65660	Result ² 5330 pike result. RF MSD Result 1 5320 r pike result. RF Sample: 2158 Da	Units mg/L PD is based on t Units Dil. ng/L 5 PD is based on t 43 ate Analyzed:	Dil. 5 che spike av Spike Amount 27.5 che spike av 2009-12-0	Spike Amount 27.5 nd spike du Matrix Result 4690 nd spike du	Resu 469 plicate re Rec. 2291	ilt 1 0 2 sult. Rec. Limit 90 - 110 sult. A	RPD 0	Limit 90 - 110 RPD Limit
Param Chloride Percent recovery is based on the sy Param Chloride 3 Percent recovery is based on the sy Matrix Spike (MS-1) Spiked QC Batch: 65660 Prep Batch: 56093	Result ² 5330 pike result. RF MSD Result 1 5320 r pike result. RF Sample: 2158 Da Qu MS	Units mg/L PD is based on t Units Dil. ng/L 5 PD is based on t 43 ate Analyzed: C Preparation:	Dil. 5 Spike af Amount 27.5 She spike af 2009-12-0 2009-11-3	Spike Amount 27.5 nd spike du Matrix Result 4690 nd spike du	Resu 469 plicate re 2291 plicate re	ilt 0 2 sult. Rec. Limit 90 - 110 sult. Ai Pi	RPD 0 nalyzed B repared B	Limit 90 - 110 RPD Limit By: AR y: AR y: AR Rec.
Param Chloride Percent recovery is based on the sp Param Chloride ³ Percent recovery is based on the sp Matrix Spike (MS-1) Spiked QC Batch: 65660	Result ² 5330 pike result. RF MSD Result 1 5320 r pike result. RF Sample: 2158 Da Qt	Units mg/L PD is based on t Units Dil. ng/L 5 PD is based on t 43 ate Analyzed: C Preparation:	Dil. 5 che spike av Spike Amount 27.5 che spike av 2009-12-0	Spike Amount 27.5 nd spike du Matrix Result 4690 nd spike du	Resu 469 plicate re Rec. 2291 plicate re	IL I 0 2 sult. Rec. Limit 90 - 110 sult. Ai Properties of the second se	RPD 0	Limit 90 - 110 RPD Limit By: AR y: AR

²Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control. ³MSD analyte out of range. MS/MSD has a RPD within limits. Therfore, MS shows extraction occured properly. ⁴Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.

ı

Report Date: December 7, 2009 115-6403134A		Work Order: 9112515 Celero/Rock Queen						Page Number: 20 of 25 Chavez Co., NM		
-	MSD	** •		Spike	Matrix		Rec.		RPD	
Param	Result	Units	Dil.	Amount	\mathbf{Result}	Rec.	Limit	RPD	Limit	
Sulfate	256	mg/L	5	27.5	150	385	90 - 110	1		

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

Matrix Spike (MS-1) Spiked Sample: 215919

QC Batch:	65725		Date Analyzed:	2009-12-02	Analyzed By:	tn
Prep Batch:	56178	,	QC Preparation:	2009-12-02	Prepared By:	tn

	MS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Benzene	13.9	mg/L	50	5.00	8.779	102	77.3 - 117.4
Toluene	4.88	mg/L	50	5.00	< 0.0100	98	75 - 111.8
Ethylbenzene	5.23	mg/L	50	5.00	0.2906	99	78.8 - 106.6
Xylene	14.5	mg/L	50	15.0	< 0.0450	97	68.9 - 114

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

	MSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{Result}	Units	Dil.	Amount	Result	Rec.	\mathbf{Limit}	RPD	Limit
Benzene	13.6	mg/L	50	5.00	8.779	96	77.3 - 117.4	2	20
Toluene	4.72	mg/L	50	5.00	< 0.0100	94	75 - 111.8	3	20
Ethylbenzene	5.08	mg/L	50	5.00	0.2906	96	78.8 - 106.6	3	20
Xylene	14.1	mg/L	50	15.0	< 0.0450	94	68.9 - 114	3	20

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

	\mathbf{MS}	MSD			Spike	MS	MSD	Rec.
Surrogate	\mathbf{Result}	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	5.43	5.26	mg/L	50	5	109	105	76.3 - 109.8
4-Bromofluorobenzene (4-BFB)	4.74	4.63	mg/L	50	5	95	93	75.2 - 112.8

Matrix Spike (MS-1) Spiked Sample: 215149

QC Batch:	65745	Date Analyzed:	2009-12-03	Analyzed By:	RR
Prep Batch:	56137	QC Preparation:	2009-12-02	Prepared By:	KV

	MS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Dissolved Calcium	104	mg/L	1	50.0	54.7	99	75 - 125
Dissolved Potassium	53.0	mg/L	1	50.0	2.85	100	75 - 125
Dissolved Magnesium	88.0	mg/L	1	50.0	40	96	75 - 125
Dissolved Sodium	199	mg/L	. 1	50.0	150	98	75 - 125

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.

Report Date: December 7, 2009 115-6403134A			Work C Celero,	Page Number: 21 of 25 Chavez Co., NM					
Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Dissolved Calcium	102	mg/L	1	50.0	54.7	95	75 - 125	2	20
Dissolved Potassium	53.3	mg/L	1	50.0	2.85	101	75 - 125	1	20
Dissolved Magnesium	86.5	mg/L	1	50.0	40	93	75 - 125	2	20
Dissolved Sodium	194	mg/L	1	50.0	150	88	75 - 125	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: 216231
--------------	-------	-------------------------

QC Batch:	65798	Date Analyzed:	2009-12-06	Analyzed By:	\mathbf{tn}
Prep Batch:	56235	QC Preparation:	2009-12-06	Prepared By:	tn

	MS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Benzene	0.104	mg/L	1	0.100	< 0.000300	104	77.3 - 117.4
Toluene	0.103	mg/L	1	0.100	< 0.000200	103	75 - 111.8
Ethylbenzene	0.102	mg/L	1	0.100	< 0.000200	102	78.8 - 106.6
Xylene	0.305	mg/L	1	0.300	< 0.000900	102	68.9 - 114

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

	MSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	\mathbf{Limit}	RPD	Limit
Benzene	0.103	mg/L	1	0.100	< 0.000300	103	77.3 - 117.4	1	20
Toluene	0.103	mg/L	1	0.100	< 0.000200	103	75 - 111.8	0	20
Ethylbenzene	0.103	mg/L	1	0.100	< 0.000200	103	78.8 - 106.6	1	20
Xylene	0.306	mg/L	1	0.300	< 0.000900	102	68.9 - 114	0	20

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

	MS	MSD			Spike	MS	MSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	0.101	0.101	mg/L	1	0.1	101	101	76.3 - 109.8
4-Bromofluorobenzene (4-BFB)	0.0936	0.0933	mg/L	1	0.1	94	93	75.2 - 112.8

Standard (ICV-1)

ļ

QC Batch: 65589			Date Ar	alyzed: 2009-1	Analyzed By: AR		
	,		ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
pH		s.u.	7.00	6.85	98	98 - 102	2009-11-25

				;	•		
Report Dat 115-640313	te: December 34A	7, 2009		Work Order: 91 Celero/Rock Q			umber: 22 of 2 Chavez Co., NM
Standard	(CCV-1)						···
QC Batch:	65589		Date An	alyzed: 2009-1	1-25	Anal	yzed By: AR
Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7.00	7.15	102	98 - 102	2009-11-25
Standard ((ICV-1)						
QC Batch:	. ,		Date An	alyzed: 2009-1	2-01	Anal	yzed By: AR
			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		mg/L	25.0	25.0	100	90 - 110	2009-12-01
QC Batch:	65660		Data An	alal. 9000 1	0.01		
			Date An	alyzed: 2009-1	2-01	Anal	yzed By: AR
			ICVs	ICVs	ICVs	Percent	
D			ICVs True	ICVs Found	ICVs Percent	Percent Recovery	Date
Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Param		Units mg/L	ICVs True	ICVs Found	ICVs Percent	Percent Recovery	Date Analyzed
	Flag		ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate	Flag (CCV-1)		ICVs True Conc. 25.0	ICVs Found Conc.	ICVs Percent Recovery 98	Percent Recovery Limits 90 - 110	Date Analyzed
Sulfate Standard (Flag (CCV-1)		ICVs True Conc. 25.0 Date Ana CCVs	ICVs Found Conc. 24.4 alyzed: 2009-1 CCVs	ICVs Percent Recovery 98 2-01 CCVs	Percent Recovery Limits 90 - 110 Anal Percent	Date Analyzed 2009-12-01 yzed By: AR
Sulfate Standard (QC Batch:	Flag (CCV-1) 65660	mg/L	ICVs True Conc. 25.0 Date And CCVs True	ICVs Found Conc. 24.4 alyzed: 2009-1 CCVs Found	ICVs Percent Recovery 98 2-01 CCVs Percent	Percent Recovery Limits 90 - 110 Anal Percent Recovery	Date Analyzed 2009-12-01 yzed By: AR Date
Sulfate Standard (QC Batch: Param	Flag (CCV-1)	mg/L Units	ICVs True Conc. 25.0 Date Ana CCVs True Conc.	ICVs Found Conc. 24.4 alyzed: 2009-1 CCVs Found Conc.	ICVs Percent Recovery 98 2-01 CCVs Percent Recovery	Percent Recovery Limits 90 - 110 Anal Percent Recovery Limits	Date Analyzed 2009-12-01 yzed By: AR Date Analyzed
Sulfate Standard (QC Batch:	Flag (CCV-1) 65660	mg/L	ICVs True Conc. 25.0 Date And CCVs True	ICVs Found Conc. 24.4 alyzed: 2009-1 CCVs Found	ICVs Percent Recovery 98 2-01 CCVs Percent	Percent Recovery Limits 90 - 110 Anal Percent Recovery	Date Analyzed 2009-12-01 yzed By: AR Date Analyzed
Sulfate Standard (QC Batch: Param	Flag (CCV-1) 65660 Flag	mg/L Units	ICVs True Conc. 25.0 Date Ana CCVs True Conc.	ICVs Found Conc. 24.4 alyzed: 2009-1 CCVs Found Conc.	ICVs Percent Recovery 98 2-01 CCVs Percent Recovery	Percent Recovery Limits 90 - 110 Anal Percent Recovery Limits	Date Analyzed 2009-12-01 yzed By: AR Date Analyzed
Sulfate Standard (QC Batch: Param Chloride	Flag (CCV-1) 65660 Flag (CCV-1)	mg/L Units	ICVs True Conc. 25.0 Date Ana CCVs True Conc. 25.0	ICVs Found Conc. 24.4 alyzed: 2009-1 CCVs Found Conc.	ICVs Percent Recovery 98 2-01 CCVs Percent Recovery 100	Percent Recovery Limits 90 - 110 Anal Percent Recovery Limits 90 - 110	Date Analyzed 2009-12-01 yzed By: AR Date Analyzed
Sulfate Standard (QC Batch: Param Chloride Standard (Flag (CCV-1) 65660 Flag (CCV-1)	mg/L Units	ICVs True Conc. 25.0 Date Ana CCVs True Conc. 25.0 Date Ana CCVs	ICVs Found Conc. 24.4 alyzed: 2009-1: CCVs Found Conc. 24.9 alyzed: 2009-1: CCVs	ICVs Percent Recovery 98 2-01 2-01 CCVs Percent Recovery 100 2-01 CCVs	Percent Recovery Limits 90 - 110 Anal Percent Recovery Limits 90 - 110 Anal Percent	Date Analyzed 2009-12-01 yzed By: AR Date Analyzed 2009-12-01
Sulfate Standard (QC Batch: Param Chloride Standard (QC Batch:	Flag (CCV-1) 65660 Flag (CCV-1) 65660	mg/L Units mg/L	ICVs True Conc. 25.0 Date Ana CCVs True Conc. 25.0 Date Ana CCVs True	ICVs Found Conc. 24.4 alyzed: 2009-1: CCVs Found Conc. 24.9 alyzed: 2009-1: CCVs Found	ICVs Percent Recovery 98 2-01 CCVs Percent Recovery 100 2-01 CCVs Percent	Percent Recovery Limits 90 - 110 Anal Percent Recovery Limits 90 - 110 Anal Percent Recovery	Date Analyzed 2009-12-01 yzed By: AR Date Analyzed 2009-12-01 yzed By: AR
Sulfate Standard (QC Batch: Param Chloride Standard (Flag (CCV-1) 65660 Flag (CCV-1)	mg/L Units	ICVs True Conc. 25.0 Date Ana CCVs True Conc. 25.0 Date Ana CCVs	ICVs Found Conc. 24.4 alyzed: 2009-1: CCVs Found Conc. 24.9 alyzed: 2009-1: CCVs	ICVs Percent Recovery 98 2-01 2-01 CCVs Percent Recovery 100 2-01 CCVs	Percent Recovery Limits 90 - 110 Anal Percent Recovery Limits 90 - 110 Anal Percent	Date Analyzed 2009-12-01 yzed By: AR Date Analyzed 2009-12-01 yzed By: AR

Standard (ICV-1)								
QC Batch: 65677			Date A	nalyzed: 2009-	12-01		Analy	zed By: AR
				ICVs	ICVs	ICVs	Percent	
				True	Found	Percent	Recovery	Date
Param		Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Hydroxide Alkalinity			mg/L as CaCo3		<1.00		0 - 200	2009-12-01
Carbonate Alkalinity			mg/L as CaCo3		224		0 - 200	2009-12-01
Bicarbonate Alkalini	ity		mg/L as CaCo3		25.0	100	0 - 200	2009-12-01
Total Alkalinity			mg/L as CaCo3	250	249	100	90 - 110	2009-12-01
Standard (CCV-1)							
QC Batch: 65677			Date A	nalyzed: 2009-	12-01		Analy	zed By: AR
				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param		Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Hydroxide Alkalinity			mg/L as CaCo3	0.00	<1.00		0 - 200	2009-12-01
Carbonate Alkalinity	Ŷ		mg/L as CaCo3		224		0 - 200	2009-12-01
Bicarbonate Alkalini	ity		mg/L as CaCo3	0.00	26.0		0 - 200	2009-12-01
Total Alkalinity			mg/L as CaCo3	250	250	100	90 - 110	2009-12-01
QC Batch: 65725			Date A	nalyzed: 2009	-12-02		Anal	yzed By: tn
			CCVs	CCVs		CCVs	Percent	
			True			Percent	Recovery	Date
Param	Flag	Uni				ecovery	Limits	Analyzed
Benzene	0	mg				90	80 - 120	2009-12-02
Toluene		mg/				90	80 - 120	2009-12-02
		_ mg/	/L 0.100	0.0883		88	80 - 120	2009-12-02
Ethylbenzene		mg				88	80 - 120	2009-12-02
-								
Ethylbenzene Xylene Standard (CCV-3)				10.00		Anal	yzed By: tn
Xylene)		Date A	nalyzed: 2009	-12-02			
Xylene Standard (CCV-3)			-		CCVs	Percent	
Xylene Standard (CCV-3)		CCVs	cCVs	(CCVs Percent	Percent Recovery	Date
Xylene Standard (CCV-3 QC Batch: 65725		Uni	CCVs True	CCVs Found	P	Percent	Recovery	Date Analyzed
Xylene Standard (CCV-3 QC Batch: 65725 Param) Flag	Uni mg.	CCVs True ts Conc.	GCCVs Found Conc.	P	Percent ecovery	Recovery Limits	Analyzed
Xylene Standard (CCV-3 QC Batch: 65725 Param Benzene		mg	CCVs True ts Conc. /L 0.100	Found Conc. 0.0977	P	Percent ecovery 98	Recovery Limits 80 - 120	Analyzed 2009-12-02
Xylene Standard (CCV-3 QC Batch: 65725 Param Benzene Toluene		mg, mg,	CCVs True ts Conc. /L 0.100 /L 0.100	CCVs Found Conc. 0.0977 0.0975	P	Percent ecovery 98 98	Recovery Limits 80 - 120 80 - 120	Analyzed 2009-12-02 2009-12-02
Xylene Standard (CCV-3 QC Batch: 65725 Param		mg	CCVs True ts Conc. /L 0.100 /L 0.100	CCVs Found Conc. 0.0977 0.0975	P	Percent ecovery 98	Recovery Limits 80 - 120 80 - 120 80 - 120	Analyzed

Report Date: December 7, 2009 115-6403134A				c Order: 91125 ro/Rock Queer		Page Number: 24 of 25 Chavez Co., NM			
standard continued		TT . 1	CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date		
	ag	Units	Conc.	Conc.	Recovery	Limits 80 - 120	Analyzed		
Xylene		mg/L	0.300	0.286	95	80 - 120	2009-12-02		
Standard (ICV-1)									
QC Batch: 65745			Date Analyze	d: 2009-12-03		Analy	yzed By: RR		
			ICVs	ICVs	ICVs	Percent			
			True	Found	Percent	Recovery	Date		
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed		
Dissolved Calcium		· mg/L	50.0	52.2	104 .	90 - 110	2009-12-03		
Dissolved Potassium		mg/L	50.0	51.2	102	90 - 110	2009-12-03		
Dissolved Magnesium		mg/L	50.0	52.4	105	90 - 110	2009-12-03		
Dissolved Sodium		mg/L	50.0	50.5	101	90 - 110	2009-12-03		
Standard (CCV-1) QC Batch: 65745			Date Analyze	d: 2009-12-03		Analy	yzed By: RR		
			CCVs	CCVs	CCVs	Percent			
			True	Found	Percent	Recovery	Date		
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed		
Dissolved Calcium		mg/L	50.0	52.4	105	90 - 110	2009-12-03		
Dissolved Potassium		mg/L	50.0	49.7	99	90 - 110	2009-12-03		
Dissolved Magnesium		mg/L	50.0	52.4	105	90 - 110	2009-12-03		
Dissolved Sodium		mg/L	50.0	50.5	101	90 - 110	2009-12-03		
Standard (CCV-1)									
QC Batch: 65798			Date Analyze	d: 2009-12-06	j .	Ana	lyzed By: tn		
			CCVs	CCVs	CCVs	Percent			
			True	Found	Percent	Recovery	Date		
Param Fl	ag	Units	Conc.	Conc.	Recovery	Limits	Analyzed		
Benzene		mg/L	0.100	0.101	101	80 - 120	2009-12-06		
Toluene		mg/L	0.100	0.0993	99	80 - 120	2009-12-06		
Ethylbenzene		mg/L	0.100	0.0981	98	80 - 120	2009-12-06		
Xylene		mg/L	0.300	0.291	97	80 - 120	2009-12-06		

Standard (CCV-2)

QC Batch: 65798

Date Analyzed: 2009-12-06

Analyzed By: tn

Report Date: Do 115-6403134A 	ecember 7, 20	09		ork Order: 911 elero/Rock Que	Page Number: 25 of 25 Chavez Co., NM		
			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		mg/L	0.100	0.102	102	80 - 120	2009-12-06
Toluene		mg/L	0.100	0.101	101	80 - 120	2009-12-06
Ethylbenzene		mg/L	0.100	0.0995	100	80 - 120	2009-12-06
Xylene		mg/L	0.300	0.297	99	80 - 120	2009-12-06

• • • •

. .

A		rqi											<u> </u>		-								- Ý						-		Ρ	AGE		-	**************************************		OF:		,	gantagir
An	alys	sis F	{e	q	U	est	0	t (JN	all	n	0	t C	JU	Sto	Dď	y ł	⊀€	ЭC	;Ó	rc		ł			<u> </u>			. /						↓ зт				1	
			ſ			7																						(0							od N	lo.)				
							191 Mid	0 N. Iano	RA . Big d, Te .4559	Spi xas	ring 79	g S [.] 970:	st.	3946											5 (Ext. to C35)	Cr Pb Hg	J Vr Pd Hg Se										DS,			
CLIENT NAM									ANAGI					<i>-</i>		T erritoria	RS	Τ	P			ATIV	'E		5001X1	Ba Cd				1031)/625						NH0			
PROJECT NO	<u>.</u>		100			NAME	1	J	- <i>ff</i>	_K,	ind	124	<u> </u>			,			Į,	M	ETH	00		•	1	2	2		g	000	8270						Suo			
		.4	Рн	رکر 10	EGI	NAME	:		-								INO	Î							MOD.	Ag	Ag	<i>"</i>	lati	104	Ì	80				ΞÌ	Cati			
LAB I.D. NUMBER	DATE 2009		MATRIX	i i	GRAB	<u></u>	<u>Kaa</u>						ICATIO	 DN			NUMBER OF CONTAINERS	FILTERED (Y/N)	HCL	HNO3	ICE	NONE		(8021B	TPH 8015	RCRA Metals	TCLP Metals Ag /	TCLP Volatiles	TCLP Semi Volatiles		GC.MS Semi. Vol. 8270/625	PCB's 8080/6	Pest. 808/608	Chloride)	Gamma Spec.	Alpha Beta (Air)	Major Anions/Cations(pH)(IDS)			
215835	11/24		\square		×			м	w-1								4	N	3		X			X		1					1-		$\left \right $	X			X			
836	1	1410)		7			M	y-2									\mathbb{P}	7		1			İ						T				$\overline{\mathbf{N}}$						Ι
837-	\langle	1400][/			Mu	y-3									$\left \right $			/			$\left \right $										\square						Τ
838		1500	Ý		Ŷ		(Mw	<u>v:3</u> .4									\mathbb{D}	$\langle \rangle$		\mathbf{Y}													4			<u> </u>			
																									_		ļ						 							
																· · · · · · · · · · · · · · · · · · ·									_		<u> </u>						-			_	_			_
																													_	_							_			
				 																							L					1	Ļ							
																		-							_	_			\downarrow			-	 			_				┥
RELINQUISHED	BY (Signatu	(en				Date:		113	Zer		PCEIM		IV: IGIG	A lines					Ľ	ate	17	13.6	_		,	SAMP		BV: (Drict 2							Det		$\prod_{i=1}^{n}$	-07	-
RELINQUISHED	at PL	ush				Time: Date:			12	\sim		¥ ~	SY: (Sign	\sim						ime: Ime: Date:		0 !/	0			SAMP		HIPPI		/: (Ci	rcle)	Ţ.	Ĩ	<u>`</u>		Tim	10:	Ú.	377	A
RELINQUISHED		· · · · · · · · · · · · · · · · · · ·	.			Time: Date:							BY: (Sign						7	īme: Date:					-4	HAN		LIVE	RED	ວ ເ	JPS					THE	R:			
RECEIVING LAB			5	۲.		Time:							: (Signat	-		D1F	- m		1.	ime: nti		-7.	5.1		-	TETR	A TEO	1,	1)N:	_		-		Result RUSH	•	184	
CITY:	Mar	la		7 P	HON	E:	IP:			DATI	e: 11	1-3	30-0	19)	<u>~ ` ` `</u>		IME:			<u>L</u> Ar	n	<u>لون</u>	Ś		(\leq	K	inc		ey 			•••••••		ľ	RUSH Author Ye			Va
SAMPLE CONDI	1	ACT				0	REMAR	KS:	ud	A	te	v r	01.1	nic	1.	Ani			1 -	TN	10			سرد . ر	\mathbb{D}	1.1	m	. 1	(1	di.		<u> </u>	D	<u> </u>		<u> </u>	N	4	

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298

 6701 Aberdeen Avenue, Suite 9
 1

 200 East Sunset Road, Suite E
 1

 5002 Basin Street, Suite A1
 1

 6015 Harris Parkway, Suite 110
 Ft.

El Paso, Texas. 79922 Midland, Texas. 79703 Ft. Worth, Texas. 76132 E-Mail: lab@traceanalysis.com
 806+794+1296
 FA

 915+585+3443
 FA

 432+689+6301
 FA

 817+201+5260
 FA

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

WBENC: 237019

HUB:1752439743100-86536NCTRCAWFWB38444Y0909

Certifications

DBE: VN 20657

NELAP Certifications

Lubbock: T104704219-08-TX LELAP-02003 Kansas E-10317 El Paso: T104704221-08-TX LELAP-02002 Midland: T104704392-08-TX

Analytical and Quality Control Report

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

Report Date: July 27, 2010

Work Order: 10071407

Project Location:Chavez County, NMProject Name:Celero/Rock Queen SWD #1Project Number:115-6403134

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
237430	MW-1	water	2010-07-13	14:40	2010-07-14
237431	MW-2	water	2010-07-13	14:45	2010-07-14
237432	MW-3	water	2010-07-13	14:50	2010-07-14
237433	MW-4	water	2010-07-13	14:55	2010-07-14

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

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

Michael abril

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

Standard Flags

;

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

Case Narrative

Samples for project Celero/Rock Queen SWD #1 were received by TraceAnalysis, Inc. on 2010-07-14 and assigned to work order 10071407. Samples for work order 10071407 were received intact without headspace and at a temperature of 3.9 C.

