

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

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Report Date: June 25, 2015

Work Order: 15061212



Project Location: Loving, NM
Project Name: Key Energy Bke
Project Number: BKE

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

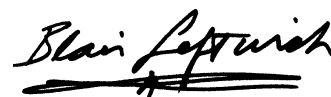
Sample	Description	Matrix	Date Taken	Time Taken	Date Received
395529	Water Vile	water	2015-06-06	13:45	2015-06-11
395530	FBS 0-1'	soil	2015-06-06	11:00	2015-06-11
395531	FBS 2-3'	soil	2015-06-06	11:10	2015-06-11
395532	FBS 5-6'	soil	2015-06-06	11:20	2015-06-11
395533	FBS 8-10'	soil	2015-06-06	11:30	2015-06-11
395534	Mid 0-1'	soil	2015-06-06	12:00	2015-06-11
395535	Mid 2-3'	soil	2015-06-06	12:10	2015-06-11
395536	Mid 5-6'	soil	2015-06-06	12:20	2015-06-11
395537	S Point Composite	soil	2015-06-06	15:00	2015-06-11

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

TraceAnalysis, Inc. uses the attached chain of custody (COC) as the laboratory check-in documentation which includes sample receipt, temperature, sample preservation method and condition, collection date and time, testing requested, company, sampler, contacts and any special remarks.

This report consists of a total of 56 pages and shall not be reproduced except in its entirety, without written approval of

TraceAnalysis, Inc.

A handwritten signature in black ink, reading "Blair Leftwich". The signature is written in a cursive style with a prominent horizontal line underneath the name.

Dr. Blair Leftwich, Director
James Taylor, Assistant Director
Brian Pellam, Operations Manager

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Case Narrative

Samples for project Key Energy Bke were received by TraceAnalysis, Inc. on 2015-06-11 and assigned to work order 15061212. Samples for work order 15061212 were received intact at a temperature of 0.5 C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
Alkalinity	SM 2320B	103554	2015-06-17 at 16:44	122409	2015-06-17 at 16:45
BTEX	S 8021B	103497	2015-06-15 at 12:11	122331	2015-06-16 at 07:06
BTEX	S 8021B	103593	2015-06-18 at 14:25	122453	2015-06-18 at 14:25
Ca, Dissolved	S 6010C	103637	2015-06-22 at 12:54	122541	2015-06-23 at 08:30
Chloride (IC)	E 300.0	103678	2015-06-22 at 10:00	122564	2015-06-22 at 18:11
Chloride (IC)	E 300.0	103678	2015-06-22 at 10:00	122604	2015-06-23 at 16:39
Chloride (IC)	E 300.0	103679	2015-06-22 at 17:00	122567	2015-06-22 at 18:11
Conductivity	SM 2510B	103640	2015-06-22 at 13:00	122521	2015-06-22 at 13:30
Fluoride (IC)	E 300.0	103679	2015-06-22 at 17:00	122567	2015-06-22 at 18:11
K, Dissolved	S 6010C	103637	2015-06-22 at 12:54	122541	2015-06-23 at 08:30
Mg, Dissolved	S 6010C	103637	2015-06-22 at 12:54	122541	2015-06-23 at 08:30
Na, Dissolved	S 6010C	103637	2015-06-22 at 12:54	122541	2015-06-23 at 08:30
NO3 (IC)	E 300.0	103679	2015-06-22 at 17:00	122567	2015-06-22 at 18:11
pH	SM 4500-H+	103452	2015-06-12 at 18:54	122275	2015-06-12 at 18:54
SO4 (IC)	E 300.0	103679	2015-06-22 at 17:00	122567	2015-06-22 at 18:11
TDS	SM 2540C	103527	2015-06-16 at 17:48	122368	2015-06-16 at 17:49
TPH DRO - NEW	S 8015 D	103457	2015-06-14 at 14:00	122288	2015-06-15 at 09:13
TPH DRO - NEW	S 8015 D	103458	2015-06-14 at 14:00	122291	2015-06-15 at 09:16
TPH GRO	S 8015 D	103497	2015-06-15 at 12:11	122332	2015-06-15 at 12:11

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 15061212 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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

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Analytical Report

Sample: 395529 - Water Vile

Laboratory: Lubbock
Analysis: Alkalinity
QC Batch: 122409
Prep Batch: 103554

Analytical Method: SM 2320B
Date Analyzed: 2015-06-17
Sample Preparation:

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Hydroxide Alkalinity	U	1,2,3,4,5	<20.0	mg/L as CaCo3	1	20.0
Carbonate Alkalinity	U	1,2,3,4,5	<20.0	mg/L as CaCo3	1	20.0
Bicarbonate Alkalinity		1,2,3,4,5	1250	mg/L as CaCo3	2	20.0
Total Alkalinity		1,2,3,4,5	1250	mg/L as CaCo3	2	20.0

Sample: 395529 - Water Vile

Laboratory: Lubbock
Analysis: BTEX
QC Batch: 122453
Prep Batch: 103593

Analytical Method: S 8021B
Date Analyzed: 2015-06-18
Sample Preparation: 2015-06-18

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene		1,2,3,4,5	0.0666	mg/L	10	0.00100
Toluene		1,2,3,4,5	0.210	mg/L	10	0.00100
Ethylbenzene		1,2,3,4,5	0.0819	mg/L	10	0.00100
Xylene		1,2,3,4,5	0.450	mg/L	10	0.00100

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		5	0.991	mg/L	10	1.00	99	74.6 - 120
4-Bromofluorobenzene (4-BFB)		5	0.991	mg/L	10	1.00	99	72.9 - 120

Sample: 395529 - Water Vile

Laboratory: Lubbock
Analysis: Ca, Dissolved
QC Batch: 122541
Prep Batch: 103637

Analytical Method: S 6010C
Date Analyzed: 2015-06-23
Sample Preparation: 2015-06-22

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

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Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Dissolved Calcium		2,3,4,5	4790	mg/L	10	1.00

Sample: 395529 - Water Vile

Laboratory: Lubbock
Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/A
QC Batch: 122567 Date Analyzed: 2015-06-22 Analyzed By: RL
Prep Batch: 103679 Sample Preparation: Prepared By: RL

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		1,2,3,4,5	43400	mg/L	5000	2.50

Sample: 395529 - Water Vile

Laboratory: Lubbock
Analysis: Conductivity Analytical Method: SM 2510B Prep Method: N/A
QC Batch: 122521 Date Analyzed: 2015-06-22 Analyzed By: RL
Prep Batch: 103640 Sample Preparation: Prepared By: RL

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Specific Conductance		1,2,3,4,5	115000	uMHOS/cm	2	0.00

Sample: 395529 - Water Vile

Laboratory: Lubbock
Analysis: Fluoride (IC) Analytical Method: E 300.0 Prep Method: N/A
QC Batch: 122567 Date Analyzed: 2015-06-22 Analyzed By: RL
Prep Batch: 103679 Sample Preparation: Prepared By: RL

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Fluoride	I U	1,2,3,4,5	<25.0	mg/L	50	0.500

Sample: 395529 - Water Vile

Laboratory: Lubbock
Analysis: K, Dissolved Analytical Method: S 6010C Prep Method: S 3005A
QC Batch: 122541 Date Analyzed: 2015-06-23 Analyzed By: RR
Prep Batch: 103637 Sample Preparation: 2015-06-22 Prepared By: RR