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

		Prep	Prep	\mathbf{QC}	Analysis
Test	Method	Batch	Date	Batch	Date
BTEX	S 8021B	61451	2010-07-14 at 16:00	71724	2010-07-14 at 16:42
Chloride (IC)	E 300.0	61480	2010-07-15 at 08:52	71927	2010-07-15 at 14:25
SO4 (IC)	E 300.0	61480	2010-07-15 at 08:52	71927	2010-07-15 at 14:25
TDS	SM 2540C	61516	2010-07-15 at 10:29	72039	2010-07-26 at 12:30

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

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 10071407 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.

Page Number: 4 of 14 Chavez County, NM

Analytical Report

Sample: 237430 - MW-1

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	71724	Date Analyzed:	2010-07-14	Analyzed By:	AG
Prep Batch:	61451	Sample Preparation:	2010-07-14	Prepared By:	AG
		RL			

Parameter	Flag		Result	t	Units	Dil	ution	\mathbf{RL}
Benzene			0.00310)	mg/L		1	0.00100
Toluene			< 0.00100)	mg/L		1	0.00100
Ethylbenzene			< 0.00100)	mg/L		1	0.00100
Xylene		·····	< 0.00100)	mg/L	<u></u>	1	0.00100
						Spike	Percent	Recovery
Surrogate		Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			0.0837	mg/L	1	0.100	84	67.8 - 126
4-Bromofluorobenzene (4-BI	FB)		0.0769	mg/L	1	0.100	77	51.1 - 128

Sample: 237430 - MW-1

Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (IC) 71927 61480	Analytical Method: Date Analyzed: Sample Preparation:	E 300.0 2010-07-15 2010-07-15	Prep Method: Analyzed By: Prepared By:	ÁR
Parameter Chloride	Flag	RL Result 155000	Units mg/L	Dilution 500	RL 2.50

Sample: 237430 - MW-1

Laboratory: Analysis: QC Batch: Prep Batch:	Midland SO4 (IC) 71927 61480		Analytical Method: Date Analyzed: Sample Preparation:	E 300.0 2010-07-15 2010-07-15		Prep Method: Analyzed By: Prepared By:	AR
			RL	**			DI
Parameter		Flag	Result	Units	1	Dilution	\mathbf{RL}
Sulfate			1530	mg/L		50	2.50

Report Date: July 27, 2010	Work Order: 10071407	Page Number: 5 of 14
115-6403134	Celero/Rock Queen SWD #1	Chavez County, NM

Sample: 237430 - MW-1

Laboratory:MidlandAnalysis:TDSQC Batch:72039Prep Batch:61516		Analytical Method: Date Analyzed: Sample Preparation:	SM 2540C 2010-07-26 2010-07-16	Prep Method: Analyzed By: Prepared By:	AR
		RL			
Parameter	Flag	Result	Units	Dilution	RL
Total Dissolved Solids	······································	225000	mg/L	100	10.0

Sample: 237431 - MW-2

Laboratory:MidlandAnalysis:BTEXQC Batch:71724Prep Batch:61451			Analytical M Date Analyze Sample Prep	ed:	S 8021B 2010-07-14 2010-07-14		Prep Method Analyzed By: Prepared By:	AG
		·	RL					
Parameter	Flag		Result		Units		Dilution	\mathbf{RL}
Benzene			< 0.00100	1	mg/L		1	0.00100
Toluene			< 0.00100		mg/L		1	0.00100
Ethylbenzene			< 0.00100		mg/L		1	0.00100
Xylene			< 0.00100		mg/L		1	0.00100
						Spike	Percent	Recovery
Surrogate		Flag	Result	Units	Dilution	Amoun	t Recovery	Limits
Trifluorotoluene (TFT)			0.0877	mg/L	1	0.100	88	67.8 - 126
4-Bromofluorobenzene (4-I	3FB)		0.0758	mg/L	1	0.100	76	51.1 - 128

Sample: 237431 - MW-2

: :

Chloride		43200	mg/Ŀ	5000	2.50
Parameter	Flag	RL Result	Units	Dilution	RL
Prep Batch:	61480	Sample Preparation:	2010-07-15	Prepared By:	AR
QC Batch:	71927	Date Analyzed:	2010-07-15	Analyzed By:	\mathbf{AR}
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	
Laboratory:	Midland				

.

Report Date: July 27, 2 115-6403134	010				10071407 ieen SWD #1		mber: 6 of 1 County, NM	
Sample: 237431 - MV	V-2							
Laboratory: Midland								
Analysis: SO4 (IC)			Analytica				Prep Me	
QC Batch: 71927			Date Ana	•	2010-07-15		Analyze	
Prep Batch: 61480			Sample P	reparation	: 2010-07-15		Prepare	d By: AR
			RL					
Parameter	Flag		Result		Units	Ľ	Dilution	RI
Sulfate			652		mg/L		50	2.50
Sample: 237431 - MV	V-2							
Laboratory: Midland								
Analysis: TDS			Analytical	Method:	SM 2540C		Prep Me	ethod: N/A
QC Batch: 72039			Date Anal		2010-07-26		Analyze	
Prep Batch: 61516			Sample Pr				Prepare	•
				-				
Parameter		Flag	1	RL Result	Units		Dilution	RI
Total Dissolved Solids		1 105		2700	mg/L		100	10.0
Sample: 237432 - MV	V-3					,		
Laboratory: Midland								
Analysis: BTEX			Analytical N	lethod.	S 8021B		Prep Metho	d: S 5030E
QC Batch: 71724			Date Analyz		2010-07-14		Analyzed By	
Prep Batch: 61451			Sample Prep		2010-07-14	•	Prepared By	
			 \	•				
			RI		T T 1			DI
Parameter	Flag		Resul		Units	Dil	ution	RL
Benzene			< 0.00100		mg/L		1	0.00100
Toluene Ethylbenzene			<0.00100 <0.00100		mg/L		1 1	0.00100 0.00100
Xylene			< 0.00100		mg/L mg/L		1	0.00100
			~0.0010		ш5/ Ц		L	0.00100
Aylene						a .1	D 1	D
						Spike	Percent	Recovery
Surrogate		Flag	Result	Units	Dilution	Amount	Recovery	Limits
		Flag	Result 0.0651 0.0568	Units mg/L mg/L	Dilution 1 1	-		

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

)

.

.

115-6403134	e: July 27, 2010	Work Order: Celero/Rock Qu		Page Number: 7 of 14 Chavez County, NM		
Sample: 23	57432 - MW-3					
Laboratory:	Midland					
Analysis:	Chloride (IC)	Analytical Method		Prep Metho	,	
QC Batch:	71927	Date Analyzed:	2010-07-15	Analyzed E		
Prep Batch:	61480	Sample Preparatio	on: 2010-07-15	Prepared B	y: AR	
		RL .				
Parameter	Flag	Result	Units	Dilution	RL	
Chloride		73200	mg/L	5000	2.50	
~						
-	37432 - MW-3					
Laboratory: Analysis:	Midland SO4 (IC)	Analytical Method:	E 300.0	Prep Metho	od: N/A	
QC Batch:	71927	Date Analyzed:	2010-07-15	Analyzed B		
Prep Batch:		Sample Preparation:		Prepared B		
				-		
Parameter	Flag	RL Result	Units	Dilution	\mathbf{RL}	
Sulfate	Tiag	931	mg/L	50	2.50	
Laboratory:	7432 - MW-3 Midland TDS	Analytical Method:	SM 2540C	Prep Metho	od: N/A	
-		Analytical Method: Date Analyzed: Sample Preparation:	SM 2540C 2010-07-26 2010-07-16	Prep Metho Analyzed B Prepared B	y: AR	
Laboratory: Analysis: QC Batch: Prep Batch:	Midland TDS 72039	Date Analyzed: Sample Preparation: RL	2010-07-26 2010-07-16	Analyzed B Prepared B	y: AR y: AR	
Laboratory: Analysis: QC Batch: Prep Batch: Parameter	Midland TDS 72039 61516	Date Analyzed: Sample Preparation: RL Flag Result	2010-07-26 2010-07-16 Units	Analyzed B Prepared B Dilution	y: AR y: AR RL	
Laboratory: Analysis: QC Batch: Prep Batch:	Midland TDS 72039 61516	Date Analyzed: Sample Preparation: RL	2010-07-26 2010-07-16	Analyzed B Prepared B	y: AR y: AR	
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Total Dissolv	Midland TDS 72039 61516	Date Analyzed: Sample Preparation: RL Flag Result	2010-07-26 2010-07-16 Units	Analyzed B Prepared B Dilution	y: AR y: AR RL	
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Total Dissolv Sample: 23 Laboratory:	Midland TDS 72039 61516 ved Solids 7433 - MW-4 Midland	Date Analyzed: Sample Preparation: RL Flag Result 150000	2010-07-26 2010-07-16 Units mg/L	Analyzed B Prepared B Dilution 100	y: AR y: AR <u>RL</u> 10.0	
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Total Dissolv Sample: 23 Laboratory: Analysis:	Midland TDS 72039 61516 red Solids 7433 - MW-4 Midland BTEX	Date Analyzed: Sample Preparation: RL Flag Result 150000 Analytical Method:	2010-07-26 2010-07-16 Units mg/L S 8021B	Analyzed B Prepared B Dilution 100 Prep Method:	y: AR y: AR <u>RL</u> 10.0 S 5030B	
Caboratory: Analysis: QC Batch: Prep Batch: Parameter Total Dissolv Cample: 23 Caboratory: Analysis: QC Batch:	Midland TDS 72039 61516 ved Solids 7433 - MW-4 Midland BTEX 71724	Date Analyzed: Sample Preparation: RL Flag Result 150000 Analytical Method: Date Analyzed:	2010-07-26 2010-07-16 Units mg/L S 8021B 2010-07-14	Analyzed B Prepared B Dilution 100 Prep Method: Analyzed By:	y: AR y: AR <u>RL</u> 10.0 S 5030B AG	
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Total Dissolv	Midland TDS 72039 61516 red Solids 7433 - MW-4 Midland BTEX	Date Analyzed: Sample Preparation: RL Flag Result 150000 Analytical Method: Date Analyzed: Sample Preparation:	2010-07-26 2010-07-16 Units mg/L S 8021B	Analyzed B Prepared B Dilution 100 Prep Method:	y: AR y: AR <u>RL</u> 10.0 S 5030B	
Laboratory: Analysis: QC Batch: Prep Batch: Prep Batch: Dotal Dissolv Sample: 23 Laboratory: Analysis: QC Batch: Prep Batch:	Midland TDS 72039 61516 red Solids 7433 - MW-4 Midland BTEX 71724 61451	Date Analyzed: Sample Preparation: RL Flag Result 150000 Analytical Method: Date Analyzed: Sample Preparation: RL	2010-07-26 2010-07-16 Units mg/L S 8021B 2010-07-14 2010-07-14	Analyzed B Prepared B Dilution 100 Prep Method: Analyzed By: Prepared By:	y: AR y: AR RL 10.0 S 5030B AG AG	
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Total Dissolv Sample: 23 Laboratory: Analysis: QC Batch: Prep Batch: Prep Batch:	Midland TDS 72039 61516 ved Solids 7433 - MW-4 Midland BTEX 71724	Date Analyzed: Sample Preparation: RL Flag Result 150000 Analytical Method: Date Analyzed: Sample Preparation: RL Result	2010-07-26 2010-07-16 <u>Units</u> mg/L S 8021B 2010-07-14 2010-07-14 Units	Analyzed B Prepared B Dilution 100 Prep Method: Analyzed By: Prepared By: Dilution	y: AR y: AR RL 10.0 S 5030B AG AG RL	
Caboratory: Analysis: QC Batch: Prep Batch: Parameter Total Dissolv Sample: 23 Caboratory: Analysis: QC Batch: Prep Batch: Prep Batch: Parameter Benzene	Midland TDS 72039 61516 red Solids 7433 - MW-4 Midland BTEX 71724 61451	Date Analyzed: Sample Preparation: RL Flag Result 150000 Analytical Method: Date Analyzed: Sample Preparation: RL	2010-07-26 2010-07-16 Units mg/L S 8021B 2010-07-14 2010-07-14 Units mg/L	Analyzed B Prepared B Dilution 100 Prep Method: Analyzed By: Prepared By:	y: AR y: AR RL 10.0 S 5030B AG AG	
Caboratory: Analysis: QC Batch: Prep Batch: Parameter Total Dissolv Sample: 23 Caboratory: Analysis: QC Batch: Prep Batch: Prep Batch: Parameter Benzene	Midland TDS 72039 61516 red Solids 7433 - MW-4 Midland BTEX 71724 61451	Date Analyzed: Sample Preparation: RL Flag Result 150000 Analytical Method: Date Analyzed: Sample Preparation: RL Result <0.00100	2010-07-26 2010-07-16 Units mg/L S 8021B 2010-07-14 2010-07-14 Units mg/L mg/L	Analyzed B Prepared B Dilution 100 Prep Method: Analyzed By: Prepared By: Dilution 1	y: AR y: AR RL 10.0 S 5030B AG AG AG RL 0.00100	
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Total Dissolv Sample: 23 Laboratory: Analysis: QC Batch: Prep Batch: Prep Batch: Parameter Benzene	Midland TDS 72039 61516 red Solids 7433 - MW-4 Midland BTEX 71724 61451	Date Analyzed: Sample Preparation: RL Flag Result 150000 Analytical Method: Date Analyzed: Sample Preparation: RL Result <0.00100	2010-07-26 2010-07-16 Units mg/L S 8021B 2010-07-14 2010-07-14 Units mg/L mg/L	Analyzed B Prepared B Dilution 100 Prep Method: Analyzed By: Prepared By: Dilution 1 1	y: AR y: AR RL 10.0 S 5030B AG AG AG RL 0.00100	
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Total Dissolv Sample: 23 Laboratory: Analysis: QC Batch:	Midland TDS 72039 61516 red Solids 7433 - MW-4 Midland BTEX 71724 61451	Date Analyzed: Sample Preparation: RL Flag Result 150000 Analytical Method: Date Analyzed: Sample Preparation: RL Result <0.00100	2010-07-26 2010-07-16 Units mg/L S 8021B 2010-07-14 2010-07-14 Units mg/L mg/L	Analyzed B Prepared B Dilution 100 Prep Method: Analyzed By: Prepared By: Dilution 1 1	y: AR y: AR RL 10.0 S 5030B AG AG AG RL 0.00100	
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Total Dissolv Sample: 23 Laboratory: Analysis: QC Batch: Prep Batch: Prep Batch: Parameter Benzene	Midland TDS 72039 61516 red Solids 7433 - MW-4 Midland BTEX 71724 61451	Date Analyzed: Sample Preparation: RL Flag Result 150000 Analytical Method: Date Analyzed: Sample Preparation: RL Result <0.00100	2010-07-26 2010-07-16 Units mg/L S 8021B 2010-07-14 2010-07-14 Units mg/L mg/L	Analyzed B Prepared B Dilution 100 Prep Method: Analyzed By: Prepared By: Dilution 1 1	y: AR y: AR RL 10.0 S 5030B AG AG AG RL 0.00100	

,

i

Page Number: 8 of 14 Chavez County, NM

sample 237433 continued ...

			RL					
Parameter H	lag		Result	t	Units	Dil	ution	RL
Ethylbenzene		<0.00100			mg/L	1		0.00100
Xylene		< 0.00100)	mg/L		1	0.00100
						Spike	Percent	Recovery
Surrogate	\mathbf{Fl}	ag	\mathbf{Result}	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)	-		0.0828	mg/L	1	0.100	83	67.8 - 126
4-Bromofluorobenzene (4-BF)	B)		0.0723	mg/L	1	0.100	72	51.1 - 128

Sample: 237433 - MW-4

Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (IC) 71927 61480	Analytical Method: Date Analyzed: Sample Preparation:	E 300.0 2010-07-15 2010-07-15	Prep Method: Analyzed By: Prepared By:	AR
		RL			
Parameter	\mathbf{Flag}	Result	Units	Dilution	\mathbf{RL}
Chloride		85800	mg/L	5000	2.50

Sample: 237433 - MW-4

Laboratory: Analysis: QC Batch: Prep Batch:	SO4 (IC) 71927	Analytical Method: Date Analyzed: Sample Preparation:	E 300.0 2010-07-15 2010-07-15	Prep Method: Analyzed By: Prepared By:	AR
		RL			
Parameter	Fla	ag Result	Units	Dilution	RL
Sulfate		1540	mg/L	50	2.50

Sample: 237433 - MW-4

A 61 11

Total Dissolved Solids		159000	mg/L	100	10.0
Parameter	Flag	RL Result	Units	Dilution	RL
Prep Batch: 61516		Sample Preparation:	2010-07-16	Prepared By:	AR
QC Batch: 72039		Date Analyzed:	2010-07-26	Analyzed By:	\mathbf{AR}
Analysis: TDS		Analytical Method:	SM 2540C	Prep Method:	N/A
Laboratory: Midland					

Report Date: July 27,	2010		er: 10071407		Page Number	
115-6403134		Celero/Rock 0	Queen SWD #1	`	Chavez Cou	nty, NM
Method Blank (1)	QC Batch: 71724	,				
QC Batch: 71724		Date Analyzed:	2010-07-14		Analyzed By	
Prep Batch: 61451		QC Preparation:	2010-07-14		Prepared By	·: AG
			MDL			
Parameter	Flag		Result	Units		RL
Benzene Toluene)00600)00600	mg/L mg/L		0.001 0.001
Ethylbenzene)00800	mg/L mg/L		0.001
Xylene	· · · · · · · · · · · · · · · · · · ·		00767	mg/L		0.001
_	<i>.</i>			Spike		ecovery
Surrogate	Flag	Result Unit		Amount	0	Limits
Trifluorotoluene (TFT)		0.0973 mg/l		0.100		.2 - 118
4-Bromofluorobenzene ((4-BFB)	0.0848 mg/l	L 1	0.100	85 47	.3 - 116
Method Blank (1)	QC Batch: 71927					
	QC Batch: 71927	Date Analyzed:	2010-07-15		Analyzed By	7: AR
QC Batch: 71927	QC Batch: 71927	Date Analyzed: QC Preparation:	2010-07-15 2010-07-15		Analyzed By Prepared By	
•	QC Batch: 71927	QC Preparation:				
QC Batch: 71927 Prep Batch: 61480		QC Preparation:	2010-07-15	Units		
QC Batch: 71927 Prep Batch: 61480 Parameter	QC Batch: 71927 Flag	QC Preparation: M Re	2010-07-15 IDL	Units mg/L		: AR
QC Batch: 71927 Prep Batch: 61480 Parameter		QC Preparation: M Re	2010-07-15 IDL sult			AR
QC Batch: 71927		QC Preparation: M Re	2010-07-15 IDL sult			AR
QC Batch: 71927 Prep Batch: 61480 Parameter Chloride Method Blank (1)	Flag	QC Preparation: M Re <0	2010-07-15 IDL sult .265		Prepared By	: AR RL 2.5
QC Batch: 71927 Prep Batch: 61480 Parameter Chloride Method Blank (1) QC Batch: 71927	Flag	QC Preparation: M Re	2010-07-15 IDL sult .265 2010-07-15			: AR RL 2.5 : AR
QC Batch: 71927 Prep Batch: 61480 Parameter Chloride Method Blank (1) QC Batch: 71927	Flag	QC Preparation: M Re <0 Date Analyzed: QC Preparation:	2010-07-15 IDL sult .265 2010-07-15 2010-07-15		Prepared By Analyzed By	: AR RL 2.5 : AR
QC Batch: 71927 Prep Batch: 61480 Parameter Chloride Method Blank (1) QC Batch: 71927 Prep Batch: 61480	Flag QC Batch: 71927	QC Preparation: M Re <0 Date Analyzed: QC Preparation: M	2010-07-15 IDL sult .265 2010-07-15 2010-07-15 IDL	mg/L	Prepared By Analyzed By	: AR RL 2.5 : AR : AR : AR
QC Batch: 71927 Prep Batch: 61480 Parameter Chloride Method Blank (1) QC Batch: 71927 Prep Batch: 61480 Parameter	Flag	QC Preparation: M Re <0 Date Analyzed: QC Preparation: M Re	2010-07-15 IDL 2010-07-15 2010-07-15 IDL sult	mg/L Units	Prepared By Analyzed By	: AR RL 2.5 : AR : AR : AR RL
QC Batch: 71927 Prep Batch: 61480 Parameter Chloride Method Blank (1) QC Batch: 71927 Prep Batch: 61480 Parameter	Flag QC Batch: 71927	QC Preparation: M Re <0 Date Analyzed: QC Preparation: M Re	2010-07-15 IDL sult .265 2010-07-15 2010-07-15 IDL	mg/L	Prepared By Analyzed By	: AR RL 2.5 : AR : AR : AR
QC Batch: 71927 Prep Batch: 61480 Parameter Chloride Method Blank (1) QC Batch: 71927 Prep Batch: 61480 Parameter Sulfate	Flag QC Batch: 71927 Flag	QC Preparation: M Re <0 Date Analyzed: QC Preparation: M Re	2010-07-15 IDL 2010-07-15 2010-07-15 IDL sult	mg/L Units	Prepared By Analyzed By	: AR RL 2.5 : AR : AR : AR RL
QC Batch: 71927 Prep Batch: 61480 Parameter Chloride Method Blank (1) QC Batch: 71927 Prep Batch: 61480 Parameter Sulfate Method Blank (1)	Flag QC Batch: 71927	QC Preparation: M Re <0 Date Analyzed: QC Preparation: M Re <0	2010-07-15 IDL 2010-07-15 2010-07-15 IDL sult 177	mg/L Units	Prepared By Analyzed By Prepared By	: AR <u>RL</u> 2.5 : AR : AR : AR <u>RL</u> 2.5
QC Batch: 71927 Prep Batch: 61480 Parameter Chloride Method Blank (1) QC Batch: 71927 Prep Batch: 61480 Parameter Sulfate Method Blank (1) QC Batch: 72039	Flag QC Batch: 71927 Flag	QC Preparation: M Re <0 Date Analyzed: QC Preparation: M Re <0 Date Analyzed:	2010-07-15 IDL 2010-07-15 2010-07-15 IDL sult 177 2010-07-26	mg/L Units	Prepared By Analyzed By Prepared By Analyzed By	: AR <u>RL</u> 2.5 : AR : AR <u>RL</u> 2.5 : AR
QC Batch: 71927 Prep Batch: 61480 Parameter Chloride Method Blank (1) QC Batch: 71927 Prep Batch: 61480 Parameter Sulfate Method Blank (1)	Flag QC Batch: 71927 Flag	QC Preparation: M Re <0 Date Analyzed: QC Preparation: M Re <0	2010-07-15 IDL 2010-07-15 2010-07-15 IDL sult 177	mg/L Units	Prepared By Analyzed By Prepared By	: AR <u>RL</u> 2.5 : AR : AR <u>RL</u> 2.5 : AR
QC Batch: 71927 Prep Batch: 61480 Parameter Chloride Method Blank (1) QC Batch: 71927 Prep Batch: 61480 Parameter Sulfate Method Blank (1) QC Batch: 72039	Flag QC Batch: 71927 Flag	QC Preparation: M Re <0 Date Analyzed: QC Preparation: M Re <0 Date Analyzed:	2010-07-15 IDL 2010-07-15 2010-07-15 IDL sult 177 2010-07-26	mg/L Units	Prepared By Analyzed By Prepared By Analyzed By	: AR <u>RL</u> 2.5 : AR : AR <u>RL</u> 2.5 : AR
QC Batch: 71927 Prep Batch: 61480 Parameter Chloride Method Blank (1) QC Batch: 71927 Prep Batch: 61480 Parameter Sulfate Method Blank (1) QC Batch: 72039	Flag QC Batch: 71927 Flag	QC Preparation: M Re <0 Date Analyzed: QC Preparation: M Re <0 Date Analyzed: QC Preparation:	2010-07-15 IDL sult 2010-07-15 2010-07-15 IDL sult 177 2010-07-26 2010-07-15	mg/L Units	Prepared By Analyzed By Prepared By Analyzed By Prepared By	: AR <u>RL</u> 2.5 : AR : AR <u>RL</u> 2.5 : AR

.

į

}

Report Date: July 27, 2010 115-6403134				der: 10071 Queen S					Page Number: 10 of 14 Chavez County, NM			
Duplicates (2) Duplicated Sa	ample: 2374	168		e								
QC Batch: 72039		Date	Analyzed	: 2010-0)7-26				Analy	zed By:	AR	
Prep Batch: 61516			reparatio						-	red By:		
		4	- op al a tro						ropa			
_	Dupli		San								RPD	
Param	Res		Res		Units		Dilut		RPD	·	Limit	
Total Dissolved Solids	1090			10	mg/L		100		7		10	
Total Dissolved Solids	1090	<u> </u>	102	000	mg/L		100)	7		10	
Laboratory Control Spike (L4	CS-1)											
QC Batch: 71724		Date	Analyzed	: 2010-0	7.14				Analu	zed By:	AG	
Prep Batch: 61451			reparatio							red By:		
TOP DOUGH. OT IOT		wy U I .	- opuratio		, I – T – I				ттера	icu Dy.	AU	
	\mathbf{LC}	S			Spike	2	Mat	riv		т	Rec.	
Param	Resi		Units	Dil.	Amou		Res		Rec.		imit	
Benzene	0.10		mg/L	1	0.100		< 0.00		100) - 108	
Toluene	0.09		mg/L	1	0.100		< 0.00		99		7 - 107	
Ethylbenzene	0.09		mg/L	1	0.100		< 0.00		95		3 - 106	
Xylene	0.28		mg/L	1	0.300		< 0.00		96		3 - 106	
Percent recovery is based on the s	spike result.			on the spik								
	-			-	-	-						
	LCSD	TT • .	DI	Spike	Mat		-		ec.		RPD	
Param	Result	Units	Dil.	Amount	Res		Rec.			RPD	Limit	
Benzene	0.101	mg/L	1	0.100	< 0.00		101		- 108	1	20	
Foluene	0.101	mg/L	1	0.100	< 0.00		101		- 107	2	20	
Ethylbenzene	0.0967	mg/L	1	0.100	< 0.00	00800	97	78.8	- 106	2	20	
			-									
	0.292	mg/L	1	0.300	<0.00	0767	97		- 106	2	20	
				0.300	<0.00	0767	97			2	. 20	
Percent recovery is based on the s	spike result. LC	RPD i		0.300	<0.00	0767	97 plicate			, <u>,,,,,,,,,,,</u> ,,,,,	20 Rec.	
Percent recovery is based on the s Surrogate	spike result. LC Res	. RPD i S 1 ult I	s based o LCSD Result	0.300	<0.00	0767 oike duj	97 plicate e	result.	- 106	F	Rec. imit	
Percent recovery is based on the s Surrogate Trifluorotoluene (TFT)	spike result. LC Resu 0.10	. RPD i S I ult I 03 (s based o LCSD Result D.0996	0.300 on the spik Units mg/L	<0.00 e and sp	0767 pike duj Spik <u>Amou</u> 0.10	97 plicate e int 0	result. LCS Rec. 103	- 106 LCSD Rec. 100	F Li 67.3	Rec. imit 5 - 113	
Percent recovery is based on the s Surrogate Trifluorotoluene (TFT)	spike result. LC Res	. RPD i S I ult I 03 (s based o LCSD Result	0.300 on the spik Units	<0.00 e and sp Dil.	0767 oike duj Spik Amou	97 plicate e int 0	result. LCS Rec.	- 106 LCSD Rec.	F Li 67.3	lec. imit	
Percent recovery is based on the s Surrogate Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB)	spike result. LC Ress 0.1(0.09	. RPD i S I ult I 03 (s based o LCSD Result D.0996	0.300 on the spik Units mg/L	<0.00 e and sp Dil. 1	0767 pike duj Spik <u>Amou</u> 0.10	97 plicate e int 0	result. LCS Rec. 103	- 106 LCSD Rec. 100	F Li 67.3	Rec. imit 5 - 113	
Percent recovery is based on the s Surrogate Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Laboratory Control Spike (LG	spike result. LC Ress 0.1(0.09	. RPD i 2S] ult] 03 (066 (s based o LCSD Result D.0996 D.0941	0.300 on the spik Units mg/L mg/L	<0.00 e and sp Dil. 1 1	0767 pike duj Spik <u>Amou</u> 0.10	97 plicate e int 0	result. LCS Rec. 103	- 106 LCSD Rec. 100 94	F Li 67.3 68.2	lec. imit 3 - 113 2 - 124	
Percent recovery is based on the s Surrogate Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Laboratory Control Spike (LG QC Batch: 71927	spike result. LC Ress 0.1(0.09	. RPD i 2S 1 03 (066 (Date 4	s based o LCSD Result D.0996 D.0941 Analyzed	0.300 on the spik Units mg/L mg/L : 2010-0	<0.00 e and sp Dil. 1 1 	0767 pike duj Spik <u>Amou</u> 0.10	97 plicate e int 0	result. LCS Rec. 103	- 106 LCSD Rec. 100 94 Analyz	F Li 67.3 68.2 zed By:	Rec. imit 3 - 113 2 - 124 AR	
Xylene Percent recovery is based on the s Surrogate Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Laboratory Control Spike (LG QC Batch: 71927 Prep Batch: 61480	spike result. LC Ress 0.1(0.09	. RPD i 2S 1 03 (066 (Date 4	s based o LCSD Result D.0996 D.0941	0.300 on the spik Units mg/L mg/L : 2010-0	<0.00 e and sp Dil. 1 1 	0767 pike duj Spik <u>Amou</u> 0.10	97 plicate e int 0	result. LCS Rec. 103	- 106 LCSD Rec. 100 94 Analyz	F Li 67.3 68.2	Rec. imit 3 - 113 2 - 124 AR	
Percent recovery is based on the s Surrogate Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Laboratory Control Spike (LG QC Batch: 71927	spike result. LC Rest 0.1(0.09 C S-1)	RPD i S 1 ult H 03 (066 (Date A QC Pi	s based o LCSD Result D.0996 D.0941 Analyzed	0.300 on the spik Units mg/L mg/L : 2010-0	<0.00 e and sp Dil. 1 1 7-15 7-15	0767 pike duj Spik Amou 0.10 0.10	97 plicate e nnt 0 0	result. LCS Rec. 103 97	- 106 LCSD Rec. 100 94 Analyz	F 67.3 68.2 zed By: red By:	Rec. imit - 113 2 - 124 AR - AR	
Percent recovery is based on the s Surrogate Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Laboratory Control Spike (LC QC Batch: 71927 Prep Batch: 61480	spike result. LC Rest 0.1(0.09 CS-1)	RPD i S 1 ult 1 03 (066 (Date 2 QC Pi CS	s based o LCSD Result 0.0996 0.0941 Analyzed reparatio	0.300 on the spik Units mg/L mg/L : 2010-0 n: 2010-0	<0.00 e and sp Dil. 1 1 7-15 7-15 5	0767 pike duy Spik Amou 0.10 0.10	97 plicate e mnt 0 0	result. LCS Rec. 103 97	- 106 LCSD Rec. 100 94 Analyz Prepar	F 67.3 68.2 zed By: red By:	Rec. imit - 113 - 124 AR AR AR Rec.	
Percent recovery is based on the s Surrogate Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Laboratory Control Spike (LG QC Batch: 71927	spike result. LC Rest 0.10 0.09 CS-1) Lt Res	RPD i S 1 ult H 03 (066 (Date A QC Pi	s based o LCSD Result D.0996 D.0941 Analyzed	0.300 on the spik Units mg/L mg/L : 2010-0	<0.00 e and sp Dil. 1 1 7-15 7-15 5 F Am	0767 pike duj Spik Amou 0.10 0.10	97 plicate e mt 0 0 M R	result. LCS Rec. 103 97	- 106 LCSD Rec. 100 94 Analyz	F 67.3 68.2 zed By: red By:	Rec. imit - 113 2 - 124 AR AR	

Report Date: July 27, 2010 115-6403134	Work Order: 10071407 Celero/Rock Queen SWD #1						0	Page Number: 11 of 14 Chavez County, NM			
Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.											
	LCSD			Spike	Matrix		Rec.		RPD		
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit		
Chloride	25.3	mg/L	1	25.0	< 0.265	101	90 - 110	1	20		
Percent recovery is based on the Laboratory Control Spike (L	-	RPD is b	ased on	the spike a	nd spike du	plicate 1	result.				

QC Batch:	71927	Date Analyzed:	2010-07-15	Analyzed By:	\mathbf{AR}
Prep Batch:	61480	QC Preparation:	2010-07-15	Prepared By:	AR

Param	\mathcal{LCS}	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate	22.5	mg/L	1	25.0	<0.177	<u>90</u>	<u>90 - 110</u>

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	22.5	mg/L	1	25.0	< 0.177	90	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)

1

1

QC Batch: Prep Batch:							l By: AR l By: AR	
		LCS			Spike	Matrix		Rec.
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit
Total Dissolv	red Solids	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	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Total Dissolved Solids	1040	mg/L	1	1000	<9.75	104	90 - 110	1	10

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

Matrix Spike (MS-1) Spiked Sample: 237430

QC Batch:	71724	Date Analyzed:	2010-07-14	Analyzed By:	\mathbf{AG}
Prep Batch:	61451	QC Preparation:	2010-07-14	Prepared By:	\mathbf{AG}

Report Date: July 27, 2 115-6403134 	010	(Work Or Celero/Rocl	Page Number: 12 of 14 Chavez County, NM				
Param		MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		0.100	mg/L	1	0.100	0.0031	97	77.9 - 114
Toluene		0.0800	mg/L	1	0.100	< 0.000600	. 80	78.3 - 111
Ethylbenzene	2	0.0695	mg/L	1	0.100	< 0.000800	70	75.3 - 110
Xylene	3	0.211	mg/L	1	0.300	< 0.000767	70	75.7 - 109

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

	,	MSD			Spike	Matrix		Rec.		RPD
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Benzene		0.0908	mg/L	1	0.100	0.0031	88	77.9 - 114	10	20
Toluene	4	0.0719	mg/L	1	0.100	<0.000600	72	78.3 - 111	11	20
Ethylbenzene	5	0.0623	mg/L	1	0.100	< 0.000800	62	75.3 - 110	11	20
Xylene	6	0.189	mg/L	1	0.300	< 0.000767	63	75.7 - 109	11	20

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

Curromata		MS Bogult	MSD Baswlt	TT:4-	וית	Spike	MS	MSD Date	Rec.
Surrogate		\mathbf{Result}	\mathbf{Result}	\mathbf{Units}	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	78	0.0434	0.0551	mg/L	1	0.1	43	55	68.3 - 107
4-Bromofluorobenzene (4-BFB)	9 10	0.0418	0.0525	mg/L	1	0.1	42	52	60.1 - 135

Matrix Spike (MS-1) Spiked Sample: 237433

J

QC Batch:	71927	Date Analyzed:	2010-07-15	Analyzed By:	AR
Prep Batch:	61480	QC Preparation:	2010-07-15	Prepared By:	AR

		MS			Spike	Matrix		Rec.
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride	11	106000	mg/L	50	1380	<13.2	7709	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	\mathbf{Result}	Rec.	Limit	RPD	Limit
Chloride	12	106000	mg/L	50	1380	<13.2	7709	90 - 110	0	20

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

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

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

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

⁶MSD analyte out of range. MS/MSD has a RPD within limits. Therfore, MS shows extraction occured properly.

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

⁸Surrogate TFT out due to matrix interference. Sample was not reran due to lack of sample.

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

¹⁰Surrogate 4-BFB out due to matrix interference. Sample was not reran due to lack of sample.

¹¹Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.

¹²MSD analyte out of range. MS/MSD has a RPD within limits. Therfore, MS shows extraction occured properly.

Report Date: July 27, 201 115-6403134	0	Work Order: 10071407 Celero/Rock Queen SWD #1							Page Number: 13 of 14 Chavez County, NM					
Matrix Spike (MS-1)	Spiked Sample: 2	37433												
QC Batch: 71927		Date An	•	2010-07-1				nalyzed By	-					
Prep Batch: 61480		QC Prep	paration:	2010-07-1	5		Pr	repared By	y: AR					
	J	MS			Spike	Ma	ıtrix		Rec.					
Param		esult	Units	Dil.	Amount	Re	sult H	Rec.	Limit					
Sulfate	13 . 2	640	mg/L	50	1380	15	540 ·	80	90 - 110					
Percent recovery is based of	on the spike result.	RPD is b	pased on	the spike a	nd spike dup	olicate r	esult.							
	MSD			Spike	Matrix		Rec.		RPD					
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit					
Sulfate	14 2620	_mg/L	50	1380	1540	78	90 - 110	1	20					
QC Batch: 71724		Date An	alvzed	2010-07-14			۸	nalyzed By						
•			aryzeu.	2010-07-14			AI	lalyzeu Dy	y: AG					
			-		CCVs			lalyzeu Dy	y: AG					
		CCVs True	C	2010-07-14 CCVs ound	CCVs Percent		Percent Recovery		y: AG Date					
· .	Units	$\rm CCVs$	C F	CCVs			Percent							
Param Flag	Units mg/L	CCVs True	C F C	CCVs ound	Percent		Percent Recovery	Aı	Date nalyzed					
Param Flag Benzene		CCVs True Conc. 0.100 0.100	C F C 0 0	CCVs ound Conc. .0986 .0974	Percent Recovery		Percent Recovery Limits 80 - 120 80 - 120	A1 201 201	Date nalyzed 10-07-14 10-07-14					
Param Flag Benzene Toluene	mg/L mg/L mg/L	CCVs True Conc. 0.100 0.100 0.100	C F C 0 0 0	CCVs bound Conc. .0986 .0974 .0912	Percent Recovery 99 97 91		Percent Recovery Limits 80 - 120 80 - 120 80 - 120	A1 201 201 201	Date nalyzed 10-07-14 10-07-14 10-07-14					
	mg/L mg/L	CCVs True Conc. 0.100 0.100	C F C 0 0 0	CCVs ound Conc. .0986 .0974	Percent Recovery 99 97		Percent Recovery Limits 80 - 120 80 - 120	A1 201 201 201	Date nalyzed 10-07-14 10-07-14 10-07-14					
Param Flag Benzene Toluene Ethylbenzene	mg/L mg/L mg/L	CCVs True Conc. 0.100 0.100 0.100	C F C 0 0 0	CCVs bound Conc. .0986 .0974 .0912	Percent Recovery 99 97 91		Percent Recovery Limits 80 - 120 80 - 120 80 - 120	A1 201 201 201	Date					
Param Flag Benzene Toluene Ethylbenzene Xylene Standard (CCV-2)	mg/L mg/L mg/L	CCVs True Conc. 0.100 0.100 0.100	C F 0 0 0 0 0 0	CCVs bound Conc. .0986 .0974 .0912	Percent Recovery 99 97 91		Percent Recovery Limits 80 - 120 80 - 120 80 - 120 80 - 120	A1 201 201 201	Date nalyzed 10-07-14 10-07-14 10-07-14 10-07-14					
Param Flag Benzene Toluene Ethylbenzene Xylene Standard (CCV-2)	mg/L mg/L mg/L	CCVs True Conc. 0.100 0.100 0.100 0.300	C F C 0 0 0 0 0 C alyzed:	CCVs ound Conc. .0986 .0974 .0912 0.274	Percent Recovery 99 97 91		Percent Recovery Limits 80 - 120 80 - 120 80 - 120 80 - 120	A1 201 201 201 201	Date nalyzed 10-07-14 10-07-14 10-07-14 10-07-14					
Param Flag Benzene Toluene Ethylbenzene Xylene Standard (CCV-2)	mg/L mg/L mg/L	CCVs True Conc. 0.100 0.100 0.100 0.300 Date Ana	C F C 0 0 0 0 0 0 C alyzed:	CCVs ound Conc. .0986 .0974 .0912 0.274 2010-07-14	Percent Recovery 99 97 91 91 91		Percent Recovery Limits 80 - 120 80 - 120 80 - 120 80 - 120 80 - 120	An 201 201 201 201 201	Date nalyzed 10-07-14 10-07-14 10-07-14 10-07-14					
Param Flag Benzene Toluene Ethylbenzene Xylene Standard (CCV-2) QC Batch: 71724	mg/L mg/L mg/L	CCVs True Conc. 0.100 0.100 0.300 Date Ana CCVs True Conc.	C F O O O O C alyzed: F	CCVs ound <u>Conc.</u> .0986 .0974 .0912 0.274 2010-07-14 CCVs	Percent Recovery 99 97 91 91 91		Percent Recovery Limits 80 - 120 80 - 120 80 - 120 80 - 120 An Percent	An 201 201 201 201 201	Date nalyzed 10-07-14 10-07-14 10-07-14 10-07-14					
Param Flag Benzene Toluene Ethylbenzene Xylene Standard (CCV-2) QC Batch: 71724 Param Flag Benzene	mg/L mg/L mg/L mg/L	CCVs True Conc. 0.100 0.100 0.100 0.300 Date Ana CCVs True Conc. 0.100	C F C 0 0 0 0 C C F C C 0.	CCVs ound Conc. .0986 .0974 .0912 0.274 2010-07-14 CCVs ound Conc. .0999	Percent Recovery 99 97 91 91 91		Percent Recovery Limits 80 - 120 80 - 120 80 - 120 80 - 120 An Percent Recovery Limits 80 - 120	A1 201 201 201 201 201 alyzed By Ar 201	Date nalyzed 10-07-14 10-07-14 10-07-14 10-07-14 x: AG Date nalyzed 10-07-14					
Param Flag Benzene Toluene Ethylbenzene Xylene Standard (CCV-2) QC Batch: 71724 Param Flag Benzene Toluene	mg/L mg/L mg/L mg/L Units mg/L mg/L	CCVs True Conc. 0.100 0.100 0.300 Date Ana CCVs True Conc. 0.100 0.100	C F C 0 0 0 0 0 C C F C C 0. 0	CCVs ound Conc. .0986 .0974 .0912 0.274 2010-07-14 CCVs ound Conc. .0999 0.100	Percent Recovery 99 97 91 91 91		Percent Recovery Limits 80 - 120 80 - 120 80 - 120 80 - 120 An Percent Recovery Limits 80 - 120 80 - 120 80 - 120	An 201 201 201 201 201 201 Ar 201 201	Date nalyzed 10-07-14 10-07-14 10-07-14 10-07-14 					
Param Flag Benzene Toluene Ethylbenzene Xylene Standard (CCV-2) QC Batch: 71724	mg/L mg/L mg/L mg/L	CCVs True Conc. 0.100 0.100 0.100 0.300 Date Ana CCVs True Conc. 0.100	C F C 0 0 0 0 0 0 0 F C 0. 0 0 0 0	CCVs ound Conc. .0986 .0974 .0912 0.274 2010-07-14 CCVs ound Conc. .0999	Percent Recovery 99 97 91 91 91		Percent Recovery Limits 80 - 120 80 - 120 80 - 120 80 - 120 An Percent Recovery Limits 80 - 120	An 201 201 201 201 alyzed By <u>Ar</u> 201 201 201	Date nalyzed 10-07-14 10-07-14 10-07-14 10-07-14 r: AG Date nalyzed 10-07-14					

Standard (ICV-1)

1

QC Batch: 71927

- }

Date Analyzed: 2010-07-15

Analyzed By: AR

¹³Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control. ¹⁴MSD analyte out of range. MS/MSD has a RPD within limits. Therfore, MS shows extraction occured properly.