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Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Dissolved Potassium		2,3,4,5	420	mg/L	10	1.00

Sample: 395529 - Water Vile

Laboratory: Lubbock
Analysis: Mg, Dissolved
QC Batch: 122541
Prep Batch: 103637

Analytical Method: S 6010C
Date Analyzed: 2015-06-23
Sample Preparation: 2015-06-22

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Dissolved Magnesium		2,3,4,5	1020	mg/L	10	1.00

Sample: 395529 - Water Vile

Laboratory: Lubbock
Analysis: Na, Dissolved
QC Batch: 122541
Prep Batch: 103637

Analytical Method: S 6010C
Date Analyzed: 2015-06-23
Sample Preparation: 2015-06-22

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Dissolved Sodium		2,3,4,5	16700	mg/L	10	1.00

Sample: 395529 - Water Vile

Laboratory: Lubbock
Analysis: NO3 (IC)
QC Batch: 122567
Prep Batch: 103679

Analytical Method: E 300.0
Date Analyzed: 2015-06-22
Sample Preparation:

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

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Nitrate-N	²	H,U	<2.00	mg/L	50	0.0400

Sample: 395529 - Water Vile

Laboratory: Lubbock
Analysis: pH
QC Batch: 122275
Prep Batch: 103452

Analytical Method: SM 4500-H+
Date Analyzed: 2015-06-12
Sample Preparation:

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

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Parameter	Flag	Cert	RL Result	Units	Dilution	RL
pH		1,2,4,5	6.89	s.u.	1	2.00

Sample: 395529 - Water Vile

Laboratory: Lubbock
Analysis: SO4 (IC) Analytical Method: E 300.0 Prep Method: N/A
QC Batch: 122567 Date Analyzed: 2015-06-22 Analyzed By: RL
Prep Batch: 103679 Sample Preparation: Prepared By: RL

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Sulfate		1,2,3,4,5	1620	mg/L	50	2.50

Sample: 395529 - Water Vile

Laboratory: Lubbock
Analysis: TDS Analytical Method: SM 2540C Prep Method: N/A
QC Batch: 122368 Date Analyzed: 2015-06-16 Analyzed By: HJ
Prep Batch: 103527 Sample Preparation: Prepared By: HJ

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Dissolved Solids		1,2,3,4,5	94000	mg/L	2000	2.50

Sample: 395530 - FBS 0-1'

Laboratory: Lubbock
Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035
QC Batch: 122331 Date Analyzed: 2015-06-16 Analyzed By: JS
Prep Batch: 103497 Sample Preparation: 2015-06-15 Prepared By: JS

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	U	1,2,3,4,5	<0.0200	mg/Kg	1	0.0200
Toluene	U	1,2,3,4,5	<0.0200	mg/Kg	1	0.0200
Ethylbenzene	U	1,2,3,4,5	<0.0200	mg/Kg	1	0.0200
Xylene		1,2,3,4,5	<0.0200	mg/Kg	1	0.0200

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Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		5	1.84	mg/Kg	1	2.00	92	65.6 - 125
4-Bromofluorobenzene (4-BFB)		5	2.13	mg/Kg	1	2.00	106	67.9 - 120

Sample: 395530 - FBS 0-1'

Laboratory: Lubbock
Analysis: Chloride (IC)
QC Batch: 122564
Prep Batch: 103678

Analytical Method: E 300.0
Date Analyzed: 2015-06-22
Sample Preparation:

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	B	3,4,5	1590	mg/Kg	50	25.0

Sample: 395530 - FBS 0-1'

Laboratory: Lubbock
Analysis: TPH DRO - NEW
QC Batch: 122288
Prep Batch: 103457

Analytical Method: S 8015 D
Date Analyzed: 2015-06-15
Sample Preparation: 2015-06-14

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	Jb	1,2,3,4	<50.0	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		3	27.7	mg/Kg	1	25.0	111	48.9 - 172

Sample: 395530 - FBS 0-1'

Laboratory: Lubbock
Analysis: TPH GRO
QC Batch: 122332
Prep Batch: 103497

Analytical Method: S 8015 D
Date Analyzed: 2015-06-15
Sample Preparation: 2015-06-15

Prep Method: S 5035
Analyzed By: JS
Prepared By: JS

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	U	1,2,3,4	<4.00	mg/Kg	1	4.00

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Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		3	2.11	mg/Kg	1	2.00	105	76.5 - 130
4-Bromofluorobenzene (4-BFB)		3	2.21	mg/Kg	1	2.00	111	68.4 - 120

Sample: 395531 - FBS 2-3'

Laboratory: Lubbock
Analysis: BTEX
QC Batch: 122331
Prep Batch: 103497

Analytical Method: S 8021B
Date Analyzed: 2015-06-16
Sample Preparation: 2015-06-15

Prep Method: S 5035
Analyzed By: JS
Prepared By: JS

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	U	1,2,3,4,5	<0.0200	mg/Kg	1	0.0200
Toluene	U	1,2,3,4,5	<0.0200	mg/Kg	1	0.0200
Ethylbenzene	U	1,2,3,4,5	<0.0200	mg/Kg	1	0.0200
Xylene	U	1,2,3,4,5	<0.0200	mg/Kg	1	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		5	1.88	mg/Kg	1	2.00	94	65.6 - 125
4-Bromofluorobenzene (4-BFB)		5	2.11	mg/Kg	1	2.00	106	67.9 - 120

Sample: 395531 - FBS 2-3'

Laboratory: Lubbock
Analysis: Chloride (IC)
QC Batch: 122564
Prep Batch: 103678

Analytical Method: E 300.0
Date Analyzed: 2015-06-22
Sample Preparation:

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	B	3,4,5	1590	mg/Kg	50	25.0

Sample: 395531 - FBS 2-3'

Laboratory: Lubbock
Analysis: TPH DRO - NEW
QC Batch: 122288
Prep Batch: 103457

Analytical Method: S 8015 D
Date Analyzed: 2015-06-15
Sample Preparation: 2015-06-14

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

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Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	Jb	1,2,3,4	<50.0	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		3	26.2	mg/Kg	1	25.0	105	48.9 - 172

Sample: 395531 - FBS 2-3'

Laboratory: Lubbock
Analysis: TPH GRO
QC Batch: 122332
Prep Batch: 103497

Analytical Method: S 8015 D
Date Analyzed: 2015-06-15
Sample Preparation: 2015-06-15

Prep Method: S 5035
Analyzed By: JS
Prepared By: JS

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	U	1,2,3,4	<4.00	mg/Kg	1	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		3	2.16	mg/Kg	1	2.00	108	76.5 - 130
4-Bromofluorobenzene (4-BFB)		3	2.19	mg/Kg	1	2.00	110	68.4 - 120

Sample: 395532 - FBS 5-6'

Laboratory: Lubbock
Analysis: BTEX
QC Batch: 122331
Prep Batch: 103497

Analytical Method: S 8021B
Date Analyzed: 2015-06-16
Sample Preparation: 2015-06-15

Prep Method: S 5035
Analyzed By: JS
Prepared By: JS

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	U	1,2,3,4,5	<0.0200	mg/Kg	1	0.0200
Toluene	U	1,2,3,4,5	<0.0200	mg/Kg	1	0.0200
Ethylbenzene	U	1,2,3,4,5	<0.0200	mg/Kg	1	0.0200
Xylene	U	1,2,3,4,5	<0.0200	mg/Kg	1	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		5	1.60	mg/Kg	1	2.00	80	65.6 - 125
4-Bromofluorobenzene (4-BFB)		5	2.01	mg/Kg	1	2.00	100	67.9 - 120