Report Date: July 27, 2010 115-6403134		010		ork Order: 1007 /Rock Queen S		Page Number: 14 of 14 Chavez County, NM			
Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed		
Chloride		mg/L	25.0	26.8	107	90 - 110	2010-07-15		
Ştandard	(ICV-1)				,				
QC Batch:	71927		Date An	alyzed: 2010-0	7-15	Ana	lyzed By: AR		
		·	ICVs True	ICVs Found	ICVs Percent	Percent Recovery	Date		
Param Sulfate	Flag	Units mg/L	<u>Conc.</u> 25.0	Conc. 26.8	Recovery 107	Limits 90 - 110	Analyzed 2010-07-15		
Standard QC Batch:	```		Date An	alyzed: 2010-0	7-15	Ana	yzed By: AR		
Param	Ela a	Units	CCVs True Conc.	CCVs Found	CCVs Percent	Percent Recovery Limits	Date		
Chloride	Flag	mg/L	25.0	Conc. 26.8	Recovery 107	<u>90 - 110</u>	Analyzed 2010-07-15		
Standard	. ,								
QC Batch:	71927		Date Ana	alyzed: 2010-0	7-15	Anal	yzed By: AR		
Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed		
Param									

-

		(\mathbb{C}	<u>rc</u>	6	<u>-</u> _ر	<u>₩;</u>	10	67	14	0	Ł																-									
An	alvs	sis F	?e	ea	U	est	t of	FC)ha	air	n c	of (Cu	sto	dv	R	e	CC	or	d										GE:		L		OF	F:	Ţ	
			-			5																				(A Circk				EQU Met)			
			l			J	191(Midl (432)) N. and 682-	Big , Tex 4559	Spr xas • Fax	ring (797)	CH St. 705 2) 682-											05 (Ext. to C35)	cd Cr Pb Hg Se	Cd Vr Pd Hg Se				2				-		(D)		
CLIENT NAN	AE:						SIT	E MA	NAGE	iR: Lul L	~				e	3				ivati Hod			TX1005	8	8			0/624	70/62						H S		
PROJECT N	0.:		PF	ROJE	ĘŢ	NAME											╞	Τ	T	Τ	Γ		ġ	SA B	8 B		atiles	10/826	(ol. 82								
<u>וול-לא</u> LAB I.D. NUMBER	03134 DATE 2010	TIME	MATRIX	Í	GRAB	<u>° (</u>	Char	122	G,	NM	\	(*) FICAT					HCL	EONH	ЗÖ	NONE		ICII	TPH 8015 MOD.	PAR 52/0 RCRA Metals Ag	TCLP Metals Ag	TCLP Volatiles	TCLP Semi Volatiles RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. V	PCB's 8080/608	Pest. 808/608	Gamma Spec.	Alpha Beta (Air	PLM (Asbestos)	Major Aniona/Cations, pH. (TDS)	and and	
237430	7/13	1440	Ŵ		X	м	J-1								L	t r	JX		X			X		T						Π	?	<			X	×	
431		1445	K		\square	M	<u>w-Z</u>									$\left(\right)$	$(\parallel $																			\mathbf{M}	
432		1450			\int	м	J-3									\mathbb{R}	\mathbb{N}				Γ	Л		Γ				T									
433	G	1455	¥		Ż		w-4								,	\$	1	,	13	,		A		T				T							J.	И	\prod
													-						Τ																		
				Π												Ť	T		T	ľ				1		Π		T					T	Π			
				\Box												T		Τ				Π		Τ	Γ	Π		Τ							T		
																Τ																					
						_																															
RELINQUISHED	BY: (Signatu	rre) ON				Date:	-7/	Ti-f	7201 0		CENT	A (Se	gnature)				•	Date	 ; _	74		Ľ		SAMP	LEO	BY: (F	Fint &	Initial		GF				ate: _		3/2	
RELINQUISHED	BY: (Signatu	ire)				Time: Date: Time:				Þ	CALLED	D BY: (Sig	jnature)					Time Date	;			2		SAMP FED		HIPPI	D BY:		le)	Gr			_	Ime: BILL 4	·		
RELINQUISHED	BY: (Signatu	ne)				Date: Time:						BY: (Sig				<u> </u>	and the second se	Time Date Time	-				╤┥	HAN	D DE	_	RED) UP	s	<u>.</u>			ОТН	ER: _	its b	<u></u>	
RECEIVING LAB ADDRESS: CITY:	oratory: Hund	STATE:		17		2	IP:					M: (Signa	iture)										-	-	14	f	Kin	dle	ή	·				RUS	H Ch orize	arges d:	
SAMPLE CONDI	TION WHEN			_ PH	IONE		EMARK	s: \		DATE:	100	20	<u>Nid</u>	lau															<u></u>					<u> </u>	/es		No

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

)

TABLE 3b Groundwater Inorganic Analyses - June 2010 ConocoPhillips - South Cowden Unit

Ector County, Texas

			Results reported in milligrams per liter (mg/L)											
Sample Location	Date Sampled	Total M	etals by E	PA Metho	d 6010B	General (Chemistry	by EPA M	ethod E300.0	EPA Meth	(nod E310.1	EPA Method 2540 C		
		Ca	Mg	к	Na	Bromide	Chloride	Sulfate	Nitrate as N	Bicarbonate Alkalinity	Carbonate Alkalinity	Total Dissolved Solids		
MW-1	06/22/10						531					1,680		
MW-2	06/21/10						177					754		
MW-4	06/22/10	694	127	55.1	3,640	17.2	7,040	547	18.5	39	ND	15,800		
MW-5	06/22/10	241	45.2	23.1	1,110	5.57	1,960	257	9.74	49	ND	4,690		
MW-6	06/21/10	72.2	13.8	4.29	43.2	ND	30.8	107	8.89	48	ND	499		
MW-7	06/23/10						10,100					17,000		
MW-7 D	06/23/10						7,570					17,100		
MW-10a	06/22/10						991.0					4,080		
MW-10b	06/22/10						477					4,390		
MW-11	06/22/10						797					2,890		
MW-11 D	06/22/10						789					2,220		
MW-12	06/23/10						5,740					11,800		
MW-13	06/22/10						2,330					4,360		
MW-15	06/22/10	160	29.6	15.5	745	3.35	1,430	243	9.48	58	ND	3,420		
MW-16	06/21/10						402					1,510		
MW-17	06/22/10	68.2	14.4	4.69	55.0	ND	35.7	140	9.22	52	ND	528		
MW-18	06/21/10	82.1	16,4	6.16	59.1	ND	37.6	133	8.63	51	ND	540		
мw-н1	06/24/10	420	97.1	49.5	2,860	52.4	6,140	494	10.4	138	ND	11,000		
MW-H2	06/24/10	1,090	246	105	6,920	165	16,800	1,210	18.8	127	ND	26,800		
MW-H2 D	06/24/10	1,080	235	101	6,840	124	17,600	959	15.8	129	ND	26,000		
MW-H3	06/23/10	226	31.8	6.6	158	1.72	160	498	6.32	203	ND	1,710		
MW-H4	06/24/10	148	21.9	5.95	95.4	3.25	181	197	7.08	200	ND .	928		
MW-H5	06/23/10	237	24.9	13.1	92	1.16	111	293	ND	135	ND	1,130		
MW-H6	06/23/10	107	12.3	4.86	50.0	2.68	46.6	129	7.1	139	ND	671		
MW-H7	06/23/10	79.5	11.5	5.22	49	0.833	37.5	134	4.81	137	ND	718		
MW-H8	06/23/10	101	12.6	4.7	51.0	ND	48.2	141	4.76	152	ND	675		
EW-1	06/22/10	246	38.4	15.6	702	3.9	1,690	162	9.46	47	ND	4,320		
EW-2	06/21/10	76.7	15.1	4.47	48.9	ND	31.9	121	8.71	59	ND	493		
EW-3	06/22/10	132	23.2	7.68	315	1.65	629	169	9.23	45	ND	1,420		
EW-4	06/22/10	178	34.1	13.8	626	3.22	1,120	196	9.97	163	ND	3,340		
EW-4 D	06/22/10	172	33.1	13.6	610	3.08	1,160	195	9.86	51	ND	2,830		
EW-M	06/23/10	963	213	95	6,120	5.06	15,000	984	5.91	96	ND ·	24,100		
RW-M	06/23/10	119	22.7 [°]	7.43	232	ND	472	172	5.1	149	⁻ ND	1,590		
Groundwa	ards used for ter Quality lysis	NE	NE	NE	NE	NE	300*	300*	10	NE	NE	1,000*		

Ì

Notes: = Secondary Standard EPA = Environmental Protection Agency TCEQ = Texas Commission on Environmental Quality NE = Not Established by TCEQ

ND = Not detected at or above Laboratory Reporting Limit

Ca = Calcium

Mg = Magnesium K = Potassium Na = Sodium

D = Duplicate Sample Blank fields indicate no data.

N ≖ Nitrogen

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

WBENC: 237019

HUB:1752439743100-86536NCTRCAWFWB38444Y0909

Certifications

DBE: VN 20657

NELAP Certifications

Lubbock: T104704219-08-TX LELAP-02003 Kansas E-10317 El Paso: T104704221-08-TX LELAP-02002 Midland: T104704392-08-TX

Analytical and Quality Control Report

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

1

ļ

Report Date: November 15, 2010

Work Order: 10101404

Project Location:Chavez County, NMProject Name:Celero/Rock Queen SWD #1Project Number:115-6403134

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
247497	MW-1	water	2010-10-13	10:15	2010-10-13
247498	MW-2	water	2010-10-13	09:45	2010-10-13
247499	MW-3	water	2010-10-13	09:55	2010-10-13
247500	MW-4	water	2010-10-13	10:05	2010-10-13

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

This report consists of a total of 14 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

Standard Flags

Ţ

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

Case Narrative

Samples for project Celero/Rock Queen SWD #1 were received by TraceAnalysis, Inc. on 2010-10-13 and assigned to work order 10101404. Samples for work order 10101404 were received intact without headspace and at a temperature of 3.5 C.

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

		Prep	Prep	\mathbf{QC}	Analysis
Test	Method	Batch	Date	Batch	Date
BTEX	S 8021B	63840	2010-10-14 at 13:40	74557	2010-10-14 at 18:04
Chloride (IC)	E 300.0	64180	2010-10-26 at 14:38	74818	2010-10-26 at 17:25
SO4 (IC)	E 300.0	64638	2010-11-12 at 12:49	75341	2010-11-12 at 17:36
TDS	SM 2540C	63873	2010-10-15 at $10:25$	74622	2010-10-21 at 14:52

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

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 10101404 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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

Report Date: November 15, 2010 115-6403134 Page Number: 4 of 14 Chavez County, NM

١

Analytical Report

Sample: 247497 - MW-1

Laboratory:MidlandAnalysis:BTEXQC Batch:74557Prep Batch:63840		Analytical M Date Analyze Sample Prep	ed:	ہ S 8021B 2010-10-14 2010-10-14		Prep Method Analyzed By: Prepared By:	AG
		RL					
Parameter Fla	g	Result		Units	Di	lution	\mathbf{RL}
Benzene		0.00380		mg/L		1	0.00100
Toluene		< 0.00100	ŧ	mg/L		1	0.00100
Ethylbenzene		< 0.00100	L.	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)	1	0.0618	mg/L	1	0.100	62	66.2 - 107
4-Bromofluorobenzene (4-BFB)		0.0392	mg/L	1	0.100	39	39 - 138

Sample: 247497 - MW-1

Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock Chloride (IC) 74818 64180	Analytical Method: Date Analyzed: Sample Preparation:	E 300.0 2010-10-26 2010-10-26	Prep Method: Analyzed By: Prepared By:	$\mathbf{P}\mathbf{G}$
		RL			
Parameter	Flag	Result	Units	Dilution	\mathbf{RL}
Chloride		130000	mg/L	10000	2.50

Sample: 247497 - MW-1

.

Sulfate		1500	mg/L	50	2.50
Parameter	Flag	RL Result	Units	Dilution	RL
Prep Batch:	64638	Sample Preparation:	2010-11-12	Prepared By:	\mathbf{PG}
QC Batch:	75341	Date Analyzed:	2010-11-12	Analyzed By:	
Laboratory: Analysis:	Lubbock SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A

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

Report Date 115-6403134	Report Date: November 15, 2010 15-6403134			er: 10101404 Queen SWD #1	Page Number: 5 of Chavez County, N		
Sample: 24	7497 - MW-1						
Laboratory:	Midland						
Analysis:	TDS		Analytical Method:	SM 2540C	Prep Method:	N/A	
QC Batch:	74622		Date Analyzed:	2010-10-21	Analyzed By:	AR	
Prep Batch:	63873		Sample Preparation:	2010-10-15	Prepared By:	AR	
			RL				
Parameter		Flag	Result	Units	Dilution	RL	
Total Dissolv	ved Solids		235000	mg/L	100	10.0	

Sample: 247498 - MW-2

Laboratory: Midland Analysis: BTEX QC Batch: 74557 Prep Batch: 63840		Analytical Me Date Analyzed Sample Prepa	d:	S 8021B 2010-10-14 2010-10-14		Prep Metho Analyzed By Prepared By	v: AG
		· RL					
Parameter Flag		Result		Units	Dil	ution	\mathbf{RL}
Benzene		0.00170		mg/L	· · · · · · · · · · · · · · · · · · ·	1	0.00100
Toluene		< 0.00100		mg/L		1	0.00100
Ethylbenzene		< 0.00100		mg/L		1	0.00100
Xylene		< 0.00100		mg/L		1	0.00100
					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)	2	0.0428	mg/L	1	0.100	43	66.2 - 107
4-Bromofluorobenzene (4-BFB)		0.0401	mg/L	1	0.100	40	39 - 138

Sample: 247498 - MW-2

Laboratory:	Lubbock				
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	74818	Date Analyzed:	2010-10-26	Analyzed By:	PG
Prep Batch:	64180	Sample Preparation:	2010-10-26	Prepared By:	\mathbf{SS}
		RL			
Parameter	Flag	Result	Units	Dilution	\mathbf{RL}
Chloride		51800	mg/L	5000	2.50

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

,

115-6403134	November 15, 2010			ler: 10101404 Queen SWD #1		nber: 6 of 14 County, NM
Sample: 2474	498 - MW-2				,	
QC Batch:	Lubbock SO4 (IC) 75341 64638		Analytical Method: Date Analyzed: Sample Preparation	E 300.0 2010-11-12 : 2010-11-12	Prep Me Analyzec Preparec	
Parameter	Flag		RL Result	Units	Dilution	RL
Sulfate			945	mg/L	50	2.50
	498 - MW-2 Midland TDS		Applytical Mathade	SM 2540C	Prep Me	thod: N/A
v	74622		Analytical Method: Date Analyzed:	2010-10-21	Analyzed	
	63873		Sample Preparation:	: 2010-10-15	Prepared	
- ,		71	RL	TT •,		Dr
Parameter Total Dissolved	d Solids	Flag	Result 108000	Units mg/L	Dilution 100	RL 10.0
•	Midland BTEX 74557		Analytical Method: Date Analyzed: Sample Preparation:	S 8021B 2010-10-14 2010-10-14	Prep Methoo Analyzed By Prepared By	/: AG
			DI			D.L
QC Batch: 7 Prep Batch: 6			RL		Dilution	RL
QC Batch: 7 Prep Batch: 6 Parameter	Flag		Result	Units mg/L		0.00100
QC Batch: 7 Prep Batch: 6 Parameter Benzene Toluene			Result <0.00100 <0.00100	mg/L mg/L	1 1	0.00100 0.00100
QC Batch: 7 Prep Batch: 6 Parameter Benzene Toluene Ethylbenzene			Result <0.00100 <0.00100 <0.00100	mg/L mg/L mg/L	1 1 1	$0.00100 \\ 0.00100$
QC Batch: 7 Prep Batch: 6 Parameter Benzene Toluene			Result <0.00100 <0.00100	mg/L mg/L	1 1 1 1	0.00100 0.00100 0.00100
QC Batch: 7 Prep Batch: 6 Parameter Benzene Toluene Ethylbenzene	Flag	Flag	Result <0.00100	mg/L mg/L mg/L	1 1 1	$0.00100 \\ 0.00100$

Report Date: November 15, 2010 115-6403134)		ler: 10101404 Queen SWD #1		Page Number: 7 of 14 Chavez County, NM		
Sample: 247	7499 - MW-3							
Analysis: QC Batch:	Lubbock Chloride (IC) 74818 64180		Analytical Metho Date Analyzed: Sample Preparati	2010-10-26	Prep Method: Analyzed By: Prepared By:	$\mathbf{P}\mathbf{G}$		
			RL					
Parameter	Flag		Result	Units	Dilution	RL		
Chloride			85500	mg/L	10000	2.50		
Sample: 247	499 - MW-3							
Analysis:	Lubbock SO4 (IC)		Analytical Method:	E 300.0	Prep Method:			
•	75341 64638		Date Analyzed: Sample Preparation	2010-11-12 : 2010-11-12	Analyzed By: Prepared By:	PG PG		
			RL					
Parameter Sulfate	Flag		Result 934	Units mg/L	Dilution 50	$\frac{\text{RL}}{2.50}$		
Sample: 247	499 - MW-3							
•	Midland					()		
v	TDS		Analytical Method:	SM 2540C	Prep Method:			
•	74622 63873		Date Analyzed: Sample Preparation:	2010-10-21 2010-10-15	Analyzed By: Prepared By:	AR AR		
-			RL					
Parameter		Flag	Result	Units	Dilution	\mathbf{RL}		
otal Dissolve	d Solids		167000	mg/L	100	10.0		
Sample: 247	500 - MW-4							
•	Midland							
v	BTEX		Analytical Method:	S 8021B	-	5030B		
•	74557		Date Analyzed:	2010-10-14		G		
Prep Batch:	63840		Sample Preparation:	2010-10-14	Prepared By: A	G		
. .	-		RL	T T • .		~ ~		
Parameter	Flag		Result	Units	Dilution	RL		
Benzene Foluene			0.00150	mg/L		0.00100		
Louuene			<0.00100	mg/L	<u>1</u> 0 continued	0.00100		

Report Date: November 15, 2010 115-6403134	Work Order: 10101404 Celero/Rock Queen SWD #1			Page Number: 8 of Chavez County, N				
sample 247500 continued							,	,
		RL	,					
Parameter Flag		Result		Units	Di	lution		RL
Ethylbenzene		< 0.00100)	mg/L		1	0.	00100
Xylene		< 0.00100		mg/L		1	0.	00100
Cumanta	Die a	Decult	T::	Dilution	Spike	Percent		overy
Surrogate Trifluorotoluene (TFT)	Flag 3	Result 0.0444	Units	Dilution	Amount 0.100	Recovery 44		mits - 107
4-Bromofluorobenzene (4-BFB)		0.0444 0.0422	mg/L mg/L	1	0.100 0.100	44 42		- 138
······································						<u> </u>		
Sample: 247500 - MW-4								
Laboratory: Lubbock								
Analysis: Chloride (IC)		•	al Method:	E 300.0		Prep M		N/A
QC Batch: 74818		Date An	•	2010-10-26		Analyze		\mathbf{PG}
Prep Batch: 64180		Sample 1	Preparation:	2010-10-26		Prepare	d By:	\mathbf{SS}
		\mathbf{RL}						
Parameter Flag		Result		Units	I	Dilution		RL
Chloride		93200		mg/L		10000		2.50

Sample: 247500 - MW-4

Sulfate		1640	mg/L	50	2.50
Parameter	Fla	RL Result	Units	Dilution	RL
QC Batch: Prep Batch:	75341 64638	Date Analyzed: Sample Preparation:	2010-11-12 2010-11-12	Analyzed By: Prepared By:	
Laboratory: Analysis:	Lubbock SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	,

Sample: 247500 - MW-4

1

Laboratory:MidlandAnalysis:TDSQC Batch:74622Prep Batch:63873		Analytical Method: Date Analyzed: Sample Preparation:	SM 2540C 2010-10-21 2010-10-15	Prep Method: Analyzed By: Prepared By:	AR
		\mathbf{RL}			
Parameter	Flag	Result	Units	Dilution	RL
Total Dissolved Solids		175000	mg/L	100	10.0

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

Report Date: November 15, 2010 115-6403134		Work Order: 10101404 Celero/Rock Queen SWD #1				Page Number Chavez Cou	
Method Blank (1)	QC Batch: 74557						
QC Batch: 74557 Prep Batch: 63840		Date Ana QC Prepa	-	2010-10-14 2010-10-14		Analyzed By Prepared By	
				MDL			
Parameter	Flag			Result	Units		\mathbf{RL}
Benzene			<0.0	00400	mg/L		0.001
Toluene			<0.0	00800	mg/L		0.001
Ethylbenzene			<0.0	00400	mg/L		0.001
Xylene			<0.0	00400	mg/L		0.001
Surrogate	Flag	Result	Unit	s Dilution	Spike Amount		ecovery Limits
Trifluorotoluene (TFT)		0.0893	mg/l		0.100		.8 - 106
4-Bromofluorobenzene (4-I	BFB) ·	0.0784	mg/l		0.100		.5 - 129
						· · ·	<u></u>
Method Blank (1)	QC Batch: 74622						
QC Batch: 74622		Date Anal	vzed:	2010-10-21		Analyzed By	·: AR
Prep Batch: 63873		QC Prepa		2010-10-15		Prepared By	
				MDL			
Parameter	Fla	vg		Result	Uni	ts	\mathbf{RL}
Total Dissolved Solids				11.0	mg/	L	10
Method Blank (1)	QC Batch: 74818				\$		
QC Batch: 74818		Date Anal	yzed:	2010-10-26		Analyzed By	: PG
Prep Batch: 64180		QC Prepa	ration:	2010-10-26		Prepared By	
Parameter	Flor			/DL esult	Tinita		זס
Chloride	Flag			0350	Units mg/L		$\frac{\text{RL}}{2.5}$
					шыл	umu,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Method Blank (1)	QC Batch: 75341			÷			
	•		<u> </u>	•			
QC Batch: 75341		Date Anal		2010-11-12		Analyzed By	
Prep Batch: 64638		QC Prepa	ration:	2010-11-12		Prepared By:	PG
					۰. ^۱		
						`	

•

ł

Report Date: November 15, 2010 115-6403134)		Order: 10 ock Queer	0101404 n SWD #1]			10 of 14 nty, NM
			MDL		_				~ *
	Flag	-	Result			nits			RL
Sulfate			< 0.596		n	g/L	· · · · · · · · · · · · · · · · · · ·		2.5
Duplicates (2) Duplicated Sa	ample: 247533								
QC Batch: 74622	_	e Analyzed	: 2010-	10.91			Analy	zed By	y: AR
Prep Batch: 63873		Preparatio					•	red By	
	Duplicate	San	ple						RPD
Param	Result	Res	sult	Units	Dilut	ion	RPD)	Limit
Total Dissolved Solids	46600		700	mg/L	100		4		. 10
Total Dissolved Solids	46600	484	100	mg/L	100)	4		10
Laboratory Control Spike (L	CS-1)								
QC Batch: 74557	Dat	e Analyzed	: 2010-1	10-14			Analy	zed By	y: AG
Prep Batch: 63840	\mathbf{QC}	Preparatio	n: 2010-	10-14			Prepa	red By	r: AG
	LCS			Spike	Mat	rix			Rec.
Param	$\begin{array}{c} \mathrm{LCS} \\ \mathrm{Result} \end{array}$	Units	Dil.	Spike Amount	Mat Res		Rec.		Rec. Limit
Benzene	Result 0.0939	Units mg/L	Dil. 1	Amount 0.100		ult	Rec. 94	80	Limit).7 - 117
Benzene Toluene	Result 0.0939 0.0947	mg/L mg/L	1 1	Amount 0.100 0.100	Res <0.00 <0.00	ult 0400 0800	94 95	80 80	Limit).7 - 117).5 - 117
Benzene Toluene Ethylbenzene	Result 0.0939 0.0947 0.0947	mg/L mg/L mg/L	1 1 1	Amount 0.100 0.100 0.100	Res <0.00 <0.00 <0.00	ult 0400 0800 0400	94 95 95	80 80 79	Limit).7 - 117).5 - 117).2 - 117
Benzene Toluene Ethylbenzene Xylene	Result 0.0939 0.0947 0.0947 0.277	mg/L mg/L mg/L mg/L	1 1 1 1	Amount 0.100 0.100 0.100 0.300	Res <0.00 <0.00 <0.00 <0.00	ult 0400 0800 0400 0400	94 95	80 80 79	Limit).7 - 117).5 - 117
Benzene Toluene Ethylbenzene Xylene	Result 0.0939 0.0947 0.0947 0.277 spike result. RPD	mg/L mg/L mg/L mg/L	1 1 1 n the spik	Amount 0.100 0.100 0.100 0.300 xe and spike d	Res <0.00 <0.00 <0.00 <0.00	ult 0400 0800 0400 0400 result.	94 95 95 92	80 80 79	Limit 0.7 - 117 0.5 - 117 0.2 - 117 0.2 - 117 0.1 - 120
Benzene Toluene Ethylbenzene Xylene Percent recovery is based on the s	Result 0.0939 0.0947 0.0947 0.277 spike result. RPE LCSD	mg/L mg/L mg/L mg/L) is based o	1 1 1 on the spik Spike	Amount 0.100 0.100 0.100 0.300 xe and spike d Matrix	Res <0.00 <0.00 <0.00 <0.00 uplicate	ult 0400 0800 0400 0400 result. Re	94 95 95 92	80 80 79 74	Limit 0.7 - 117 0.5 - 117 0.2 - 117 0.1 - 120 RPD
Benzene Toluene Ethylbenzene Xylene Percent recovery is based on the s Param	Result 0.0939 0.0947 0.0947 0.277 spike result. RPE LCSD Result Unit	mg/L mg/L mg/L mg/L) is based of ts Dil.	1 1 1 n the spik Spike Amount	Amount 0.100 0.100 0.100 0.300 e and spike d Matrix Result	Res <0.00 <0.00 <0.00 uplicate Rec.	ult 0400 0800 0400 0400 result. Re Lin	94 95 95 92 ec.	80 80 79 74 RPD	Limit 0.7 - 117 0.5 - 117 0.2 - 117 0.2 - 117 0.1 - 120 RPD Limit
Benzene Toluene Ethylbenzene Xylene Percent recovery is based on the s Param Benzene	Result 0.0939 0.0947 0.0947 0.277 spike result. RPE LCSD Result Unit 0.0950 mg/	mg/L mg/L mg/L mg/L) is based of ts Dil. L 1	1 1 1 on the spik Spike Amount 0.100	Amount 0.100 0.100 0.300 we and spike d Matrix Result <0.000400	Res <0.00	ult 0400 0800 0400 0400 result. Re Lim 80.7	94 95 95 92 ec. nit - 117	80 80 79 74 RPD 1	Limit 0.7 - 117 0.5 - 117 0.2 - 117 1.1 - 120 RPD Limit 20
Benzene Toluene Ethylbenzene Xylene Percent recovery is based on the s Param Benzene Toluene	Result 0.0939 0.0947 0.0947 0.277 spike result. RPE LCSD Result Unit 0.0950 mg/ 0.0975 mg/	mg/L mg/L mg/L D is based of ts Dil. L 1 L 1	1 1 1 2 3 9 1 9 9 1 9 9 1 9 1 9 1 1 1 1 1 1 1 1	Amount 0.100 0.100 0.300 a and spike d Matrix Result <0.000400 <0.000800	Res <0.00 <0.00 <0.00 <0.00 uplicate Rec. 95 98	ult 0400 0800 0400 0400 result. Re Lin 80.7 80.5	94 95 95 92 ec. nit - 117 - 117	80 80 79 74 RPD 1 3	Limit 0.7 - 117 0.5 - 117 0.2 - 117 1.1 - 120 RPD Limit 20 20
Benzene Toluene Ethylbenzene Xylene Percent recovery is based on the s Param Benzene Toluene Ethylbenzene	Result 0.0939 0.0947 0.0947 0.277 spike result. RPE LCSD Result Unit 0.0950 mg/ 0.0975 mg/ 0.0968 mg/	mg/L mg/L mg/L) is based of ts Dil. L 1 L 1 L 1 L 1	1 1 1 on the spik Spike Amount 0.100	Amount 0.100 0.100 0.300 we and spike d Matrix Result <0.000400	Res <0.00	ult 0400 0800 0400 0400 result. Re Lim 80.7	94 95 95 92 ec. nit - 117 - 117 - 117	80 80 79 74 RPD 1	Limit 0.7 - 117 0.5 - 117 0.2 - 117 1.1 - 120 RPD Limit 20
Benzene Toluene Ethylbenzene Xylene Percent recovery is based on the s Param Benzene Toluene Ethylbenzene Xylene	Result 0.0939 0.0947 0.0947 0.277 spike result. RPE LCSD Result Unit 0.0950 mg/ 0.0968 mg/ 0.286 mg/	$\begin{array}{c} mg/L\\ mg/L\\ mg/L\\ \end{array}$	1 1 1 m the spik Spike Amount 0.100 0.100 0.100 0.300	Amount 0.100 0.100 0.300 se and spike d Matrix Result <0.000400 <0.000400 <0.000400	Res <0.00 <0.00 <0.00 uplicate Rec. 95 98 97 95	ult 0400 0800 0400 result. Re Lin 80.7 - 80.5 - 79.2 - 74.1 -	94 95 95 92 ec. nit - 117 - 117 - 117	80 80 79 74 RPD 1 3 2	Limit 0.7 - 117 0.5 - 117 0.2 - 117 1.1 - 120 RPD Limit 20 20 20 20
Benzene Toluene Ethylbenzene Xylene Percent recovery is based on the s Param Benzene Toluene Ethylbenzene Xylene	Result 0.0939 0.0947 0.0947 0.277 spike result. RPE LCSD Result Unit 0.0950 mg/ 0.0968 mg/ 0.286 mg/	mg/L mg/L mg/L) is based of ts Dil. L 1 L 1 L 1 L 1 L 1 L 1 D is based of	1 1 1 m the spik Spike Amount 0.100 0.100 0.100 0.300	Amount 0.100 0.100 0.300 te and spike d Matrix Result <0.000400 <0.000400 <0.000400 te and spike d	Res <0.00	ult 0400 0800 0400 result. Re Lin 80.7 - 80.5 - 79.2 - 74.1 - result.	94 95 95 92 ec. nit - 117 - 117 - 117	80 80 79 74 RPD 1 3 2	Limit 0.7 - 117 0.5 - 117 0.2 - 117 1.1 - 120 RPD Limit 20 20 20 20 20 20
Benzene Toluene Ethylbenzene Xylene Percent recovery is based on the s Param Benzene Toluene Ethylbenzene Xylene Percent recovery is based on the s	Result 0.0939 0.0947 0.0947 0.277 spike result. RPD LCSD Result Unit 0.0950 mg/ 0.0968 mg/ 0.286 mg/ spike result. RPD LCSD	mg/L mg/L mg/L) is based of ts Dil. L 1 L 1 L 1 L 1 L 1 L 1 L 1 L 1 L 1 L 1	1 1 1 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	Amount 0.100 0.100 0.300 se and spike d Matrix Result <0.000400 <0.000400 <0.000400 se and spike d Spi	Res <0.00 <0.00 <0.00 uplicate Rec. 95 98 97 95 uplicate ke	ult 0400 0800 0400 result. Re Lim 80.7 80.5 79.2 74.1 result. LCS	94 95 95 92 ec. 117 - 117 - 117 - 117 - 120 LCSD	80 79 74 RPD 1 3 2 3	Limit 0.7 - 117 0.5 - 117 0.2 - 117 1.1 - 120 RPD Limit 20 20 20 20
Param Benzene Toluene Ethylbenzene Xylene Percent recovery is based on the s Param Benzene Toluene Ethylbenzene Xylene Percent recovery is based on the s Surrogate Trifluorotoluene (TFT)	Result 0.0939 0.0947 0.0947 0.277 spike result. RPE LCSD Result Unit 0.0950 mg/ 0.0968 mg/ 0.286 mg/ spike result. RPE RPE	mg/L mg/L mg/L) is based of ts Dil. L 1 L 1 L 1 L 1 L 1 L 1 D is based of	1 1 1 m the spik Spike Amount 0.100 0.100 0.100 0.300	Amount 0.100 0.100 0.300 te and spike d Matrix Result <0.000400 <0.000400 <0.000400 te and spike d	Res <0.00 <0.00 <0.00 uplicate Rec. 95 98 97 95 uplicate ke punt	ult 0400 0800 0400 result. Re Lin 80.7 - 80.5 - 79.2 - 74.1 - result.	94 95 95 92 ec. 117 - 117 - 117 - 120	80 80 79 74 RPD 1 3 2 3	Limit 0.7 - 117 0.5 - 117 0.2 - 117 1.1 - 120 RPD Limit 20 20 20 20 20 20 Rec.

Laboratory Control Spike (LCS-1)

ł

QC Batch:	74622	Date Analyzed:	2010-10-21	Analyzed By:	AR
Prep Batch:	63873	QC Preparation:	2010-10-15	Prepared By:	\mathbf{AR}

Report Date: November 15, 2010 115-6403134		C		rder: 10101 k Queen SV					: 11 of 14 unty, NM
_		CS			Spike	Ma		_	Rec.
Param Total Dissolved Solids		sult	Units	Dil.	Amount 1000	Res		Rec. 98	Limit
		79	mg/L	1		<9		90	90 - 110
Percent recovery is based on the sp	ike result.	RPD is	based on	the spike a	nd spike du	plicate r	esult.		
	LCSD			Spike	Matrix		Rec.		RPD
Param	Result	Units		Amount	Result	Rec.	Limit	RPD	Limit
Total Dissolved Solids	994	mg/L	1	1000	<9.75	99	90 - 110	2	10
Laboratory Control Spike (LC: QC Batch: 74818 Prep Batch: 64180			nalyzed: eparation:	2010-10-2 2010-10-2				nalyzed E repared E	
Darom	_ L(e e	Tin:to	Dil	Spike Amount	Mat Res		Poo	Rec. Limit
Param Chloride	Res 24		Units mg/L		25.0			Rec	90 - 110
Percent recovery is based on the sp	`								00 - 110
erecht recovery is based on the sp		101 1/ 15	based on			phease r			
D	LCSD	TT • 4	וית	Spike	Matrix	D	Rec.	חחת	RPD
Param Chloride	Result 23.9	Units mg/L	 	Amount 25.0	Result <0.0350	Rec. 96	Limit 90 - 110	RPD 0	Limit
Percent recovery is based on the sp Daboratory Control Spike (LCS QC Batch: 75341 Prep Batch: 64638		Date A	nalyzed:	the spike a 2010-11-1 2010-11-1	12	plicate re	Aı	nalyzed B epared B	•
1		CS	T T •/		Spike	Mat			Rec.
Param Sulfate		sult 1.8	Units mg/L	 	Amount 25.0	Res		lec. 99	Limit 90 - 110
Percent recovery is based on the spi	ike result.	πгD 1\$	Dased on	the spike a	na shike an	pheate re	couit.		
	LCSD			Spike	Matrix		Rec.		RPD
Param	Result 25.8	Units		Amount	Result <0.596	Rec.	Limit 90 - 110	RPD	Limit 20
Sulfate		mg/L	1	25.0	20 COC	103	00 110	4	

· .

.

•

115-6403134	10			Order: 1010 ock Queen S]		umber: ez Cour	
Matrix Spike (MS-1) Spik	ked Sample	e: 247532								
QC Batch: 74557		Date	Analyzed:	2010-10)-14			Analy	zed By	: AG
Prep Batch: 63840		QC P	reparation	n: 2010-10)-14			Prepa	ared By	: AG
Param		MS tesult	Units	Dil.	Spike Amount	Mat: Resi		Rec.		Rec. Limit
Benzene			mg/L	<u> </u>	0.100	0.00		102		$\frac{1}{.9} - 132$
Toluene			mg/L	1	0.100	< 0.00		93		.7 - 129
Ethylbenzene			mg/L	1	0.100	<0.00		88		.5 - 134
Xylene			mg/L	1	0.300	<0.00		111		.6 - 124
Percent recovery is based on the	e spike res		- ,	n the spike	and spike	duplicate	result.			
	MSD)		Spike	Matrix		Re	ec.		RPD
Param	Resul		Dil.	Amount	Result	Rec.	Lir		RPD	Limi
Benzene	4 0.081			0.100	0.0048	77	60.9		27	20
Toluene	⁵ 0.071		1	0.100	<0.000800		65.7		26	20
Ethylbenzene	⁶ 0.064	<u> </u>	1	0.100	< 0.000400		51.5		31	20
Xylene	0.283		1	0.300	< 0.000400		62.6		16	20
Percent recovery is based on the Surrogate	e spike res	MS Result	MSD Result	Units		Spike mount	MS · Rec.	MSD Rec.		Rec. Limit
Juliogate	78	0.317	0.331	mg/L	$\frac{D11.}{1}$	0.1	317	331		.1 - 117
Trifluorotoluene (TFT)	10			1116/12	+					
		0.0577	0.0585	mg/L	1	0.1	58	58	31.	.3 - 143
4-Bromofluorobenzene (4-BFB) Matrix Spike (MS-1) Spik QC Batch: 74818	ced Sample	0.0577 e: 247502 Date .		mg/L 2010-10)-26		58	Analy	31. vzed By ared By:	: PG
QC Batch: 74818		0.0577 e: 247502 Date QC P	0.0585 Analyzed:	mg/L 2010-10	-26 -26		<u> </u>	Analy	/zed By	: PG : PG
4-Bromofluorobenzene (4-BFB) Matrix Spike (MS-1) Spik QC Batch: 74818 Prep Batch: 64180	ced Sample	0.0577 e: 247502 Date QC P MS	0.0585 Analyzed: reparatior	mg/L 2010-10 a: 2010-10)-26)-26 Spike	0.1	latrix	Analy Prepa	vzed By ared By	: PG : PG Rec.
4-Bromofluorobenzene (4-BFB) Matrix Spike (MS-1) Spik QC Batch: 74818 Prep Batch: 64180 Param	ced Sample	0.0577 e: 247502 Date QC P	0.0585 Analyzed: reparatior Units	mg/L 2010-10	-26 -26	0.1 · · Mat R	<u> </u>	Analy	vzed By ared By	: PG : PG
4-Bromofluorobenzene (4-BFB) Matrix Spike (MS-1) Spik QC Batch: 74818	ced Sample	0.0577 e: 247502 Date QC P MS Result 244000	0.0585 Analyzed: reparation Units mg/L	mg/L 2010-10 a: 2010-10 Dil. 10000)-26)-26 Spike Amour 25000	0.1	latrix esult 6700	Analy Prepa Rec	vzed By ared By	: PG : PG Rec. Limit
4-Bromofluorobenzene (4-BFB) Matrix Spike (MS-1) Spik QC Batch: 74818 Prep Batch: 64180 Param Chloride Percent recovery is based on the	e spike res MSI	0.0577 e: 247502 Date QC P MS Result 244000 ult. RPD i	0.0585 Analyzed: reparation Units mg/L s based on	mg/L 2010-10 n: 2010-10 Dil. 10000 n the spike Spike)-26)-26 Amoun 25000 and spike of Matri	0.1 ht R 0 1 duplicate x	latrix esult 6700 result. Re	Analy Prepa Rec 91	/zed By ared By 9	: PG : PG Limit 0 - 110 RPD
4-Bromofluorobenzene (4-BFB) Matrix Spike (MS-1) Spik QC Batch: 74818 Prep Batch: 64180 Param Chloride Percent recovery is based on the Param	e spike res MSI Resu	0.0577 e: 247502 Date QC P MS Result 244000 ult. RPD i 0 lt Units	0.0585 Analyzed: reparation Units mg/L s based on s Dil.	mg/L 2010-10 a: 2010-10 Dil. 10000 a the spike Spike Amour	9-26 9-26 Amoun 25000 and spike Matri nt Resul	0.1 ht R 0 1 duplicate x t Rec.	latrix esult 6700 result. Ra Lir	Analy Prepa Rec 91 ec. mit	vzed By ared By:	: PG : PG Limit 0 - 110 RPD Limit
4-Bromofluorobenzene (4-BFB) Matrix Spike (MS-1) Spik QC Batch: 74818 Prep Batch: 64180 Param Chloride	e spike res MSI	0.0577 e: 247502 Date QC P MS Result 244000 ult. RPD i 0 lt Units	0.0585 Analyzed: reparation Units mg/L s based on s Dil.	mg/L 2010-10 a: 2010-10 Dil. 10000 a the spike Spike Amour	-26 -26 Amoun 25000 and spike of Matri nt Resul	0.1 ht R 0 1 duplicate x t Rec.	latrix esult 6700 result. Ra Lir	Analy Prepa Rec 91	/zed By ared By 9	: PG : PG Limit 0 - 110

⁵MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.
 ⁶MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.
 ⁷High surrogate recovery due to peak interference.
 ⁸High surrogate recovery due to peak interference.

1

Report Date: No 115-6403134	ovember 15,	, 2010	С		Order: 10101 ck Queen SV				Number: havez Cor	
Matrix Spike (MS-1)	Spiked Sample	e: 250076							
QC Batch: 753	341		Date A	nalyzed:	2010-11-1	2		Ar	nalyzed E	y: PG
Prep Batch: 646	538		QC Pre	eparation	: 2010-11-1	2		Pr	epared B	y: PG
			MS			Spike	Ма	trix		Rec.
Param			Result	Units	Dil.	Amount	Re	sult F	Rec.	Limit
Sulfate		9	274	mg/L	5	125	<2	.98 2	219	90 - 110
Percent recovery	is based on	the spike res	ult. RPD is		the spike a	nd spike dup	licate r	esult.		
		MS	SD		Spike	Matrix		Rec.		RPD
Param		Res			Amount	Result	Rec.	Limit	RPD	Limit
Sulfate		10 27	'8 mg/I	J 5	125	<2.98	222	90 - 110	1	20
Standard (CCV QC Batch: 7455	ŗ		Date A	nalyzed:	2010-10-14			Ar	nalyzed B	y: AG
	•		CCV	-	aav.	CCVs		Percent		
			001	5	CCVs	CUVS		1 0100110		
			True		Found	Percent		Recovery		Date
Param	Flag	Units						Recovery Limits		nalyzed
Benzene	Flag	Units mg/L	True Conc 0.100		Found Conc. 0.0953	Percent		Recovery Limits 80 - 120	20	nalyzed
Benzene Foluene	Flag	mg/L mg/L	True Conc 0.100 0.100	-)	Found Conc. 0.0953 0.0980	Percent Recovery 95 98		Recovery Limits 80 - 120 80 - 120	20 20	nalyzed)10-10-14)10-10-14
Benzene Foluene Ethylbenzene	Flag	mg/L mg/L mg/L	True Conc 0.100 0.100 0.100)	Found Conc. 0.0953 0.0980 0.0945	Percent Recovery 95 98 94		Recovery Limits 80 - 120 80 - 120 80 - 120	20 20 20	nalyzed)10-10-14)10-10-14)10-10-14
Benzene Toluene Ethylbenzene	Flag	mg/L mg/L	True Conc 0.100 0.100)	Found Conc. 0.0953 0.0980	Percent Recovery 95 98		Recovery Limits 80 - 120 80 - 120	20 20 20	nalyzed)10-10-14)10-10-14)10-10-14
Param Benzene Toluene Ethylbenzene Xylene Standard (CCV		mg/L mg/L mg/L	True Conc 0.100 0.100 0.100)	Found Conc. 0.0953 0.0980 0.0945	Percent Recovery 95 98 94		Recovery Limits 80 - 120 80 - 120 80 - 120	20 20 20	
Benzene Toluene Ethylbenzene Xylene	/-2)	mg/L mg/L mg/L	True Conc 0.100 0.100 0.100 0.300)	Found Conc. 0.0953 0.0980 0.0945 0.280	Percent Recovery 95 98 94 93		Recovery Limits 80 - 120 80 - 120 80 - 120 80 - 120 80 - 120	20 20 20	nalyzed 10-10-14 10-10-14 10-10-14 10-10-14
Benzene Foluene Ethylbenzene Xylene Standard (CCV	/-2)	mg/L mg/L mg/L	True Conc 0.100 0.100 0.300 Date A CCVs	nalyzed:	Found Conc. 0.0953 0.0980 0.0945 0.280	Percent Recovery 95 98 94 93		Recovery Limits 80 - 120 80 - 120 80 - 120 80 - 120 80 - 120	20 20 20 20	nalyzed 010-10-14 010-10-14 010-10-14 010-10-14
Benzene Foluene Ethylbenzene Kylene Standard (CCV QC Batch: 7455	/-2) 57	mg/L mg/L mg/L mg/L	True Conc 0.100 0.100 0.300 Date A CCVs True	nalyzed:	Found Conc. 0.0953 0.0980 0.0945 0.280 2010-10-14 CCVs Found	Percent Recovery 95 98 94 93 93 CCVs Percent		Recovery Limits 80 - 120 80 - 120 80 - 120 80 - 120 80 - 120 Ar Percent Recovery	20 20 20 20 alyzed B	nalyzed 10-10-14 10-10-14 10-10-14 10-10-14 010-10-14 Sy: AG
Benzene Foluene Ethylbenzene Kylene Standard (CCV QC Batch: 7455 Param	/-2)	mg/L mg/L mg/L mg/L	True Conc 0.100 0.100 0.300 Date A CCVs True Conc	nalyzed:	Found Conc. 0.0953 0.0980 0.0945 0.280 2010-10-14 CCVs Found Conc.	Percent Recovery 95 98 94 93 93 CCVs Percent Recovery		Recovery Limits 80 - 120 80 - 120 80 - 120 80 - 120 80 - 120 Ar Percent Recovery Limits	20 20 20 alyzed E	nalyzed 10-10-14 10-10-14 10-10-14 10-10-14 10-10-14 Sy: AG Date nalyzed
Benzene Foluene Ethylbenzene Kylene Standard (CCV QC Batch: 7455 Param Benzene	/-2) 57	mg/L mg/L mg/L Mg/L	True Conc 0.100 0.100 0.300 Date A CCVs True Conc 0.100	nalyzed:	Found Conc. 0.0953 0.0980 0.0945 0.280 2010-10-14 CCVs Found Conc. 0.0941	Percent Recovery 95 98 94 93 93 CCVs Percent Recovery 94		Recovery Limits 80 - 120 80 - 120 80 - 120 80 - 120 80 - 120 Ar Percent Recovery Limits 80 - 120	20 20 20 20 20 20 20 20 20 20 20	nalyzed)10-10-14)10-10-14)10-10-14)10-10-14)10-10-14 By: AG Date nalyzed)10-10-14
Benzene Foluene Ethylbenzene Xylene Standard (CCV QC Batch: 7455 Param Benzene Foluene	/-2) 57	mg/L mg/L mg/L mg/L Units mg/L mg/L	True Conc 0.100 0.100 0.300 Date A CCVs True Conc 0.100 0.100	nalyzed:	Found Conc. 0.0953 0.0980 0.0945 0.280 2010-10-14 CCVs Found Conc. 0.0941 0.0958	Percent Recovery 95 98 94 93 93 CCVs Percent Recovery 94 96		Recovery Limits 80 - 120 80 - 120 80 - 120 80 - 120 80 - 120 Ar Percent Recovery Limits 80 - 120 80 - 120 80 - 120	20 20 20 20 20 20 20 A 20 20 20	nalyzed 10-10-1- 10-10-1- 10-10-1- 10-10-1- 3y: AG Date nalyzed 10-10-1- 10-10-1- 10-10-1-
Benzene Foluene Ethylbenzene Xylene Standard (CCV	/-2) 57	mg/L mg/L mg/L Mg/L	True Conc 0.100 0.100 0.300 Date A CCVs True Conc 0.100	nalyzed:	Found Conc. 0.0953 0.0980 0.0945 0.280 2010-10-14 CCVs Found Conc. 0.0941	Percent Recovery 95 98 94 93 93 CCVs Percent Recovery 94		Recovery Limits 80 - 120 80 - 120 80 - 120 80 - 120 80 - 120 Ar Percent Recovery Limits 80 - 120	20 20 20 20 20 20 20 20 20 20 20 20	nalyzed 10-10-1 10-10-1 10-10-1 10-10-1 010-10-1 Sy: AG Date nalyzed 10-10-1