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Sample: 395532 - FBS 5-6'

Laboratory: Lubbock
Analysis: Chloride (IC)
QC Batch: 122564
Prep Batch: 103678

Analytical Method: E 300.0
Date Analyzed: 2015-06-22
Sample Preparation:

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	B	3,4,5	1750	mg/Kg	50	25.0

Sample: 395532 - FBS 5-6'

Laboratory: Lubbock
Analysis: TPH DRO - NEW
QC Batch: 122288
Prep Batch: 103457

Analytical Method: S 8015 D
Date Analyzed: 2015-06-15
Sample Preparation: 2015-06-14

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	Jb	1,2,3,4	<50.0	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		3	25.1	mg/Kg	1	25.0	100	48.9 - 172

Sample: 395532 - FBS 5-6'

Laboratory: Lubbock
Analysis: TPH GRO
QC Batch: 122332
Prep Batch: 103497

Analytical Method: S 8015 D
Date Analyzed: 2015-06-15
Sample Preparation: 2015-06-15

Prep Method: S 5035
Analyzed By: JS
Prepared By: JS

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	U	1,2,3,4	<4.00	mg/Kg	1	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		3	1.82	mg/Kg	1	2.00	91	76.5 - 130
4-Bromofluorobenzene (4-BFB)		3	2.08	mg/Kg	1	2.00	104	68.4 - 120

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Sample: 395533 - FBS 8-10'

Laboratory: Lubbock

Analysis: BTEX

QC Batch: 122331

Prep Batch: 103497

Analytical Method: S 8021B

Date Analyzed: 2015-06-16

Sample Preparation: 2015-06-15

Prep Method: S 5035

Analyzed By: JS

Prepared By: JS

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	U	1,2,3,4,5	<0.0200	mg/Kg	1	0.0200
Toluene	U	1,2,3,4,5	<0.0200	mg/Kg	1	0.0200
Ethylbenzene	U	1,2,3,4,5	<0.0200	mg/Kg	1	0.0200
Xylene	U	1,2,3,4,5	<0.0200	mg/Kg	1	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		5	1.74	mg/Kg	1	2.00	87	65.6 - 125
4-Bromofluorobenzene (4-BFB)		5	2.00	mg/Kg	1	2.00	100	67.9 - 120

Sample: 395533 - FBS 8-10'

Laboratory: Lubbock

Analysis: Chloride (IC)

QC Batch: 122604

Prep Batch: 103678

Analytical Method: E 300.0

Date Analyzed: 2015-06-23

Sample Preparation:

Prep Method: N/A

Analyzed By: RL

Prepared By: RL

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		3,4,5	832	mg/Kg	5	25.0

Sample: 395533 - FBS 8-10'

Laboratory: Lubbock

Analysis: TPH DRO - NEW

QC Batch: 122288

Prep Batch: 103457

Analytical Method: S 8015 D

Date Analyzed: 2015-06-15

Sample Preparation: 2015-06-14

Prep Method: N/A

Analyzed By: SM

Prepared By: SM

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	Jb	1,2,3,4	<50.0	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		3	28.1	mg/Kg	1	25.0	112	48.9 - 172

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Sample: 395533 - FBS 8-10'

Laboratory: Lubbock
Analysis: TPH GRO
QC Batch: 122332
Prep Batch: 103497

Analytical Method: S 8015 D
Date Analyzed: 2015-06-15
Sample Preparation: 2015-06-15

Prep Method: S 5035
Analyzed By: JS
Prepared By: JS

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	U	1,2,3,4	<4.00	mg/Kg	1	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		3	2.01	mg/Kg	1	2.00	100	76.5 - 130
4-Bromofluorobenzene (4-BFB)		3	2.07	mg/Kg	1	2.00	104	68.4 - 120

Sample: 395534 - Mid 0-1'

Laboratory: Lubbock
Analysis: BTEX
QC Batch: 122331
Prep Batch: 103497

Analytical Method: S 8021B
Date Analyzed: 2015-06-16
Sample Preparation: 2015-06-15

Prep Method: S 5035
Analyzed By: JS
Prepared By: JS

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	3	U	<0.100	mg/Kg	5	0.0200
Toluene		1,2,3,4,5	0.134	mg/Kg	5	0.0200
Ethylbenzene	U	1,2,3,4,5	<0.100	mg/Kg	5	0.0200
Xylene		1,2,3,4,5	0.865	mg/Kg	5	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		5	1.80	mg/Kg	5	2.00	90	65.6 - 125
4-Bromofluorobenzene (4-BFB)	Q _{sr}	Q _{sr}	2.82	mg/Kg	5	2.00	141	67.9 - 120

Sample: 395534 - Mid 0-1'

Laboratory: Lubbock
Analysis: Chloride (IC)
QC Batch: 122564
Prep Batch: 103678

Analytical Method: E 300.0
Date Analyzed: 2015-06-22
Sample Preparation:

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

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sample 395534 continued ...

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		3,4,5	11700	mg/Kg	100	25.0

Sample: 395534 - Mid 0-1'

Laboratory: Lubbock
Analysis: TPH DRO - NEW
QC Batch: 122288
Prep Batch: 103457

Analytical Method: S 8015 D
Date Analyzed: 2015-06-15
Sample Preparation: 2015-06-14

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1,2,3,4	1300	mg/Kg	1	50.0

Surrogate		Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Q _{sr}	Q _{sr}	3	70.9	mg/Kg	1	25.0	284	48.9 - 172

Sample: 395534 - Mid 0-1'

Laboratory: Lubbock
Analysis: TPH GRO
QC Batch: 122332
Prep Batch: 103497

Analytical Method: S 8015 D
Date Analyzed: 2015-06-15
Sample Preparation: 2015-06-15

Prep Method: S 5035
Analyzed By: JS
Prepared By: JS

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1,2,3,4	216	mg/Kg	5	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits	
Trifluorotoluene (TFT)		3	1.84	mg/Kg	5	2.00	92	76.5 - 130	
4-Bromofluorobenzene (4-BFB)	Q _{sr}	Q _{sr}	3	8.28	mg/Kg	5	2.00	414	68.4 - 120

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Sample: 395535 - Mid 2-3'

Laboratory: Lubbock

Analysis: BTEX

QC Batch: 122331

Prep Batch: 103497

Analytical Method: S 8021B

Date Analyzed: 2015-06-16

Sample Preparation: 2015-06-15

Prep Method: S 5035

Analyzed By: JS

Prepared By: JS

Parameter	Flag	Cert	RL				
			Result	Units	Dilution	RL	
Benzene	4	U	1,2,3,4,5	<0.100	mg/Kg	5	0.0200
Toluene		U	1,2,3,4,5	<0.100	mg/Kg	5	0.0200
Ethylbenzene		U	1,2,3,4,5	<0.100	mg/Kg	5	0.0200
Xylene			1,2,3,4,5	0.505	mg/Kg	5	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		5	1.43	mg/Kg	5	2.00	72	65.6 - 125
4-Bromofluorobenzene (4-BFB)		5	1.64	mg/Kg	5	2.00	82	67.9 - 120

Sample: 395535 - Mid 2-3'

Laboratory: Lubbock

Analysis: Chloride (IC)