Standard (CCV-1)

I

1

1

QC Batch: 74818

Date Analyzed: 2010-10-26

Analyzed By: PG

 9 matrix spikes run with batch but spiked sample was reported in another run \bullet 10 matrix spikes run with batch but spiked sample was reported in another run \bullet

Report Date 115-6403134	e: November 1	15, 2010		Work Order: 10 ero/Rock Quees	Page Number: 14 of 14 Chavez County, NM		
			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride	1 145	mg/L	25.0	24.2	97	90 - 110	2010-10-20
					······································		
Standard (CCV-2)						
QC Batch:	74818		Date Ana	alyzed: 2010-1	0-26	Anal	yzed By: PG
			CCVs	CCVs	CCVs	Percent	•
			True	Found	Percent	Recovery	Date
						-	
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride Standard (Units mg/L	25.0	23.6	94	90 - 110	Analyzed 2010-10-26
Chloride Standard (CCV-1)		25.0 Date Ana	23.6 alyzed: 2010-1	94	90 - 110 Anal	
Param Chloride Standard (QC Batch:	CCV-1)		25.0 Date Ana CCVs	23.6 alyzed: 2010-1 CCVs	94 1-12 CCVs	90 - 110 Anal Percent	2010-10-20 yzed By: PG
Chloride Standard (QC Batch:	CCV-1) 75341	mg/L	25.0 Date Ana CCVs True	23.6 alyzed: 2010-1 CCVs Found	94 1-12 CCVs Percent	90 - 110 Anal Percent Recovery	2010-10-2 yzed By: PG Date
Chloride Standard (QC Batch: Param	CCV-1)	mg/L Units	25.0 Date Ana CCVs True Conc.	23.6 alyzed: 2010-1 CCVs Found Conc.	94 1-12 CCVs Percent Recovery	90 - 110 Anal Percent Recovery Limits	2010-10-24 yzed By: PG Date Analyzed
Chloride Standard (CCV-1) 75341	mg/L	25.0 Date Ana CCVs True	23.6 alyzed: 2010-1 CCVs Found	94 1-12 CCVs Percent	90 - 110 Anal Percent Recovery	2010-10-26 yzed By: PG Date Analyzed
Chloride Standard (QC Batch: Param Sulfate	CCV-1) 75341 Flag	mg/L Units	25.0 Date Ana CCVs True Conc.	23.6 alyzed: 2010-1 CCVs Found Conc.	94 1-12 CCVs Percent Recovery	90 - 110 Anal Percent Recovery Limits	2010-10-26 yzed By: PG
Chloride Standard (QC Batch: Param	CCV-1) 75341 Flag CCV-2)	mg/L Units	25.0 Date Ana CCVs True Conc. 25.0	23.6 alyzed: 2010-1 CCVs Found Conc.	94 1-12 CCVs Percent Recovery 97	90 - 110 Anal Percent Recovery Limits 90 - 110	2010-10-24 yzed By: PG Date Analyzed
Chloride Standard (QC Batch: Param Sulfate Standard (CCV-1) 75341 Flag CCV-2)	mg/L Units	25.0 Date Ana CCVs True Conc. 25.0	23.6 alyzed: 2010-1 CCVs Found Conc. 24.3	94 1-12 CCVs Percent Recovery 97	90 - 110 Anal Percent Recovery Limits 90 - 110	2010-10-26 yzed By: PG Date Analyzed 2010-11-12
Chloride Standard (QC Batch: Param Sulfate Standard (CCV-1) 75341 Flag CCV-2)	mg/L Units	25.0 Date Ana CCVs True Conc. 25.0 Date Ana	23.6 alyzed: 2010-1 CCVs Found Conc. 24.3 alyzed: 2010-1	94 1-12 CCVs Percent Recovery 97 1-12 CCVs Percent	90 - 110 Anal Percent Recovery Limits 90 - 110 Anal Percent Recovery	2010-10-26 yzed By: PG Date Analyzed 2010-11-12 yzed By: PG Date
Chloride Standard (QC Batch: Param Sulfate Standard (CCV-1) 75341 Flag CCV-2)	mg/L Units	25.0 Date Ana CCVs True Conc. 25.0 Date Ana CCVs	23.6 alyzed: 2010-1 CCVs Found Conc. 24.3 alyzed: 2010-1 CCVs	94 1-12 CCVs Percent Recovery 97 1-12 CCVs	90 - 110 Anal Percent Recovery Limits 90 - 110 Anal Percent	2010-10-26 yzed By: PG Date Analyzed 2010-11-12 yzed By: PG

•

Lubbock, Texas 79424 6701 Aberdeen Avenue, Suite 9 800+378+1296 806 • 794 • 1296 FAX 806 • 794 • 1298 200 East Sunset Road, Suite E El Paso, Texas 79922 888 • 588 • 3443 915-585-3443 FAX 915 • 585 • 4944 5002 Basin Street; Suite A1 Midland, Texas 79703 432 • 689 • 6301 FAX 432 • 689 • 6313 6015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132 817 • 201 • 5260 E-Mail: lab@traceanalysis.com Certifications WBENC: 237019 HUB: 1752439743100-86536 DBE: VN 20657 NCTRCA WFWB38444Y0909 **NELAP** Certifications Lubbock: T104704219-08-TX El Paso: T104704221-08-TX Midland: T104704392-08-TX LELAP-02003 LELAP-02002

Analytical and Quality Control Report

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

Report Date: February 7, 2011

Work Order: 11012135

Celero/Rock Queen Saltwater Plant #1 **Project Name:** Project Number: 115-6403134

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
255925	MW-1	water	2011-01-19	17:58	2011-01-21
255926	MW-2	water	2011-01-19	17:50	2011-01-21
255927	MW-3	water	2011-01-19	17:30	2011-01-21
255928	MW-4	water	2011-01-19	18:10	2011-01-21
255929	MW-5	water	2011-01-19	18:05	2011-01-21
255930	MW-6	water	2011-01-19	17:43	2011-01-21
255931	MW-7	water	2011-01-19	17:35	2011-01-21

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

Kansas E-10317

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

Michael about

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

Standard Flags

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

Page 2 of 21

Samples for project Celero/Rock Queen Saltwater Plant #1 were received by TraceAnalysis, Inc. on 2011-01-21 and assigned to work order 11012135. Samples for work order 11012135 were received intact without headspace and at a temperature of 12.5 C.

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

		Prep	Prep	\mathbf{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
BTEX	S 8021B	66223	2011-01-27 at 10:00	77205	2011-01-27 at 11:06
Chloride (IC)	E 300.0	66402	2011-02-04 at 11:18	77415	2011-02-04 at 15:32
SO4 (IC)	E 300.0	66402	2011-02-04 at 11:18	77415	2011-02-04 at 15:32
SO4 (IC)	E 300.0	66413	2011-02-06 at 10:00	77426	2011-02-06 at 12:17
TDS	SM 2540C	66164	2011-01-25 at 12:00	77317	2011-02-01 at 15:04

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 11012135 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: February 7, 2011 115-6403134 Work Order: 11012135 Celero/Rock Queen Saltwater Plant #1 Page Number: 4 of 21

Analytical Report

Sample: 255925 - MW-1

Analysis: QC Batch:	Midland BTEX 77205 66223	·	Analytical M Date Analyz Sample Prej	zed:	S 8021B 2011-01-27 2011-01-27		Prep Met Analyzed Prepared	By: AG
			R	Ĺ				
Parameter	Flag		Resul	t	Units	Γ	Dilution	\mathbf{RL}
Benzene		-	0.011	6	mg/L		1	0.00100
Toluene			0.0059	0	mg/L		1	0.00100
Ethylbenzene			< 0.0010	0	mg/L		1	0.00100
Xylene			<0.0010	0	mg/L		1	0.00100
			_			Spike	Percent	Recovery
Surrogate		Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluer	ne (TFT)	1	0.0447	mg/L	1	0.100	45	75.4 - 119.4
4-Bromofluoro	benzene (4-BFB)	2	0.0396	mg/L	1	0.100	40	78.6 - 122.8

Sample: 255925 - MW-1

Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock Chloride (IC) 77415 66402	Analytical Method: Date Analyzed: Sample Preparation:	E 300.0 2011-02-04 2011-02-04	Prep Method: Analyzed By: Prepared By:	PG
Parameter Chloride	Flag	RL Result 132000	Units mg/L	Dilution 10000	RL 2.50

Sample: 255925 - MW-1

Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock SO4 (IC) 77426 66413		Analytical Method: Date Analyzed: Sample Preparation:	E 300.0 2011-02-06 2011-02-06	Prep Method: Analyzed By: Prepared By:	$\mathbf{P}\mathbf{G}$
			RL			
Parameter	F	lag	Result	Units	Dilution	RL
Sulfate			1940	mg/L	100	2.50

¹Surrogate TFT out due to matrix interference. Sample was reran on 01-27-2011 to confirm matrix interference results.

²Surrogate 4-BFB out due to matrix interference. Sample was reran on 01-27-2011 to confirm matrix interference results.

Report Date: February 7, 2011 115-6403134		Work Order Celero/Rock Queen	Page Number: 5 of 21		
Sample: 25	5925 - MW-1			. •	
Laboratory:	Midland				
Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch: 77317		Date Analyzed:	2011-02-01	Analyzed By:	AR
Prep Batch:	66164	Sample Preparation:	2011-01-26	Prepared By:	AR

		RL			
Parameter	Flag	Result	Units	Dilution	\mathbf{RL}
Total Dissolved Solids	<u> </u>	234000	mg/L	100	10.0

Sample: 255926 - MW-2

.

Laboratory: Analysis: QC Batch: Prep Batch:	Midland BTEX 77170 66196		Analytical M Date Analyz Sample Prej	zed:	S 8021B 2011-01-25 2011-01-25		Prep Metl Analyzed Prepared	By: AG
			R	L				
Parameter	Flag		Resul	t	Units	D	ilution	\mathbf{RL}
Benzene			< 0.0010	0	mg/L		1	0.00100
Toluene			< 0.0010	0	mg/L		1	0.00100
Ethylbenzene	2		< 0.0010	0	mg/L		1	0.00100
Xylene			< 0.0010	0	mg/L		1	0.00100
						Spike	Percent	Recovery
Surrogate		Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluo	ene (TFT)		0.0720	mg/L	1	0.100	72	75.4 - 119.4
4-Bromofluor	obenzene (4-BFB)		0.0673	mg/L	1	0.100	67	78.6 - 122.8

Sample: 255926 - MW-2

Chloride		66600	mg/L	10000	2.50
Parameter	Flag	RL Result	Units	Dilution	RL
Prep Batch:	66402	Sample Preparation:	2011-02-04	Prepared By:	\mathbf{PG}
QC Batch:	77415	Date Analyzed:	2011-02-04	Analyzed By:	\mathbf{PG}
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
Laboratory:	Lubbock				

Report Date 115-6403134	:: February 7, 2011	Work Order Celero/Rock Queen	Page Number: 6 of 21		
Sample: 25	5926 - MW-2				
Laboratory:	Lubbock				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	77426	Date Analyzed:	2011-02-06	Analyzed By:	$\mathbf{P}\mathbf{G}$
Prep Batch:	66413	Sample Preparation:	2011-02-06	Prepared By:	\mathbf{PG}
		RL			
Parameter	Flag	\mathbf{Result}	Units	Dilution	\mathbf{RL}
Sulfate	·····	1640	mg/L	100	2.50

Sample: 255926 - MW-2

Laboratory: Analysis: QC Batch: Prep Batch:	Midland TDS 77317 66164		Analytical Method: Date Analyzed: Sample Preparation:	SM 2540C 2011-02-01 2011-01-26	Prep Method: Analyzed By: Prepared By:	AR
			\mathbf{RL}			
Parameter		Flag	Result	Units	Dilution	\mathbf{RL}
Total Dissolv	ed Solids		133000	mg/L	100	10.0

Sample: 255927 - MW-3

Analysis: QC Batch:	Midland BTEX 77170 66196		Analytical M Date Analyz Sample Prep	æd:	S 8021B 2011-01-25 2011-01-25		Prep Met Analyzed Prepared	By: AG
			RI	- -				
Parameter	\mathbf{Flag}		Resul	t	Units	D	ilution	\mathbf{RL}
Benzene			< 0.0010	0	mg/L		1	0.00100
Toluene			< 0.0010	0	mg/L		1	0.00100
Ethylbenzene			< 0.0010	0	mg/L		1	0.00100
Xylene			< 0.0010	0	mg/L		1	0.00100
						Spike	Percent	Recovery
Surrogate		Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluer	ne (TFT)	3	0.0666	mg/L	1	0.100	67	75.4 - 119.4
4-Bromofluoro	benzene (4-BFB)		0.0648	mg/L	1	0.100	65	78.6 - 122.8

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 7, 2011 115-6403134				er: 11012135 n Saltwater Plant #	Page Number: 1	7 of 21	
Sample: 25	5927 - MW-	3			1		
Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock Chloride (IC 77415 66402)		Analytical Metho Date Analyzed: Sample Preparati	2011-02-04	Prep Method Analyzed By: Prepared By:	
				RL			
Parameter		Flag		Result	Units	Dilution	RL
Chloride				85200	mg/L	10000	2.50
Sample: 25	5927 - MW-3	3					
Laboratory:	Lubbock						
Analysis:	SO4 (IC)			Analytical Method:	E 300.0	Prep Method:	
QC Batch:	77426			Date Analyzed:	2011-02-06	Analyzed By:	\mathbf{PG}
Prep Batch:	66413			Sample Preparation	: 2011-02-06	Prepared By:	PG
				\mathbf{RL}			
Parameter		Flag		Result	Units .	Dilution	RL
Sulfate				1230	mg/L	100	2.50
Sample: 25	5927 - MW-:	3					
Laboratory:	Midland						
Analysis:	TDS			Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	77317			Date Analyzed:	2011-02-01	Analyzed By:	AR
Prep Batch:	66164			Sample Preparation		Prepared By:	AR
_				RL			
Parameter			Flag	Result	Units	Dilution	RL
Total Dissolv	red Solids			154000	mg/L	100	10.0
Sample: 25	5928 - MW-4	4					
Laboratory:	Midland						
Analysis:	BTEX			Analytical Method:	S 8021B	Prep Method: S	5030B
QC Batch:	77205			Date Analyzed:	2011-01-27	-	G
Prep Batch:	66223			Sample Preparation:	2011-01-27		.G
·				RL			
Parameter		Flag		Result	Units	Dilution	RL
Benzene				0.00950	mg/L		0.00100
Toluene				<0.00100	mg/L		0.00100
					(continued	

.

sample 255928 continued ...

			R	Ĺ				
Parameter	Flag		Resul	t	Units	D	ilution	, RL
Ethylbenzene			< 0.0010	0	mg/L		1	0.00100
Xylene			< 0.0010	0	mg/L	. <u></u>	1	0.00100
						Spike	Percent	Recovery
Surrogate]	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		4	0.0458	mg/L	1	0.100	46	75.4 - 119.4
4-Bromofluorobenzene (4-BI	FB)	5	0.0434	mg/L	1	0.100	43	78.6 - 122.8

Sample: 255928 - MW-4

Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock Chloride (IC) 77415 66402	Analytical Method: Date Analyzed: Sample Preparation:	E 300.0 2011-02-04 2011-02-04	Prep Method: Analyzed By: Prepared By:	PG
Parameter	Flor	RL Result	Units	Dilution	RL
Chloride	Flag	93200	mg/L	10000	2.50

Sample: 255928 - MW-4

Laboratory: Analysis: QC Batch: Prep Batch:	SO4 (IC) 77426		Analytical Method: Date Analyzed: Sample Preparation:	E 300.0 2011-02-06 2011-02-06	Prep Method: Analyzed By: Prepared By:	\mathbf{PG}
	·		RL			
Parameter		Flag	Result	Units	Dilution	\mathbf{RL}
Sulfate			2360	mg/L	100	2.50

Sample: 255928 - MW-4

Analysis: 7 QC Batch: 7	Midland FDS 77317 56164		Analytical Method: Date Analyzed: Sample Preparation:	SM 2540C 2011-02-01 2011-01-26	Prep Method: Analyzed By: Prepared By:	A R
			RL			
Parameter		Flag	Result	Units	Dilution	RL
Total Dissolved	l Solids		173000	mg/L	100	10.0

⁴Surrogate TFT out due to matrix interference. Sample was reran on 01-27-2011 to confirm matrix interference results. ⁵Surrogate 4-BFB out due to matrix interference. Sample was reran on 01-27-2011 to confirm matrix interference results.

Report Date: February 7, 2011 115-6403134 Work Order: 11012135 Celero/Rock Queen Saltwater Plant #1

Page Number: 9 of 21

Sample: 255929 - MW-5

Laboratory: Midland					,			
Analysis: BTEX		Α	nalytical l	Method:	S 8021B		Prep Metl	hod: S 5030B
QC Batch: 77170		D	ate Analy	zed:	2011-01-25		Analyzed	By: AG
Prep Batch: 66196		S	ample Pre	paration:	2011-01-25		Prepared	By: AG
			R	L		· •		
Parameter	Flag		Resu	lt	\mathbf{Units}		Dilution	\mathbf{RL}
Benzene			< 0.0010	0	mg/L	······························	1 .	0.00100
Toluene			< 0.0010	0	mg/L		1	0.00100
Ethylbenzene			< 0.0010	0	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)		·····	0.104	mg/L	1	0.100	104	75.4 - 119.4
4-Bromofluorobenzene (4-B	FB)		0.0933	mg/L	1	0.100	93	78.6 - 122.8

Sample: 255929 - MW-5

Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock Chloride (IC) 77415 66402	Analytical Method: Date Analyzed: Sample Preparation:	E 300.0 2011-02-04 2011-02-04	Prep Method: Analyzed By: Prepared By:	\mathbf{PG}
		RL			
Parameter	Flag	Result	Units	Dilution	RL
Chloride		32400	mg/L	5000	2.50

Sample: 255929 - MW-5

Laboratory:	Lubbock					
Analysis:	SO4 (IC)		Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	77426		Date Analyzed:	2011-02-06	Analyzed By:	PG
Prep Batch:	66413		Sample Preparation:	2011-02-06	Prepared By:	PG
			\mathbf{RL}^{\cdot}			
Parameter		Flag	Result	Units	Dilution	\mathbf{RL}
Sulfate			822	mg/L	50	2.50

Report Date: February 7, 2011 Work Order: 11012135 Page Number: 10 of 21 115-6403134 Celero/Rock Queen Saltwater Plant #1 Sample: 255929 - MW-5 Laboratory: Midland Prep Method: N/A Analysis: TDS Analytical Method: SM 2540C QC Batch: 77317 Date Analyzed: Analyzed By: AR 2011-02-01 Prep Batch: 66164 Sample Preparation: 2011-01-26 Prepared By: AR DT

		πL			
Parameter	Flag	Result	Units	Dilution	' RL
Total Dissolved Solids		69700	mg/L	100	10.0

Sample: 255930 - MW-6

Laboratory: Analysis: QC Batch: Prep Batch:	Midland BTEX 77170 66196			Analytical M Date Analyz Sample Prej	zed:	S 8021B 2011-01-25 2011-01-25		Prep Method: Analyzed By: Prepared By:	
	· ·			R	د				
Parameter		Flag		Resul	t	\mathbf{Units}]	Dilution	\mathbf{RL}
Benzene				< 0.0010	0	mg/L		1	0.00100
Toluene				< 0.0010	0	mg/L		1	0.00100
Ethylbenzene	1			< 0.0010	0 .	mg/L		1	0.00100
Xylene			= <u>u · i · · i · ·····</u>	< 0.0010	0	mg/L		1	0.00100
							Spike	Percent	Recovery
Surrogate			Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotolue	ene (TFT)		<u>\$</u>	0.112	mg/L	1	0.100	112	75.4 - 119.4
4-Bromofluor		3FB)		0.0961	mg/L	. 1	0.100	96	78.6 - 122.8

Sample: 255930 - MW-6

Laboratory:	Lubbock				
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	77415	Date Analyzed:	2011-02-04	Analyzed By:	PG
Prep Batch:	66402	Sample Preparation:	2011-02-04	Prepared By:	PG
		\mathbf{RL}			
Parameter	Flag	Result	Units	Dilution	\mathbf{RL}
Chloride	······································	3010	mg/L	100	2.50

Report Date: February 7, 2011 115-6403134			Work Order: 11012135 Celero/Rock Queen Saltwater Plant #1		
Sample: 255930	- MW-6		-		
Laboratory: Lub	bock				
Analysis: SO4	(IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch: 7741	5	Date Analyzed:	2011-02-04	Analyzed By:	$\mathbf{P}\mathbf{G}$
Prep Batch: 6640	2	Sample Preparation:	2011-02-04	Prepared By:	\mathbf{PG}
	·	RL			
Parameter	Flag	Result	Units	Dilution	\mathbf{RL}
Sulfate	· · · · · · · · · · · · · · · · · · ·	<250	mg/L	100	2.50

Sample: 255930 - MW-6

Laboratory: Analysis: QC Batch: Prep Batch:	Analysis: TDS		Analytical Method: Date Analyzed: Sample Preparation:	SM 2540C 2011-02-01 2011-01-26	Prep Method: Analyzed By: Prepared By:	AR
			RL			
Parameter		Flag	\mathbf{Result}	Units	Dilution	\mathbf{RL}
Total Dissolv	ed Solids		16500	mg/L	10	10.0

Sample: 255931 - MW-7

1

Laboratory:	Midland								• •
Analysis:	BTEX			Analytical 1	Method:	S 8021B		Prep Metl	nod: S 5030B
QC Batch:	77170			Date Analy	zed:	2011 - 01 - 25		Analyzed	By: AG
Prep Batch:	66196			Sample Pre	paration:	2011-01-25		Prepared By	
				R	L				
Parameter]	Flag		Resu	lt	Units	Ι	Dilution	\mathbf{RL}
Benzene				< 0.0010)0	mg/L		1	0.00100
Toluene				< 0.0010	0	mg/L		1	0.00100
Ethylbenzene	9			< 0.0010	0	mg/L		1	0.00100
Xylene				< 0.0010	0	mg/L	······································	1	0.00100
							Spike	Percent	Recovery
Surrogate			Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotolu	ene (TFT)			0.0863	mg/L	1	0.100	86	75.4 - 119.4
4-Bromofluor	obenzene (4-BF	B)		0.0789	mg/L	1	0.100	79	78.6 - 122.8

Report Date: February 7, 2011 Work Order: 11012135 Page Number: 12 of 21 115-6403134 Celero/Rock Queen Saltwater Plant #1 Sample: 255931 - MW-7 Laboratory: Lubbock Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/A Analyzed By: QC Batch: 77415 Date Analyzed: 2011-02-04 PG **Prep Batch:** 66402 Sample Preparation: Prepared By: PG 2011-02-04 RL RL Parameter Flag Result Units Dilution Chloride 35700 5000 mg/L 2.50Sample: 255931 - MW-7 Laboratory: Lubbock Analysis: SO4 (IC) Analytical Method: Prep Method: E 300.0 N/A QC Batch: 77426 PG Date Analyzed: 2011-02-06 Analyzed By: Prep Batch: 66413 Sample Preparation: Prepared By: \mathbf{PG} 2011-02-06 RLParameter Flag Result Dilution RLUnits Sulfate 478 2.50mg/L 50 Sample: 255931 - MW-7 Laboratory: Midland Analysis: TDS Analytical Method: Prep Method: N/A SM 2540C QC Batch: 77317 Date Analyzed: 2011-02-01 Analyzed By: AR Prep Batch: 66164 Sample Preparation: 2011-01-26 Prepared By: AR RL Parameter Flag Result Units Dilution RLTotal Dissolved Solids 75700 mg/L 100 10.0 Method Blank (1) QC Batch: 77170 QC Batch: 77170 Date Analyzed: 2011-01-25 Analyzed By: AG Prep Batch: 66196 QC Preparation: 2011-01-25 Prepared By: AG MDL Parameter Units RL Flag Result Benzene 0.001 < 0.000400 mg/L 0.001 Toluene < 0.000300 mg/LEthylbenzene < 0.000300 0.001 mg/L continued ...

Report Date: February 7, 2011 115-6403134

Work Order: 11012135 Celero/Rock Queen Saltwater Plant #1

Page Number: 13 of 21

method blank continued ...

method blank continued.	••			MDL			
Parameter	Flag		I	Result	Ur	nits	RL
Xylene	8			00333		;/L	0.001
					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.111	mg/L		0.100	111	70.8 - 117.4
4-Bromofluorobenzene (4	l-BFB)	0.0994	mg/L	1	0.100	99	79 - 113.4
Method Blank (1)	QC Batch: 77205						
QC Batch: 77205 Prep Batch: 66223		Date Analyzed: 2011-01-27 QC Preparation: 2011-01-27			Analyzed By: Prepared By:		
		. v F		MDL			
Parameter	Flag		F	Result	Un	its	\mathbf{RL}
Benzene	and the second	<0.000400			mg	0.001	
Toluene			<0.0	00300	mg	;/L	0.001
Ethylbenzene			<0.0	00300	mg	;/L	0.001
Xylene	-	< 0.000333			mg	0.001	
					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.117	mg/L	1	0.100	117	70.8 - 117.4
4-Bromofluorobenzene (4	-BFB)	0.0998	mg/L	1	0.100	100	79 - 113.4
				-			
Method Blank (1)	QC Batch: 77317			·			
QC Batch: 77317		Date Ana	•	2011-02-01			zed By: AR
Prep Batch: 66164		QC Prep	aration:	2011-01-25		Prepa	ared By: AR
_				MDL			
Parameter	Fla	ŧg		Result		Units	RL

Total Dissolved Solids10.0mg/L10

Method Blank (1) QC Batch: 77415

QC Batch: 77415	Date Analyzed:	2011-02-04	Analyzed By:	\mathbf{PG}
Prep Batch: 66402	QC Preparation:	2011-02-04	Prepared By:	PG

Report Date: February 115-6403134	7, 2011		Work Order: 11012135 Celero/Rock Queen Saltwater Plant #1				
		N	IDL	İ			
Parameter	Flag		sult	Units		R	
Chloride		<0.0		mg/L		2.	
Method Blank (1)	QC Batch: 7741	5 .					
QC Batch: 77415		Date Analyzed:	2011-02-04	-	Analyz	ed By: PG	
Prep Batch: 66402		QC Preparation:	2011-02-04		Prepare		
			DL				
Parameter	Flag	Res		Units		R	
Sulfate		<0.	120	mg/L		2	
Method Blank (1)	QC Batch: 7742	6					
QC Batch: 77426		Date Analyzed:	2011-02-06		Analyze	ed By: PC	
Prep Batch: 66413		QC Preparation:				ed By: PC	
		М	DL				
						_	
Parameter	Flag	Res	sult	Units			
Parameter Sulfate	Flag		sult	Units mg/L			
Sulfate	plicated Sample: 25 Duj Ru	Res <0.: 5931 Date Analyzed:	2011-02-01 2011-01-25		Analyze Prepare RPD 7	2. ed By: AF ed By: AF RPI	
Sulfate Duplicates (1) Dup QC Batch: 77317 Prep Batch: 66164 Param	plicated Sample: 25 Dup R 7(Res <0. 5931 Date Analyzed: QC Preparation: plicate Sample esult Result	ult 126 2011-02-01 2011-01-25 Units	mg/L Dilution	Prepare RPD	2. ed By: AF ed By: AF RPI Limi	
Sulfate Duplicates (1) Dup QC Batch: 77317 Prep Batch: 66164 Param Total Dissolved Solids Laboratory Control S QC Batch: 77170	plicated Sample: 25 Dup R 7(Res <0 5931 Date Analyzed: QC Preparation: plicate Sample esult Result 0500 75700 Date Analyzed:	2011-02-01 2011-01-25 Units mg/L 2011-01-25	mg/L Dilution	Prepare RPD 7 Analyze	2 ed By: AF ed By: AF RPI Limi 10 ed By: AG	
Sulfate Duplicates (1) Dup QC Batch: 77317 Prep Batch: 66164 Param Total Dissolved Solids Laboratory Control Solids Solids	plicated Sample: 25 Dup R 7(Res <0 5931 Date Analyzed: QC Preparation: plicate Sample esult Result 0500 75700 Date Analyzed:	ult 126 2011-02-01 2011-01-25 Units mg/L	mg/L Dilution	Prepare RPD 7	2. ed By: AF ed By: AF RPI Limi 10 ed By: AG	
Sulfate Duplicates (1) Dup QC Batch: 77317 Prep Batch: 66164 Param Total Dissolved Solids Laboratory Control S QC Batch: 77170 Prep Batch: 66196	plicated Sample: 25 Duj Ra 7(Spike (LCS-1) L	Res <0. 5931 Date Analyzed: QC Preparation: plicate Sample esult Result 0500 75700 Date Analyzed: QC Preparation: CS	2011-02-01 2011-01-25 Units mg/L 2011-01-25 2011-01-25 2011-01-25 Spike	mg/L Dilution 100 Matrix	Prepare RPD 7 Analyze Prepare	2. ed By: AF ed By: AF RPI Limi 10 ed By: AG ed By: AG Rec.	
Sulfate Duplicates (1) Dup QC Batch: 77317 Prep Batch: 66164 Param	plicated Sample: 25 Dug R 70 Spike (LCS-1) L Re	Res <0 5931 Date Analyzed: QC Preparation: plicate Sample esult Result 0500 75700 Date Analyzed: QC Preparation: CS sult Units D	2011-02-01 2011-01-25 Units mg/L 2011-01-25 2011-01-25 2011-01-25 Spike il. Amount	mg/L Dilution 100 Matrix Result	Prepare RPD 7 Analyze Prepare Rec.	RPI Limi 10 ed By: AG ed By: AG Rec. Limit	
Sulfate Duplicates (1) Dup QC Batch: 77317 Prep Batch: 66164 Param Total Dissolved Solids Laboratory Control S QC Batch: 77170 Prep Batch: 66196	plicated Sample: 25 Dup R Spike (LCS-1) L <u>Re</u> 0.0	Res <0. 5931 Date Analyzed: QC Preparation: plicate Sample esult Result 0500 75700 Date Analyzed: QC Preparation: CS	2011-02-01 2011-01-25 Units mg/L 2011-01-25 2011-01-25 2011-01-25 Spike il. Amount 1 0.100	mg/L Dilution 100 Matrix	Prepare RPD 7 Analyze Prepare	2 ed By: AF ed By: AF RPI Lim 10 ed By: AG ed By: AG Rec.	

• •

1

د

`**.**

.

Report Date: February 7, 2011 115-6403134

Page Number: 15 of 21

control spikes continued

.

	LCS			Spike	Matrix		Rec.
Param	\mathbf{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.

	\mathbf{LCS}	LCSD			Spike	LCS	LCSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Triffuorotoluene (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:	77205		Date Analyzed:	2011-01-27	Analyzed By:	AG
Prep Batch:	66223	•	QC Preparation:	2011-01-27	Prepared By:	AG

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	\mathbf{Limit}
Benzene	0.0939	mg/L	1	0.100	< 0.000400	94	76.8 - 110.3
Toluene	0.102	mg/L	1	0.100	< 0.000300	102	81 - 108.2
Ethylbenzene	0.108	mg/L	1	0.100	< 0.000300	108	78.8 - 111
Xylene	0.326	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.

н. Т	LCSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Benzene	0.0896	mg/L	1	0.100	< 0.000400	90	76.8 - 110.3	5	20
Toluene	0.0970	mg/L	1	0.100	< 0.000300	97	81 - 108.2	5	20
Ethylbenzene	0.105	mg/L	1	0.100	< 0.000300	105	78.8 - 111	3	20
Xylene	0.317	mg/L	1	0.300	< 0.000333	106	80.3 - 111.4	3	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	\mathbf{Result}	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	0.115	0.108	mg/L	1	0.100	115	108	66.6 - 114.5
4-Bromofluorobenzene (4-BFB)	0.105	0.100	mg/L	1	0.100	105	100	77.1 - 114.4

Report Date: February 7, 2011 115-6403134	(Celero/1		ler: 110121 en Saltwate	135 er Plant #1		Page	Number:	16 of 2
Laboratory Control Spike (L	LCS-1)								
QC Batch: 77317 Prep Batch: 66164			nalyzed: eparation:	2011-02-0 2011-01-2				alyzed By epared By	-
	- ~	~			<i>a</i>				-
Daman	LC		TT.	Dil	Spike		trix		Rec.
Param Total Dissolved Solids	Resu 108		Units mg/L	 1	Amount 1000			.ec. 08	Limit 90 - 110
Percent recovery is based on the								00 1	90 - 11 (
recent recovery is based on the		101 10 15	Dased off	me spike a		pilcate i			
D	LCSD		—	Spike	Matrix	-	Rec.		RPD
Param	Result	Units		Amount	Result	Rec.	Limit	RPD	Limit
Total Dissolved Solids Percent recovery is based on the	1050	mg/L		1000	<9.75	105	90 - 110	3	10
QC Batch: 77415 Prep Batch: 66402			nalyzed: eparation:	2011-02-0 2011-02-0				alyzed By epared By	
	LCS				Spike	Mat	trix		Rec.
Param	Resu		Units	Dil.	Amount	Res		ec.	Limit
Chloride	23.0		mg/L	1	25.0	<0.0		94 9	90 - 110
Percent recovery is based on the	spike result.	RPD is	based on t	the spike at	nd spike du	plicate r	esult.		
	LCSD			Spike	Matrix	:	Rec.		RPD
						-	T I I I		
	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	
Chloride	23.7	mg/L	1	25.0	< 0.0142	95	90 - 110	RPD 0	Limit 20
Chloride Percent recovery is based on the Laboratory Control Spike (L QC Batch: 77415	23.7 spike result. 1 .CS-1)	mg/L RPD is Date A	1 based on t nalyzed:	25.0 the spike an 2011-02-0	<0.0142 nd spike du	95	90 - 110 esult. Ana	0 alyzed By	20 7: PG
Param Chloride Percent recovery is based on the Laboratory Control Spike (L QC Batch: 77415 Prep Batch: 66402	23.7 spike result. 1 .CS-1)	mg/L RPD is Date Ar QC Pre	1 based on t	25.0 the spike a	<0.0142 nd spike du	95	90 - 110 esult. Ana Pre	0	20 7: PG
Chloride Percent recovery is based on the Laboratory Control Spike (L QC Batch: 77415 Prep Batch: 66402 Param	23.7 spike result. I .CS-1) LC: Resu	mg/L RPD is Date Ai QC Pre S ılt	1 based on t nalyzed: sparation: Units	25.0 the spike an 2011-02-0	<0.0142 nd spike du)4)4 Spike Amount	95 plicate ro Mat Res	90 - 110 esult. Ana Pre trix sult Ra	0 alyzed By pared By ec.	r: PG : PG Rec. Limit
Chloride Percent recovery is based on the Laboratory Control Spike (L QC Batch: 77415 Prep Batch: 66402	23.7 spike result. I .CS-1)	mg/L RPD is Date Ai QC Pre S ılt	1 based on t nalyzed: sparation:	25.0 the spike at 2011-02-0 2011-02-0	<0.0142 nd spike du)4)4 Spike	95 plicate ro Mat	90 - 110 esult. Ana Pre trix sult Ra	0 alyzed By pared By ec.	20 PG PG Rec. Limit
Chloride Percent recovery is based on the Laboratory Control Spike (L QC Batch: 77415 Prep Batch: 66402 Param Sulfate	23.7 spike result. I .CS-1) LCS Resu 24. spike result. I	mg/L RPD is Date Ai QC Pre S ilt 1	1 based on t nalyzed: eparation: Units mg/L	25.0 the spike an 2011-02-0 2011-02-0 Dil. 1	<0.0142 nd spike du)4)4 Spike Amount 25.0	95 plicate r Mat Res <0.	90 - 110 esult. Ana Pre trix sult Ra 126 9	0 alyzed By pared By ec.	20 PG PG Rec. Limit
Chloride Percent recovery is based on the Laboratory Control Spike (L QC Batch: 77415 Prep Batch: 66402 Param Sulfate Percent recovery is based on the	23.7 spike result. I (CS-1) LCS Resu 24. spike result. I LCSD	mg/L RPD is Date Ai QC Pre S ilt 1 RPD is	1 based on t nalyzed: eparation: Units mg/L based on t	25.0 the spike an 2011-02-0 2011-02-0 Dil. 1 the spike an Spike	<0.0142 nd spike du)4)4)4)4 nd spike du Matrix	95 plicate re Mat Res <0. plicate re	90 - 110 esult. Ana Pre trix sult Ra 126 9 esult. Rec.	0 alyzed By pared By ec. 6 9	20 -: PG : PG Rec. Limit 20 - 110 RPD
Chloride Percent recovery is based on the Laboratory Control Spike (L QC Batch: 77415 Prep Batch: 66402 Param Sulfate	23.7 spike result. I .CS-1) LCS Resu 24. spike result. I	mg/L RPD is Date Ai QC Pre S ilt 1	1 based on t nalyzed: eparation: Units mg/L	25.0 the spike an 2011-02-0 2011-02-0 Dil. 1 the spike an	<0.0142 nd spike du)4)4 Amount 25.0 nd spike du	95 plicate r Mat Res <0.	90 - 110 esult. Ana Pre trix sult Ra 126 9 esult.	0 alyzed By pared By ec.	20 : PG : PG Rec. Limit 00 - 110

.

.

Report Date: February 7, 2011 Work Order: 11012135 Page Number: 17 of 21 Celero/Rock Queen Saltwater Plant #1 115-6403134 Laboratory Control Spike (LCS-1) QC Batch: Date Analyzed: Analyzed By: PG 77426 2011-02-06 Prep Batch: 66413 QC Preparation: Prepared By: PG2011-02-06 LCS Spike Matrix Rec. Param Result Units Dil. Result Limit Amount Rec. Sulfate 24.7mg/L 25.0< 0.12699 90 - 110 1 Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result. LCSD RPD Spike Matrix Rec. Param Result Units Dil. Amount Result Rec. Limit RPD Limit Sulfate 24.7mg/L 1 25.0< 0.12699 90 - 110 0 $\overline{20}$ 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: Date Analyzed: Analyzed By: AG 77170 2011-01-25 Prep Batch: 66196 QC Preparation: 2011-01-25 Prepared By: AG MS Spike Matrix Rec. Param Result Units Dil. Amount Result Rec. Limit Benzene 0.0827 mg/L 0.10068.2 - 119.3 1 < 0.000400 83 Toluene 0.0851 mg/L 1 0.100< 0.00030085 74.6 - 110.8 mg/L Ethylbenzene 0.078679 1 0.100< 0.000300 71.6 - 111.9 6 0.204 **Xylene** 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. MSD RPD Spike Matrix Rec. Param Result Units Dil Amount Result Rec. Limit RPD Limit Benzene mg/L 68.2 - 119.30.0777 1 0.100< 0.000400 78 6 $\overline{20}$ Toluene 0.0814 mg/L 1 0.100< 0.000300 81 74.6 - 110.8 4 207 Ethylbenzene 0.0750 mg/L 7571.6 - 111.9 201 0.100< 0.000300 $\mathbf{5}$ 8 **X**vlene 0.193mg/L 1 0.300< 0.000333 64 71.3 - 113.4 6 20Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result. MS MSD Spike MS MSD Rec. Surrogate Result Result Units Dil. Amount Rec. Rec. Limit Trifluorotoluene (TFT) 0.1 68.2 - 110.1 0.0829 0.0831 mg/L 1 83 83 4-Bromofluorobenzene (4-BFB) 0.08300.0816 mg/L 1 0.1 83 82 78.7 - 116.2 ⁶Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

Watth spike recovery out of control mints due to matrix interference. Ose LCS/LCSD to demonstrate analysis is under con

⁷MSD analyte out of range. MS/MSD has a RPD within limits. Therfore, MS shows extraction occured properly.