QC Batch: 122564

Prep Batch: 103678

Analytical Method: E 300.0

Date Analyzed: 2015-06-22

Sample Preparation:

Prep Method: N/A

Analyzed By: RL

Prepared By: RL

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		3,4,5	8680	mg/Kg	100	25.0

Sample: 395535 - Mid 2-3'

Laboratory: Lubbock

Analysis: TPH DRO - NEW

QC Batch: 122288

Prep Batch: 103457

Analytical Method: S 8015 D

Date Analyzed: 2015-06-15

Sample Preparation: 2015-06-14

Prep Method: N/A

Analyzed By: SM

Prepared By: SM

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	B	1,2,3,4	124	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		3	27.5	mg/Kg	1	25.0	110	48.9 - 172

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Sample: 395535 - Mid 2-3'

Laboratory: Lubbock
Analysis: TPH GRO
QC Batch: 122332
Prep Batch: 103497

Analytical Method: S 8015 D
Date Analyzed: 2015-06-15
Sample Preparation: 2015-06-15

Prep Method: S 5035
Analyzed By: JS
Prepared By: JS

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1,2,3,4	32.5	mg/Kg	5	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		3	1.56	mg/Kg	5	2.00	78	76.5 - 130
4-Bromofluorobenzene (4-BFB)	Q _{sr}	Q _{sr}	3.32	mg/Kg	5	2.00	166	68.4 - 120

Sample: 395536 - Mid 5-6'

Laboratory: Lubbock
Analysis: BTEX
QC Batch: 122331
Prep Batch: 103497

Analytical Method: S 8021B
Date Analyzed: 2015-06-16
Sample Preparation: 2015-06-15

Prep Method: S 5035
Analyzed By: JS
Prepared By: JS

Parameter	5	Flag	Cert	RL	Units	Dilution	RL
				Result			
Benzene		U	1,2,3,4,5	<0.200	mg/Kg	10	0.0200
Toluene			1,2,3,4,5	0.771	mg/Kg	10	0.0200
Ethylbenzene		U	1,2,3,4,5	<0.200	mg/Kg	10	0.0200
Xylene			1,2,3,4,5	11.6	mg/Kg	10	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits	
Trifluorotoluene (TFT)		5	2.29	mg/Kg	10	2.00	114	65.6 - 125	
4-Bromofluorobenzene (4-BFB)	Q _{sr}	Q _{sr}	5	3.56	mg/Kg	10	2.00	178	67.9 - 120

Sample: 395536 - Mid 5-6'

Laboratory: Lubbock
Analysis: Chloride (IC)
QC Batch: 122564
Prep Batch: 103678

Analytical Method: E 300.0
Date Analyzed: 2015-06-22
Sample Preparation:

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

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sample 395536 continued ...

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		3,4,5	11800	mg/Kg	100	25.0

Sample: 395536 - Mid 5-6'

Laboratory: Lubbock
Analysis: TPH DRO - NEW
QC Batch: 122288
Prep Batch: 103457

Analytical Method: S 8015 D
Date Analyzed: 2015-06-15
Sample Preparation: 2015-06-14

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1,2,3,4	2960	mg/Kg	1	50.0

Surrogate		Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Q _{sr}	Q _{sr}	3	121	mg/Kg	1	25.0	484	48.9 - 172

Sample: 395536 - Mid 5-6'

Laboratory: Lubbock
Analysis: TPH GRO
QC Batch: 122332
Prep Batch: 103497

Analytical Method: S 8015 D
Date Analyzed: 2015-06-15
Sample Preparation: 2015-06-15

Prep Method: S 5035
Analyzed By: JS
Prepared By: JS

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1,2,3,4	435	mg/Kg	10	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		3	1.85	mg/Kg	10	2.00	92	76.5 - 130
4-Bromofluorobenzene (4-BFB)	Q _{sr}	Q _{sr}	3	15.5	mg/Kg	10	775	68.4 - 120

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Sample: 395537 - S Point Composite

Laboratory: Lubbock

Analysis: BTEX

QC Batch: 122331

Prep Batch: 103497

Analytical Method: S 8021B

Date Analyzed: 2015-06-16

Sample Preparation: 2015-06-15

Prep Method: S 5035

Analyzed By: JS

Prepared By: JS

Parameter	Flag	Cert	RL	Units	Dilution	RL	
			Result				
Benzene	6	U	1,2,3,4,5	<0.100	mg/Kg	5	0.0200
Toluene			1,2,3,4,5	<0.100	mg/Kg	5	0.0200
Ethylbenzene		U	1,2,3,4,5	<0.100	mg/Kg	5	0.0200
Xylene			1,2,3,4,5	0.741	mg/Kg	5	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		5	1.68	mg/Kg	5	2.00	84	65.6 - 125
4-Bromofluorobenzene (4-BFB)		5	2.37	mg/Kg	5	2.00	118	67.9 - 120

Sample: 395537 - S Point Composite

Laboratory: Lubbock

Analysis: Chloride (IC)

QC Batch: 122564

Prep Batch: 103678

Analytical Method: E 300.0

Date Analyzed: 2015-06-22

Sample Preparation:

Prep Method: N/A

Analyzed By: RL

Prepared By: RL

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride		3,4,5	10900	mg/Kg	100	25.0

Sample: 395537 - S Point Composite

Laboratory: Lubbock

Analysis: TPH DRO - NEW

QC Batch: 122291

Prep Batch: 103458

Analytical Method: S 8015 D

Date Analyzed: 2015-06-15

Sample Preparation: 2015-06-14

Prep Method: N/A

Analyzed By: SM

Prepared By: SM

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1,2,3,4	905	mg/Kg	1	50.0

Surrogate		Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Q _{sr}	Q _{sr}	3	57.3	mg/Kg	1	25.0	229	48.9 - 172

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Sample: 395537 - S Point Composite

Laboratory: Lubbock
Analysis: TPH GRO
QC Batch: 122332
Prep Batch: 103497

Analytical Method: S 8015 D
Date Analyzed: 2015-06-15
Sample Preparation: 2015-06-15

Prep Method: S 5035
Analyzed By: JS
Prepared By: JS

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1,2,3,4	44.4	mg/Kg	5	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		3	1.82	mg/Kg	5	2.00	91	76.5 - 130
4-Bromofluorobenzene (4-BFB)	Q _{sr}	Q _{sr}	3.57	mg/Kg	5	2.00	178	68.4 - 120

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Method Blanks

Method Blank (1) QC Batch: 122288

QC Batch: 122288 Date Analyzed: 2015-06-15 Analyzed By: SM
Prep Batch: 103457 QC Preparation: 2015-06-14 Prepared By: SM

Parameter	Flag	Cert	MDL Result	Units	RL
DRO		1,2,3,4	17.9	mg/Kg	50

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		3	24.6	mg/Kg	1	25.0	98	48.9 - 172

Method Blank (1) QC Batch: 122291

QC Batch: 122291 Date Analyzed: 2015-06-15 Analyzed By: SM
Prep Batch: 103458 QC Preparation: 2015-06-14 Prepared By: SM

Parameter	Flag	Cert	MDL Result	Units	RL
DRO		1,2,3,4	15.8	mg/Kg	50

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		3	25.4	mg/Kg	1	25.0	102	48.9 - 172

Method Blank (1) QC Batch: 122331

QC Batch: 122331 Date Analyzed: 2015-06-16 Analyzed By: JS
Prep Batch: 103497 QC Preparation: 2015-06-15 Prepared By: JS

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1,2,3,4,5	<0.00444	mg/Kg	0.02
Toluene		1,2,3,4,5	<0.00457	mg/Kg	0.02
Ethylbenzene		1,2,3,4,5	<0.00762	mg/Kg	0.02
Xylene		1,2,3,4,5	<0.00367	mg/Kg	0.02

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Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		5	1.99	mg/Kg	1	2.00	100	65.6 - 125
4-Bromofluorobenzene (4-BFB)		5	2.15	mg/Kg	1	2.00	108	67.9 - 120

Method Blank (1) QC Batch: 122332

QC Batch: 122332 Date Analyzed: 2015-06-15 Analyzed By: JS
Prep Batch: 103497 QC Preparation: 2015-06-15 Prepared By: JS

Parameter	Flag	Cert	MDL Result	Units	RL
GRO		1,2,3,4	<0.641	mg/Kg	4

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		3	2.28	mg/Kg	1	2.00	114	76.5 - 130
4-Bromofluorobenzene (4-BFB)		3	2.23	mg/Kg	1	2.00	112	68.4 - 120

Method Blank (1) QC Batch: 122368

QC Batch: 122368 Date Analyzed: 2015-06-16 Analyzed By: HJ
Prep Batch: 103527 QC Preparation: 2015-06-16 Prepared By: HJ

Parameter	Flag	Cert	MDL Result	Units	RL
Total Dissolved Solids		1,2,3,4,5	<25.0	mg/L	2.5

Method Blank (1) QC Batch: 122409

QC Batch: 122409 Date Analyzed: 2015-06-17 Analyzed By: HJ
Prep Batch: 103554 QC Preparation: 2015-06-17 Prepared By: HJ

Parameter	Flag	Cert	MDL Result	Units	RL
Hydroxide Alkalinity		1,2,3,4,5	<20.0	mg/L as CaCo3	20
Carbonate Alkalinity		1,2,3,4,5	<20.0	mg/L as CaCo3	20
Bicarbonate Alkalinity		1,2,3,4,5	<20.0	mg/L as CaCo3	20

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Parameter	Flag	Cert	MDL Result	Units	RL
Total Alkalinity		1,2,3,4,5	<20.0	mg/L as CaCo3	20

Method Blank (1) QC Batch: 122453

QC Batch: 122453 Date Analyzed: 2015-06-18 Analyzed By: JS
Prep Batch: 103593 QC Preparation: 2015-06-18 Prepared By: JS

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1,2,3,4,5	<0.000352	mg/L	0.001
Toluene		1,2,3,4,5	<0.000371	mg/L	0.001
Ethylbenzene		1,2,3,4,5	<0.000352	mg/L	0.001
Xylene		1,2,3,4,5	<0.000379	mg/L	0.001

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		5	0.0991	mg/L	1	0.100	99	74.6 - 120
4-Bromofluorobenzene (4-BFB)		5	0.0969	mg/L	1	0.100	97	72.9 - 120

Method Blank (1) QC Batch: 122521

QC Batch: 122521 Date Analyzed: 2015-06-22 Analyzed By: RL
Prep Batch: 103640 QC Preparation: 2015-06-22 Prepared By: RL

Parameter	Flag	Cert	MDL Result	Units	RL
Specific Conductance		1,2,3,4,5	1.85	uMHOS/cm	

Method Blank (1) QC Batch: 122541

QC Batch: 122541 Date Analyzed: 2015-06-23 Analyzed By: RR
Prep Batch: 103637 QC Preparation: 2015-06-22 Prepared By: PM

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Parameter	Flag	Cert	MDL Result	Units	RL
Dissolved Calcium		2,3,4,5	<0.0106	mg/L	1

Method Blank (1) QC Batch: 122541

QC Batch: 122541 Date Analyzed: 2015-06-23 Analyzed By: RR
Prep Batch: 103637 QC Preparation: 2015-06-22 Prepared By: PM

Parameter	Flag	Cert	MDL Result	Units	RL
Dissolved Potassium		2,3,4,5	<0.0464	mg/L	1

Method Blank (1) QC Batch: 122541

QC Batch: 122541 Date Analyzed: 2015-06-23 Analyzed By: RR
Prep Batch: 103637 QC Preparation: 2015-06-22 Prepared By: PM

Parameter	Flag	Cert	MDL Result	Units	RL
Dissolved Magnesium		2,3,4,5	<0.0224	mg/L	1

Method Blank (1) QC Batch: 122541

QC Batch: 122541 Date Analyzed: 2015-06-23 Analyzed By: RR
Prep Batch: 103637 QC Preparation: 2015-06-22 Prepared By: PM

Parameter	Flag	Cert	MDL Result	Units	RL
Dissolved Sodium		2,3,4,5	<0.0197	mg/L	1

Method Blank (1) QC Batch: 122564

QC Batch: 122564 Date Analyzed: 2015-06-22 Analyzed By: RL
Prep Batch: 103678 QC Preparation: 2015-06-22 Prepared By: RL

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Parameter	Flag	Cert	MDL Result	Units	RL
Chloride		3,4,5	6.15	mg/Kg	25

Method Blank (1) QC Batch: 122567

QC Batch: 122567 Date Analyzed: 2015-06-22 Analyzed By: RL
Prep Batch: 103679 QC Preparation: 2015-06-22 Prepared By: RL

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride		1,2,3,4,5	0.588	mg/L	2.5

Method Blank (1) QC Batch: 122567

QC Batch: 122567 Date Analyzed: 2015-06-22 Analyzed By: RL
Prep Batch: 103679 QC Preparation: 2015-06-22 Prepared By: RL

Parameter	Flag	Cert	MDL Result	Units	RL
Fluoride		1,2,3,4,5	<0.134	mg/L	0.5

Method Blank (1) QC Batch: 122567

QC Batch: 122567 Date Analyzed: 2015-06-22 Analyzed By: RL
Prep Batch: 103679 QC Preparation: 2015-06-22 Prepared By: RL

Parameter	Flag	Cert	MDL Result	Units	RL
Nitrate-N		1,2,3,4,5	<0.0136	mg/L	0.04

Method Blank (1) QC Batch: 122567

QC Batch: 122567 Date Analyzed: 2015-06-22 Analyzed By: RL
Prep Batch: 103679 QC Preparation: 2015-06-22 Prepared By: RL

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Parameter	Flag	Cert	MDL Result	Units	RL
Sulfate		1,2,3,4,5	<0.363	mg/L	2.5

Method Blank (1) QC Batch: 122604

QC Batch: 122604	Date Analyzed: 2015-06-23	Analyzed By: RL
Prep Batch: 103678	QC Preparation: 2015-06-22	Prepared By: RL

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride		3,4,5	5.90	mg/Kg	25

Duplicates

Duplicates (1) Duplicated Sample: 395529

QC Batch: 122275 Date Analyzed: 2015-06-12 Analyzed By: HJ
Prep Batch: 103452 QC Preparation: 2015-06-12 Prepared By: HJ

Param		Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
pH	1,2,4,5	6.87	6.89	s.u.	1	0	20

Duplicates (1) Duplicated Sample: 395752

QC Batch: 122368 Date Analyzed: 2015-06-16 Analyzed By: HJ
Prep Batch: 103527 QC Preparation: 2015-06-16 Prepared By: HJ

Param		Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids	1,2,3,4,5	780	770	mg/L	20	1	10