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

QC Batch: 77415 Prep Batch: 66402 Param Chloride Percent recovery is based on th Param Chloride Percent recovery is based on th Matrix Spike (MS-1) Spi QC Batch: 77415 Prep Batch: 66402 Param Sulfate Percent recovery is based on th Param	MSD Result 299000 he spike result. biked Sample: 2 M Res 2410	Date A QC Pr (S sult 000 RPD is <u>Units</u> mg/L RPD is 56097 Date A QC Pr (S sult 000	Dil. 10000 s based on Analyzed: reparation: Units mg/L	Dil. 10000 the spike an Spike Amount 250000 the spike an 2011-02-0	Spike Amount 250000 nd spike du Matrix Result 51900 nd spike du Matrix Spike Amount	Rec. 99 plicate r 99 plicate r Ma Re	Presult 1 900 result. Rec. Limit 90 - 110 result. An Presult.	nalyzed E repared B Rec.	By: H Re Lim 90 - R Li By: H By: H By: H Re Lim
Prep Batch: 66402 Param Chloride Percent recovery is based on th Param Chloride Percent recovery is based on th Matrix Spike (MS-1) Spi QC Batch: 77415 Prep Batch: 66402 Param Sulfate Percent recovery is based on th Param Sulfate Percent recovery is based on th Param Sulfate Percent recovery is based on th Param Sulfate Percent recovery is based on th Param Sulfate Percent recovery is based on th Param Sulfate Percent recovery is based on th Param Sulfate Percent recovery is based on th Param Sulfate Param Sulfate	Res 300 he spike result. MSD Result 299000 he spike result. biked Sample: 2 M Res 2410	QC Pr Sult 000 RPD is Units mg/L RPD is 56097 Date A QC Pr Sult 000	Units mg/L s based on Dil. 10000 s based on Analyzed: reparation: Units mg/L	2011-02-0 Dil. 10000 the spike an Spike Amount 250000 the spike an 2011-02-0 2011-02-0 Dil.	Spike Amount 250000 nd spike du Matrix Result 51900 nd spike du Matrix Spike Amount	Rec. 99 plicate r 99 plicate r Ma Re	Presult 1 900 result. Rec. Limit 90 - 110 result. An Presult.	Rec. 99 RPD 0 halyzed E repared B Rec.	By: F Red Lim 90 - RI Lin 2 By: F By: F Red Lim
Prep Batch: 66402 Param Chloride Percent recovery is based on th Param Chloride Percent recovery is based on th Matrix Spike (MS-1) Spi QC Batch: 77415 Prep Batch: 66402 Param Sulfate Percent recovery is based on th Param Sulfate Param	Res 300 he spike result. MSD Result 299000 he spike result. biked Sample: 2 M Res 2410	QC Pr Sult 000 RPD is Units mg/L RPD is 56097 Date A QC Pr Sult 000	Units mg/L s based on Dil. 10000 s based on Analyzed: reparation: Units mg/L	2011-02-0 Dil. 10000 the spike an Spike Amount 250000 the spike an 2011-02-0 2011-02-0 Dil.	Spike Amount 250000 nd spike du Matrix Result 51900 nd spike du Matrix Spike Amount	Rec. 99 plicate r 99 plicate r Ma Re	Presult 1 900 result. Rec. Limit 90 - 110 result. An Presult.	Rec. 99 RPD 0 halyzed E repared B Rec.	By: F Red Lim 90 - R. Lin By: F By: F Red Lim
Chloride Percent recovery is based on th Param Chloride Percent recovery is based on th Matrix Spike (MS-1) Spi QC Batch: 77415 Prep Batch: 66402 Param Sulfate Percent recovery is based on th	Res 300 he spike result. MSD Result 299000 he spike result. biked Sample: 2 M Res 2410	IS sult 000 RPD is Units mg/L RPD is 56097 Date A QC Pr IS sult 000	Units mg/L s based on Dil. 10000 s based on Analyzed: reparation: Units mg/L	Dil. 10000 the spike an Spike Amount 250000 the spike an 2011-02-0 2011-02-0 Dil.	Amount 250000 nd spike du Matrix Result 51900 nd spike du Matrix Spike du Matrix Result	Rec. 99 plicate r 99 plicate r Ma Re	esult 900 result. Rec. Limit 90 - 110 esult. An Pr	99 RPD 0 halyzed E repared B Rec.	Lim 90 - Ri Li 2 3y: F Sy: F Rec Lim
Chloride Percent recovery is based on th Param Chloride Percent recovery is based on th Matrix Spike (MS-1) Spi QC Batch: 77415 Prep Batch: 66402 Param Sulfate Percent recovery is based on th	Res 300 he spike result. MSD Result 299000 he spike result. biked Sample: 2 M Res 2410	sult 000 RPD is Units mg/L RPD is 56097 Date A QC Pr Sult 000	mg/L s based on Dil. 10000 s based on Analyzed: reparation: Units mg/L	10000 the spike an Spike Amount 250000 the spike an 2011-02-0 2011-02-0 Dil.	Amount 250000 nd spike du Matrix Result 51900 nd spike du Matrix Spike du Matrix Result	Rec. 99 plicate r 99 plicate r Ma Re	esult 900 result. Rec. Limit 90 - 110 esult. An Pr	99 RPD 0 halyzed E repared B Rec.	Lim 90 - R. Li 3y: H Sy: H Sy: H Re- Lim
Chloride Percent recovery is based on th Param Chloride Percent recovery is based on th Matrix Spike (MS-1) Spi QC Batch: 77415 Prep Batch: 66402 Param Sulfate Percent recovery is based on th	Res 300 he spike result. MSD Result 299000 he spike result. biked Sample: 2 M Res 2410	sult 000 RPD is Units mg/L RPD is 56097 Date A QC Pr Sult 000	mg/L s based on Dil. 10000 s based on Analyzed: reparation: Units mg/L	10000 the spike an Spike Amount 250000 the spike an 2011-02-0 2011-02-0 Dil.	Amount 250000 nd spike du Matrix Result 51900 nd spike du Matrix Spike du Matrix Result	Rec. 99 plicate r 99 plicate r Ma Re	esult 900 result. Rec. Limit 90 - 110 esult. An Pr	99 RPD 0 halyzed E repared B Rec.	Lim 90 - R. Li 3y: H Sy: H Sy: H Re- Lim
Percent recovery is based on th Param Chloride Percent recovery is based on th Matrix Spike (MS-1) Spi QC Batch: 77415 Prep Batch: 66402 Param Sulfate Percent recovery is based on th Param Sulfate	he spike result. MSD Result 299000 he spike result. siked Sample: 2 M Res 2410	Units Units mg/L RPD is 56097 Date A QC Pr IS sult 000	Dil. Dil. 10000 s based on Analyzed: reparation: Units mg/L	the spike an Spike Amount 250000 the spike an 2011-02-0 2011-02-0 Dil.	nd spike duy Matrix Result 51900 nd spike duy 44 44 Spike Amount	Plicate r Rec. 99 plicate r Ma Re	result. Rec. Limit 90 - 110 result. An Pu	RPD 0 nalyzed E repared B Rec.	R Li By: H By: H Re Lim
Param Chloride Percent recovery is based on the Matrix Spike (MS-1) Spite QC Batch: 77415 Prep Batch: 66402 Param Sulfate Percent recovery is based on the Param Sulfate Sulfate	MSD Result 299000 he spike result. biked Sample: 2 M Res 2410	Units mg/L RPD is 56097 Date A QC Pr Sult	Dil. 10000 s based on Analyzed: reparation: Units mg/L	Spike Amount 250000 the spike au 2011-02-0 2011-02-0 Dil.	Matrix Result 51900 nd spike du 4 4 Spike Amount	Rec. 99 plicate r Ma Re	Rec. Limit 90 - 110 esult. An Pu	0 nalyzed E repared B Rec.	Li By: 1 By: 1 Re Lin
Chloride Percent recovery is based on th Matrix Spike (MS-1) Spi QC Batch: 77415 Prep Batch: 66402 Param Sulfate Percent recovery is based on th Param Sulfate	Result 299000 he spike result. iked Sample: 2 iked Sample: 2 2410	mg/L RPD is 56097 Date A QC Pr Sult	10000 s based on Analyzed: reparation: Units mg/L	Amount 250000 the spike as 2011-02-0 2011-02-0 Dil.	Result 51900 nd spike du 4 4 Spike Amount	99 plicate r Ma Re	Limit 90 - 110 esult. An Pi atrix	0 nalyzed E repared B Rec.	Li By: H By: F Re Lim
Chloride Percent recovery is based on th Matrix Spike (MS-1) Spi QC Batch: 77415 Prep Batch: 66402 Param Sulfate Percent recovery is based on th Param Sulfate	Result 299000 he spike result. iked Sample: 2 iked Sample: 2 2410	mg/L RPD is 56097 Date A QC Pr Sult	10000 s based on Analyzed: reparation: Units mg/L	Amount 250000 the spike as 2011-02-0 2011-02-0 Dil.	Result 51900 nd spike du 4 4 Spike Amount	99 plicate r Ma Re	Limit 90 - 110 esult. An Pi atrix	0 nalyzed E repared B Rec.	Li By: H By: H Re Lim
Percent recovery is based on the Matrix Spike (MS-1) Spin QC Batch: 77415 Prep Batch: 66402 Param Sulfate Percent recovery is based on the Param Sulfate	he spike result. biked Sample: 2 M Res 2410	RPD is 56097 Date A QC Pr Sult	a based on Analyzed: eparation: Units mg/L	250000 the spike as 2011-02-0 2011-02-0 Dil.	51900 nd spike du 14 14 Spike Amount	99 plicate r Ma Re	esult. Aı Pı atrix	0 nalyzed E repared B Rec.	By: H By: H Re Lim
Matrix Spike (MS-1) Spike QC Batch: 77415 Prep Batch: 66402 Param Sulfate Percent recovery is based on the state Param Sulfate Sulfate	iked Sample: 2 M Res 2410	RPD is 56097 Date A QC Pr Sult	a based on Analyzed: eparation: Units mg/L	2011-02-0 2011-02-0 Dil.	94 94 Spike Amount	Ma Re	Aı Pı atrix	epared B	ly: I Re Lim
QC Batch: 77415 Prep Batch: 66402 Param Sulfate Percent recovery is based on the Param Sulfate	M Res 2410	Date A QC Pr IS sult	Units mg/L	2011-02-0 Dil.	4 Spike Amount	Re	Pı atrix	epared B	ly: 1 Re Lin
QC Batch: 77415 Prep Batch: 66402 Param Sulfate Percent recovery is based on th Param Sulfate	M Res 2410	Date A QC Pr IS sult	Units mg/L	2011-02-0 Dil.	4 Spike Amount	Re	Pı atrix	epared B	ly: I Re Lim
Prep Batch: 66402 Param Sulfate Percent recovery is based on th Param Sulfate	Res 2410	QC Pr	Units mg/L	2011-02-0 Dil.	4 Spike Amount	Re	Pı atrix	epared B	ly: F Re Lim
Prep Batch: 66402 Param Sulfate Percent recovery is based on th Param Sulfate	Res 2410	QC Pr	Units mg/L	2011-02-0 Dil.	4 Spike Amount	Re	Pı atrix	epared B	ly: I Re Lim
Param Sulfate Percent recovery is based on th Param Sulfate	Res 2410	IS sult	Units mg/L	Dil.	Spike Amount	Re	atrix	Rec.	Re Lin
Sulfate Percent recovery is based on th Param Sulfate	Res 2410	sult 000	mg/L		Amount	Re			Lin
Sulfate Percent recovery is based on th Param Sulfate	Res 2410	sult 000	mg/L		Amount	Re			Lim
Sulfate Percent recovery is based on th Param Sulfate	2410	000	mg/L						
Param Sulfate	he spike result.			10000	250000	19	900	96	90 -
Sulfate		RFD IS	based on	the spike ar	nd spike du	plicate r	esult.		
Sulfate	MSD			Spike	Matrix		Rec.		R
	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Li
	240000	mg/L		250000	1900	. 95	90 - 110	0	2
Percent recovery is based on the Matrix Spike (MS-1) Spi QC Batch: 77426 Prep Batch: 66413	iked Sample: 2	55931 Date A	nalyzed: eparation:	2011-02-0 2011-02-0	6	oncate r	Aı	alyzed B epared B	-
	М	IS			Spike	Mat	trix		Re
Param	Res		Units	Dil.	Amount	Res		lec.	Lim
Sulfate	17	·····	mg/L	50	1250	47		.04	90 - 1
Percent recovery is based on th	he spike result.	RPD is	based on	the spike ar	nd spike duj	plicate r	esult.		
	MSD			Spike	Matrix		Rec.		R
Param	Result	Units		Amount	Result	Rec.	Limit	RPD	Li
Sulfate	1790	mg/L	50	1250	478	105	90 - 110	1	2

115-6403134	bruary 7, 201	1		k Order: 1101 Queen Saltwa		Page N	umber: 19 of 5
Standard (CCV	V-1)						
QC Batch: 7717	70		Date Analy	zed: 2011-01-	25	Anal	yzed By: AC
			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		mg/L	0.100	0.0857	86	80 - 120	2011-01-2
Toluene .		$\mathrm{mg/L}$	0.100	0.100	100	80 - 120	2011-01-2
Ethylbenzene		mg/L	0.100	0.104	104	80 - 120	2011-01-2
Xylene		mg/L	0.300	0.314	105	80 - 120	2011-01-2
Standard (CCV	V-2)						
QC Batch: 7717	70		Date Analy	zed: 2011-01-2	25	Anal	yzed By: AC
			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyze
Benzene		mg/L	0.100	0.0873	87	80 - 120	2011-01-2
Toluene		mg/L	0.100	0.101	101	80 - 120	2011-01-2
Ethylbenzene		mg/L	0.100	0.105	105	80 - 120	2011-01-2
						00 100	
		mg/L	0.300	0.315	105	80 - 120	2011-01-2
Xylene Standard (CCV QC Batch: 7717 Param Benzene Toluene Ethylhongono	70 Flag	Units mg/L mg/L	Date Analys CCVs True Conc. 0.100 0.100	zed: 2011-01-3 CCVs Found Conc. 0.0844 0.0988	25 CCVs Percent Recovery 84 99	Anal Percent Recovery Limits 80 - 120 80 - 120	2011-01-2 yzed By: AG Date Analyzed 2011-01-2 2011-01-2
Standard (CCV QC Batch: 7717 Param Benzene Toluene Ethylbenzene	70	Units mg/L mg/L mg/L	Date Analy CCVs True Conc. 0.100 0.100 0.100	zed: 2011-01-3 CCVs Found Conc. 0.0844 0.0988 0.103	25 CCVs Percent Recovery 84 99 103	Anal Percent Recovery Limits 80 - 120 80 - 120 80 - 120 80 - 120	yzed By: AG Date Analyzec 2011-01-2 2011-01-2 2011-01-2
Standard (CCV QC Batch: 7717 Param Benzene Toluene Ethylbenzene Xylene Standard (CCV	70 Flag V-1)	Units mg/L mg/L	Date Analy: CCVs True Conc. 0.100 0.100 0.100 0.300	zed: 2011-01-3 CCVs Found Conc. 0.0844 0.0988 0.103 0.310	25 CCVs Percent Recovery 84 99 103 103	Anal Percent Recovery Limits 80 - 120 80 - 120 80 - 120 80 - 120 80 - 120	yzed By: AG Date Analyzec 2011-01-2 2011-01-2 2011-01-2 2011-01-2
Standard (CCV QC Batch: 7717 Param Benzene Toluene Ethylbenzene Xylene	70 Flag V-1)	Units mg/L mg/L mg/L	Date Analys CCVs True Conc. 0.100 0.100 0.100 0.300 Date Analys	zed: 2011-01-3 CCVs Found Conc. 0.0844 0.0988 0.103 0.310 zed: 2011-01-3	25 CCVs Percent Recovery 84 99 103 103 103	Anal Percent Recovery Limits 80 - 120 80 - 120 80 - 120 80 - 120 80 - 120	yzed By: AG Date Analyzec 2011-01-2 2011-01-2 2011-01-2 2011-01-2
Standard (CCV QC Batch: 7717 Param Benzene Toluene Ethylbenzene Xylene Standard (CCV	70 Flag V-1)	Units mg/L mg/L mg/L	Date Analys CCVs True Conc. 0.100 0.100 0.100 0.300 Date Analys CCVs	zed: 2011-01-3 CCVs Found Conc. 0.0844 0.0988 0.103 0.310 zed: 2011-01-3 CCVs	25 CCVs Percent Recovery 84 99 103 103 103	Anal Percent Recovery Limits 80 - 120 80 - 120 80 - 120 80 - 120 Analy Percent	yzed By: AG Date Analyzec 2011-01-2 2011-01-2 2011-01-2 2011-01-2 2011-01-2
Standard (CCV QC Batch: 7717 Param Benzene Toluene Ethylbenzene Xylene Standard (CCV QC Batch: 7720	70 Flag V-1) 05	mg/L mg/L mg/L mg/L	Date Analys CCVs True Conc. 0.100 0.100 0.100 0.300 Date Analys CCVs True	zed: 2011-01-3 CCVs Found Conc. 0.0844 0.0988 0.103 0.310 zed: 2011-01-3 CCVs Found	25 CCVs Percent Recovery 84 99 103 103 103 27 27 CCVs Percent	Anal Percent Recovery Limits 80 - 120 80 - 120 80 - 120 80 - 120 Analy Percent Recovery	yzed By: AG Date Analyzed 2011-01-2 2011-01-2 2011-01-2 2011-01-2 yzed By: AG Date
Standard (CCV QC Batch: 7717 Param Benzene Toluene Ethylbenzene Xylene Standard (CCV QC Batch: 7720 Param	70 Flag V-1)	Units mg/L mg/L mg/L mg/L	Date Analys CCVs True Conc. 0.100 0.100 0.100 0.300 Date Analys CCVs True Conc.	zed: 2011-01-3 CCVs Found Conc. 0.0844 0.0988 0.103 0.310 zed: 2011-01-3 CCVs Found Conc.	25 CCVs Percent Recovery 84 99 103 103 103 27 27 CCVs Percent Recovery	Anal Percent Recovery Limits 80 - 120 80 - 120 80 - 120 80 - 120 80 - 120 Analy Percent Recovery Limits	yzed By: AG Date Analyzed 2011-01-2 2011-01-2 2011-01-2 2011-01-2 yzed By: AG Date Analyzed
Standard (CCV QC Batch: 7717 Param Benzene Toluene Ethylbenzene Xylene Standard (CCV QC Batch: 7720 Param Benzene	70 Flag V-1) 05	Units mg/L mg/L mg/L mg/L	Date Analys CCVs True Conc. 0.100 0.100 0.100 0.300 Date Analys CCVs True Conc. 0.100	zed: 2011-01- CCVs Found Conc. 0.0844 0.0988 0.103 0.310 zed: 2011-01- CCVs Found Conc. 0.0921	25 CCVs Percent Recovery 84 99 103 103 103 27 27 CCVs Percent Recovery 92	Anal Percent Recovery Limits 80 - 120 80 - 120 80 - 120 80 - 120 Analy Percent Recovery Limits 80 - 120	yzed By: AG Date Analyzed 2011-01-2 2011-01-2 2011-01-2 2011-01-2 yzed By: AG Date Analyzed 2011-01-2
Standard (CCV QC Batch: 7717 Param Benzene Toluene Ethylbenzene Xylene Standard (CCV QC Batch: 7720 Param	70 Flag V-1) 05	Units mg/L mg/L mg/L mg/L	Date Analys CCVs True Conc. 0.100 0.100 0.100 0.300 Date Analys CCVs True Conc.	zed: 2011-01-3 CCVs Found Conc. 0.0844 0.0988 0.103 0.310 zed: 2011-01-3 CCVs Found Conc.	25 CCVs Percent Recovery 84 99 103 103 103 27 27 CCVs Percent Recovery	Anal Percent Recovery Limits 80 - 120 80 - 120 80 - 120 80 - 120 80 - 120 Analy Percent Recovery Limits	yzed By: AG Date Analyzed 2011-01-2 2011-01-2 2011-01-2 2011-01-2 yzed By: AG Date Analyzed

1

,

.

,

Report Date 115-6403134	e: February 7, 2	2011		ork Order: 110 ck Queen Saltw		Page N	umber: 20 of 21
standard con	tinued						
			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Xylene		mg/L	0.300	0.326	109	80 - 120	2011-01-27
	·	0					
Standard (CCV-2)					•	
QC Batch:	77205		Date Anal	lyzed: 2011-01	-27	Anal	yzed By: AG
			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene	1 100	mg/L	0.100	0.0887	89	80 - 120	2011-01-27
Toluene		mg/L	0.100	0.0969	97	80 - 120	2011-01-27
Ethylbenzen	e	mg/L	0.100	0.101	101	80 - 120	2011-01-27
Xylene	~	mg/L	0.300	0.304	101	80 - 120	2011-01-27
				0.001		00 120	2011 01 21
Standard (CCV-1)						
QC Batch:	77415		Date Anal	yzed: 2011-02	-04	Anal	yzed By: PG
•			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		mg/L	25.0	24.0	96	90 - 110	2011-02-04
						······································	
Standard (CCV-1)						
QC Batch:	77415		Date Anal	yzed: 2011-02	-04	Anal	yzed By: PG
			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units .	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		mg/L	25.0	24.5	98	90 - 110	2011-02-04
Standard (CCV-2)						
QC Batch:	77415		Date Anal	yzed: 2011-02-	-04	Anal	yzed By: PG
			CCVs	$\rm CCVs$	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride	8	mg/L	25.0	23.5	94	90 - 110	2011-02-04
Unionac		mg/ L		20.0	34	90 - 110	2011-02-

¢

ł

|

Report Da 115-640313	te: February 4	7, 2011		Work Order: 11 ock Queen Salt	012135 water Plant #1	Page N	umber: 21 of 21
Standard	(CCV-2)						
QC Batch:	77415		Date An	alyzed: 2011-()2-04	Ana	lyzed By: PG
Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		mg/L	25.0	24.0	96	90 - 110	2011-02-04
Standard QC Batch:	(CCV-1) 77426		Date An	alyzed: 2011-()2-06	Ana	lyzed By: PG
Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		mg/L	25.0	25.2	101	90 - 110	2011-02-06
Standard	(CCV-2)						
QC Batch:	77426		Date An	alyzed: 2011-()2-06	Anal	yzed By: PG
Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate	0	mg/L	25.0	24.7	99	90 - 110	2011-02-06

(,

	arys	515 F	re ſ		Jest of Chain of Cu	stody		e	CC	Dr	d				<u>.</u>		(Ci		ALY	PAG SIS pecil	REQ				OF:	<u></u>	
			L		E TETRA TECH 1910 N. Big Spring St. Midland, Texas 79705 (432) 662-4559 • Fax (432) 682-3946										RCRA Metais Ag As Ba Cd Cr Ph Hg Se	VF Pd Hg So									6		
CLIENT NAM	Celero				SITE MANAGER:		ŝ			SER	VATIN	. •	TX1005		Ba Cd	Ba Cd			8260/624	C20/0			Ę		й ун		
PROJECT NO			PR	OJEC (`,	TRAME: 1450 JZeck Cluter SWD HI		CONTAINERS								A9 A6	89 89 8	dattles		240/826	AGI. 86				F (\$	Cations		
LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	Clover Co NOM		NUMBER OF	HCI CHENELU (1/10)	HNO3	Ŋ	NONE		TEH ROLE MOD	2AH 8270	KCRA Metals	TCLP Metals	TCLP Semi Volatiles	ū	GC:MS Vol: 8240/8260/624	PCB's 8080/608	ost. 808/608	hordes	amma Spoc	PLM (Asbastos)	Major Anione/Cations, pH(TDS	20-11	
25925	Vin	1758	L	_ ×	MW-1		41	4	(X	X		X							2 B	0.	1	0	t D	X	$\frac{1}{x}$	
926		1750			MASS Z		(1		17	7			1			T					7				I^{\dagger}	1
927		1730			nv-3					ĨŢ				1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	- 2					4				\uparrow			
928	1	1810			Murel		V						Ň	4 4 4 4 4		-			- - 1				+		Ŵ		H
929	<u> </u>	1805			MNT		1	17		1			1		- 									:	/	$\frac{1}{1}$	
920		1743			mu-6					ľ	1															#	$\left \cdot \right $
931	4	1735	1	4	MW-7			Į	7	Ł	4		7									4		$\mathbf{+}$	4	Į –	
		90) 									-												+		V	<u>"</u>	H
							1																+			╉	H
0071 44444 4464 446			in the second seco				Ť										ау 1.1		+							-	
RELINQUISHED	_	1 Ann	1	<u>)</u>	Cartos 1/11/11 PECEVED BY: (Signaturo) Times: 121-2 Dato: 1/01/01/11 (FECEVED BY: (Signaturo)				Dato: Timo:			<i>4</i> /1				D BY:		 	ى				· · ·	Dato:	17	h	
REALIZOUTS AND B		-filing			Time: / (2, 6* / RECEIVED BY; (Signature)		-		Date: Time: Date:					F	DEX.	SHIPF	11	E	í ÚŠ 🗌				AIR	IBILL (n		ینڈی ہے۔ بصر سے
ECEIVING LABO DORESS	d -	STATE		X PHON	Time: RECEIVED BY (Signature) RECEIVED BY (Signature) Received of the second	14		<u>s</u>	Timo:	= q +	514	9] .ff;		JEI	RA TI	енс (4	ONTA	CT P	ERSO	N.				Ras RUS Auti	· · ·	srges t;	<u></u>
SAMPLE CONDITI	iN	lac	-		AEMARKS AMidloud - BTEX Laboratory retains Yellow copy - Return Orginal	TIN		1	J	ß	1			0	N i					C		<u></u>		an an	Yos		No.