Duplicates (1) Duplicated Sample: 395529

QC Batch: 122409 Date Analyzed: 2015-06-17 Analyzed By: HJ
Prep Batch: 103554 QC Preparation: 2015-06-17 Prepared By: HJ

Param		Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Hydroxide Alkalinity	1,2,3,4,5	<20.0	<20.0	mg/L as CaCo3	1	0	20
Carbonate Alkalinity	1,2,3,4,5	<20.0	<20.0	mg/L as CaCo3	1	0	20
Bicarbonate Alkalinity	1,2,3,4,5	1250	1250	mg/L as CaCo3	2	0	20
Total Alkalinity	1,2,3,4,5	1250	1250	mg/L as CaCo3	2	0	20

Duplicates (1) Duplicated Sample: 395900

QC Batch: 122521 Date Analyzed: 2015-06-22 Analyzed By: RL
Prep Batch: 103640 QC Preparation: 2015-06-22 Prepared By: RL

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Param		Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Specific Conductance	1,2,3,4,5	1500	1620	uMHOS/cm	1	8	20

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Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 122288
Prep Batch: 103457

Date Analyzed: 2015-06-15
QC Preparation: 2015-06-14

Analyzed By: SM
Prepared By: SM

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1,2,3,4	482	mg/Kg	1	500	17.9	93	60.9 - 130

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1,2,3,4	479	mg/Kg	1	500	17.9	92	60.9 - 130	1	20

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

Surrogate		LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Tricosane	3	24.7	24.9	mg/Kg	1	25.0	99	100	48.9 - 172

Laboratory Control Spike (LCS-1)

QC Batch: 122291
Prep Batch: 103458

Date Analyzed: 2015-06-15
QC Preparation: 2015-06-14

Analyzed By: SM
Prepared By: SM

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1,2,3,4	482	mg/Kg	1	500	15.8	93	60.9 - 130

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1,2,3,4	512	mg/Kg	1	500	15.8	99	60.9 - 130	6	20

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

Surrogate		LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Tricosane	3	25.4	26.0	mg/Kg	1	25.0	102	104	48.9 - 172

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Laboratory Control Spike (LCS-1)

QC Batch: 122331
Prep Batch: 103497

Date Analyzed: 2015-06-16
QC Preparation: 2015-06-15

Analyzed By: JS
Prepared By: JS

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1,2,3,4,5	1.67	mg/Kg	1	2.00	<0.00444	84	71.4 - 120
Toluene		1,2,3,4,5	1.88	mg/Kg	1	2.00	<0.00457	94	71.8 - 120
Ethylbenzene		1,2,3,4,5	2.16	mg/Kg	1	2.00	<0.00762	108	71.1 - 120
Xylene		1,2,3,4,5	6.62	mg/Kg	1	6.00	<0.00367	110	72.5 - 120

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1,2,3,4,5	1.65	mg/Kg	1	2.00	<0.00444	82	71.4 - 120	1	20
Toluene		1,2,3,4,5	2.04	mg/Kg	1	2.00	<0.00457	102	71.8 - 120	8	20
Ethylbenzene		1,2,3,4,5	2.14	mg/Kg	1	2.00	<0.00762	107	71.1 - 120	1	20
Xylene		1,2,3,4,5	6.56	mg/Kg	1	6.00	<0.00367	109	72.5 - 120	1	20

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

Surrogate		LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	5	1.98	1.94	mg/Kg	1	2.00	99	97	65.6 - 125
4-Bromofluorobenzene (4-BFB)	5	2.13	2.10	mg/Kg	1	2.00	106	105	67.9 - 120

Laboratory Control Spike (LCS-1)

QC Batch: 122332
Prep Batch: 103497

Date Analyzed: 2015-06-15
QC Preparation: 2015-06-15

Analyzed By: JS
Prepared By: JS

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1,2,3,4	16.9	mg/Kg	1	20.0	<0.641	84	60.3 - 120

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1,2,3,4	17.4	mg/Kg	1	20.0	<0.641	87	60.3 - 120	3	20

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

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Surrogate		LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Surrogate		LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	3	1.97	1.92	mg/Kg	1	2.00	98	96	76.5 - 130
4-Bromofluorobenzene (4-BFB)	3	2.25	2.22	mg/Kg	1	2.00	112	111	68.4 - 120

Laboratory Control Spike (LCS-1)

QC Batch: 122368
Prep Batch: 103527

Date Analyzed: 2015-06-16
QC Preparation: 2015-06-16

Analyzed By: HJ
Prepared By: HJ

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Dissolved Solids		1,2,3,4,5	979	mg/L	10	1000	<25.0	98	90 - 110

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Dissolved Solids		1,2,3,4,5	988	mg/L	10	1000	<25.0	99	90 - 110	1	10

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

Laboratory Control Spike (LCS-1)

QC Batch: 122453
Prep Batch: 103593

Date Analyzed: 2015-06-18
QC Preparation: 2015-06-18

Analyzed By: JS
Prepared By: JS

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1,2,3,4,5	0.102	mg/L	1	0.100	<0.000352	102	76 - 120
Toluene		1,2,3,4,5	0.104	mg/L	1	0.100	<0.000371	104	77.4 - 120
Ethylbenzene		1,2,3,4,5	0.104	mg/L	1	0.100	<0.000352	104	76.6 - 120
Xylene		1,2,3,4,5	0.315	mg/L	1	0.300	<0.000379	105	77.2 - 121

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1,2,3,4,5	0.101	mg/L	1	0.100	<0.000352	101	76 - 120	1	20
Toluene		1,2,3,4,5	0.104	mg/L	1	0.100	<0.000371	104	77.4 - 120	0	20

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Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Ethylbenzene		1,2,3,4,5	0.103	mg/L	1	0.100	<0.000352	103	76.6 - 120	0	20
Xylene		1,2,3,4,5	0.314	mg/L	1	0.300	<0.000379	105	77.2 - 121	0	20

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

Surrogate			LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)		5	0.101	0.101	mg/L	1	0.100	101	101	74.6 - 120
4-Bromofluorobenzene (4-BFB)		5	0.0993	0.0993	mg/L	1	0.100	99	99	75 - 120

Laboratory Control Spike (LCS-1)

QC Batch: 122541
Prep Batch: 103637

Date Analyzed: 2015-06-23
QC Preparation: 2015-06-22

Analyzed By: RR
Prepared By: PM

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Calcium		2,3,4,5	53.3	mg/L	1	52.5	<0.0106	102	85 - 115

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Dissolved Calcium		2,3,4,5	52.4	mg/L	1	52.5	<0.0106	100	85 - 115	2	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 122541
Prep Batch: 103637

Date Analyzed: 2015-06-23
QC Preparation: 2015-06-22

Analyzed By: RR
Prepared By: PM

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Potassium		2,3,4,5	50.2	mg/L	1	52.5	<0.0464	96	85 - 115

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Dissolved Potassium		2,3,4,5	49.4	mg/L	1	52.5	<0.0464	94	85 - 115	2	20

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

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Laboratory Control Spike (LCS-1)

QC Batch: 122541
Prep Batch: 103637

Date Analyzed: 2015-06-23
QC Preparation: 2015-06-22

Analyzed By: RR
Prepared By: PM

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Magnesium		2,3,4,5	53.8	mg/L	1	52.5	<0.0224	102	85 - 115

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Dissolved Magnesium		2,3,4,5	52.9	mg/L	1	52.5	<0.0224	101	85 - 115	2	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 122541
Prep Batch: 103637

Date Analyzed: 2015-06-23
QC Preparation: 2015-06-22

Analyzed By: RR
Prepared By: PM

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Sodium		2,3,4,5	56.5	mg/L	1	52.5	<0.0197	108	85 - 115

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Dissolved Sodium		2,3,4,5	55.6	mg/L	1	52.5	<0.0197	106	85 - 115	2	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 122564
Prep Batch: 103678

Date Analyzed: 2015-06-22
QC Preparation: 2015-06-22

Analyzed By: RL
Prepared By: RL

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		3,4,5	250	mg/Kg	1	250	6.15	98	90 - 110

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

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Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		3,4,5	238	mg/Kg	1	250	6.15	93	90 - 110	5	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: 122567
Prep Batch: 103679

Date Analyzed: 2015-06-22
QC Preparation: 2015-06-22

Analyzed By: RL
Prepared By: RL

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1,2,3,4,5	24.9	mg/L	1	25.0	0.588	97	90 - 110

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1,2,3,4,5	24.4	mg/L	1	25.0	0.588	95	90 - 110	2	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 122567
Prep Batch: 103679

Date Analyzed: 2015-06-22
QC Preparation: 2015-06-22

Analyzed By: RL
Prepared By: RL

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Fluoride		1,2,3,4,5	4.95	mg/L	1	5.00	<0.134	99	90 - 110

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Fluoride		1,2,3,4,5	5.08	mg/L	1	5.00	<0.134	102	90 - 110	3	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 122567
Prep Batch: 103679

Date Analyzed: 2015-06-22
QC Preparation: 2015-06-22

Analyzed By: RL
Prepared By: RL

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Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Nitrate-N		1,2,3,4,5	4.86	mg/L	1	5.00	<0.0136	97	90 - 110

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Nitrate-N		1,2,3,4,5	4.74	mg/L	1	5.00	<0.0136	95	90 - 110	2	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 122567
Prep Batch: 103679

Date Analyzed: 2015-06-22
QC Preparation: 2015-06-22

Analyzed By: RL
Prepared By: RL

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1,2,3,4,5	24.6	mg/L	1	25.0	<0.363	98	90 - 110

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate		1,2,3,4,5	23.3	mg/L	1	25.0	<0.363	93	90 - 110	5	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: 122604
Prep Batch: 103678

Date Analyzed: 2015-06-23
QC Preparation: 2015-06-22

Analyzed By: RL
Prepared By: RL

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		3,4,5	232	mg/Kg	1	250	5.9	90	90 - 110

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		3,4,5	234	mg/Kg	1	250	5.9	91	90 - 110	1	20

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

Matrix Spikes

Matrix Spike (MS-1) Spiked Sample: 395368

QC Batch: 122288
Prep Batch: 103457

Date Analyzed: 2015-06-15
QC Preparation: 2015-06-14

Analyzed By: SM
Prepared By: SM

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1,2,3,4	460	mg/Kg	1	500	28	86	47.9 - 130

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1,2,3,4	459	mg/Kg	1	500	28	86	47.9 - 130	0	20

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

Surrogate		MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Tricosane	3	25.4	25.4	mg/Kg	1	25	102	102	48.9 - 172

Matrix Spike (xMS-1) Spiked Sample: 395357

QC Batch: 122291
Prep Batch: 103458

Date Analyzed: 2015-06-15
QC Preparation: 2015-06-14

Analyzed By: SM
Prepared By: SM

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1,2,3,4	417	mg/Kg	1	500	22.1	79	47.9 - 130

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1,2,3,4	444	mg/Kg	1	500	22.1	84	47.9 - 130	6	20

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

Surrogate		MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Tricosane	3	25.0	25.0	mg/Kg	1	25	100	100	48.9 - 172

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Matrix Spike (MS-1) Spiked Sample: 395526

QC Batch: 122331
Prep Batch: 103497

Date Analyzed: 2015-06-16
QC Preparation: 2015-06-15

Analyzed By: JS
Prepared By: JS

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1,2,3,4,5	1.56	mg/Kg	1	2.00	<0.00444	78	63.9 - 132
Toluene		1,2,3,4,5	1.77	mg/Kg	1	2.00	<0.00457	88	64 - 141
Ethylbenzene		1,2,3,4,5	2.04	mg/Kg	1	2.00	<0.00762	102	66.7 - 148
Xylene		1,2,3,4,5	6.22	mg/Kg	1	6.00	<0.00367	104	63.6 - 145

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1,2,3,4,5	1.63	mg/Kg	1	2.00	<0.00444	82	63.9 - 132	4	20
Toluene		1,2,3,4,5	1.84	mg/Kg	1	2.00	<0.00457	92	64 - 141	4	20
Ethylbenzene		1,2,3,4,5	2.13	mg/Kg	1	2.00	<0.00762	106	66.7 - 148	4	20
Xylene		1,2,3,4,5	6.53	mg/Kg	1	6.00	<0.00367	109	63.6 - 145	5	20

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

Surrogate				MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	Q _{sr}	Q _{sr}	5	2.57	1.86	mg/Kg	1	2	128	93	65.6 - 125
4-Bromofluorobenzene (4-BFB)	Q _{sr}	Q _{sr}	5	2.94	2.13	mg/Kg	1	2	147	106	67.9 - 120

Matrix Spike (MS-1) Spiked Sample: 395526

QC Batch: 122332
Prep Batch: 103497

Date Analyzed: 2015-06-15
QC Preparation: 2015-06-15

Analyzed By: JS
Prepared By: JS

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1,2,3,4	17.4	mg/Kg	1	20.0	<0.641	87	25 - 139

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1,2,3,4	17.0	mg/Kg	1	20.0	<0.641	85	25 - 139	2	20

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

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Surrogate		MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Surrogate		MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	3	2.00	1.85	mg/Kg	1	2	100	92	76.5 - 130
4-Bromofluorobenzene (4-BFB)	3	2.22	2.12	mg/Kg	1	2	111	106	68.4 - 120

Matrix Spike (MS-1) Spiked Sample: 395802

QC Batch: 122453
Prep Batch: 103593

Date Analyzed: 2015-06-18
QC Preparation: 2015-06-18

Analyzed By: JS
Prepared By: JS

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1,2,3,4,5	0.101	mg/L	1	0.100	<0.000352	101	12.8 - 158
Toluene		1,2,3,4,5	0.103	mg/L	1	0.100	<0.000371	103	16.9 - 157
Ethylbenzene		1,2,3,4,5	0.102	mg/L	1	0.100	<0.000352	102	10 - 158
Xylene		1,2,3,4,5	0.309	mg/L	1	0.300	<0.000379	103	10 - 159

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1,2,3,4,5	0.100	mg/L	1	0.100	<0.000352	100	12.8 - 158	1	20
Toluene		1,2,3,4,5	0.102	mg/L	1	0.100	<0.000371	102	16.9 - 157	0	20
Ethylbenzene		1,2,3,4,5	0.102	mg/L	1	0.100	<0.000352	102	10 - 158	0	20
Xylene		1,2,3,4,5	0.309	mg/L	1	0.300	<0.000379	103	10 - 159	0	20

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

Surrogate		MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	5	0.0989	0.0987	mg/L	1	0.1	99	99	74.6 - 120
4-Bromofluorobenzene (4-BFB)	5	0.0988	0.0994	mg/L	1	0.1	99	99	75 - 120

Matrix Spike (MS-1) Spiked Sample: 395358

QC Batch: 122541
Prep Batch: 103637

Date Analyzed: 2015-06-23
QC Preparation: 2015-06-22

Analyzed By: RR
Prepared By: PM

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Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Calcium		2,3,4,5	608	mg/L	1	525	85.7	99	75 - 125

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Dissolved Calcium		2,3,4,5	621	mg/L	1	525	85.7	102	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: 395358

QC Batch: 122541
Prep Batch: 103637

Date Analyzed: 2015-06-23
QC Preparation: 2015-06-22

Analyzed By: RR
Prepared By: PM

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Potassium		2,3,4,5	536	mg/L	1	525	36.5	95	75 - 125

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Dissolved Potassium		2,3,4,5	545	mg/L	1	525	36.5	97	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: 395358

QC Batch: 122541
Prep Batch: 103637

Date Analyzed: 2015-06-23
QC Preparation: 2015-06-22

Analyzed By: RR
Prepared By: PM

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Magnesium		2,3,4,5	610	mg/L	1	525	80.6	101	75 - 125

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Dissolved Magnesium		2,3,4,5	620	mg/L	1	525	80.6	103	75 - 125	2	20

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

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Matrix Spike (MS-1) Spiked Sample: 395358

QC Batch: 122541
Prep Batch: 103637

Date Analyzed: 2015-06-23
QC Preparation: 2015-06-22

Analyzed By: RR
Prepared By: PM

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Sodium		2,3,4,5	1200	mg/L	1	525	668	101	75 - 125

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Dissolved Sodium		2,3,4,5	1260	mg/L	1	525	668	113	75 - 125	5	20

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

Matrix Spike (MS-1) Spiked Sample: 395527

QC Batch: 122564
Prep Batch: 103678

Date Analyzed: 2015-06-22
QC Preparation: 2015-06-22

Analyzed By: RL
Prepared By: RL

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		3,4,5	236	mg/Kg	1	250	17.4	87	80 - 120

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		3,4,5	223	mg/Kg	1	250	17.4	82	80 - 120	6	20

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

Matrix Spike (MS-1) Spiked Sample: 395289

QC Batch: 122567
Prep Batch: 103679

Date Analyzed: 2015-06-22
QC Preparation: 2015-06-22

Analyzed By: RL
Prepared By: RL

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		1,2,3,4,5	202	mg/L	5	125	73	103	80 - 120

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

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Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		1,2,3,4,5	203	mg/L	5	125	73	104	80 - 120	0	20

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

Matrix Spike (MS-1) Spiked Sample: 395289

QC Batch: 122567
Prep Batch: 103679

Date Analyzed: 2015-06-22
QC Preparation: 2015-06-22

Analyzed By: RL
Prepared By: RL

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Fluoride		1,2,3,4,5	26.3	mg/L	5	25.0	2.8	94	80 - 120

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Fluoride		1,2,3,4,5	26.2	mg/L	5	25.0	2.8	94	80 - 120	0	20

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

Matrix Spike (MS-1) Spiked Sample: 395289

QC Batch: 122567
Prep Batch: 103679

Date Analyzed: 2015-06-22
QC Preparation: 2015-06-22

Analyzed By: RL
Prepared By: RL

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Nitrate-N		1,2,3,4,5	28.7	mg/L	5	25.0	4.32	98	80 - 120

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Nitrate-N		1,2,3,4,5	28.7	mg/L	5	25.0	4.32	98	80 - 120	0	20

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

Matrix Spike (MS-1) Spiked Sample: 395289

QC Batch: 122567
Prep Batch: 103679

Date Analyzed: 2015-06-22
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Analyzed By: RL
Prepared By: RL

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Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Sulfate		1,2,3,4,5	199	mg/L	5	125	73.6	100	80 - 120

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Sulfate		1,2,3,4,5	200	mg/L	5	125	73.6	101	80 - 120	0	20

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

Matrix Spike (MS-1) Spiked Sample: 395533

QC Batch: 122604
Prep Batch: 103678

Date Analyzed: 2015-06-23
QC Preparation: 2015-06-22

Analyzed By: RL
Prepared By: RL

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride		3,4,5	2210	mg/Kg	5	1250	832	110	80 - 120

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		3,4,5	2220	mg/Kg	5	1250	832	111	80 - 120	0	20

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

Calibration Standards

Standard (CCV-1)

QC Batch: 122275

Date Analyzed: 2015-06-12

Analyzed By: HJ

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		1,2,4,5	s.u.	7.00	7.07	101	98.6 - 101.4	2015-06-12

Standard (CCV-1)

QC Batch: 122288

Date Analyzed: 2015-06-15

Analyzed By: SM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1,2,3,4	mg/Kg	500	466	93	80 - 120	2015-06-15

Standard (CCV-2)

QC Batch: 122288

Date Analyzed: 2015-06-15

Analyzed By: SM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1,2,3,4	mg/Kg	500	488	98	80 - 120	2015-06-15

Standard (CCV-1)

QC Batch: 122291

Date Analyzed: 2015-06-15

Analyzed By: SM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1,2,3,4	mg/Kg	500	488	98	80 - 120	2015-06-15

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Standard (CCV-2)

QC Batch: 122291

Date Analyzed: 2015-06-15

Analyzed By: SM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1,2,3,4	mg/Kg	250	497	199	80 - 120	2015-06-15

Standard (CCV-1)

QC Batch: 122331

Date Analyzed: 2015-06-16

Analyzed By: JS

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1,2,3,4,5	mg/kg	0.100	0.0864	86	80 - 120	2015-06-16
Toluene		1,2,3,4,5	mg/kg	0.100	0.0900	90	80 - 120	2015-06-16
Ethylbenzene		1,2,3,4,5	mg/kg	0.100	0.101	101	80 - 120	2015-06-16
Xylene		1,2,3,4,5	mg/kg	0.300	0.311	104	80 - 120	2015-06-16

Standard (CCV-2)

QC Batch: 122331

Date Analyzed: 2015-06-16

Analyzed By: JS

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1,2,3,4,5	mg/kg	0.100	0.0867	87	80 - 120	2015-06-16
Toluene		1,2,3,4,5	mg/kg	0.100	0.0908	91	80 - 120	2015-06-16
Ethylbenzene		1,2,3,4,5	mg/kg	0.100	0.102	102	80 - 120	2015-06-16
Xylene		1,2,3,4,5	mg/kg	0.300	0.314	105	80 - 120	2015-06-16

Standard (CCV-3)

QC Batch: 122331

Date Analyzed: 2015-06-16

Analyzed By: JS

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1,2,3,4,5	mg/kg	0.100	0.0858	86	80 - 120	2015-06-16

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Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Toluene		1,2,3,4,5	mg/kg	0.100	0.0890	89	80 - 120	2015-06-16
Ethylbenzene		1,2,3,4,5	mg/kg	0.100	0.0986	99	80 - 120	2015-06-16
Xylene		1,2,3,4,5	mg/kg	0.300	0.304	101	80 - 120	2015-06-16

Standard (CCV-1)

QC Batch: 122332

Date Analyzed: 2015-06-15

Analyzed By: JS

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1,2,3,4	mg/Kg	1.00	0.994	99	80 - 120	2015-06-15

Standard (CCV-2)

QC Batch: 122332

Date Analyzed: 2015-06-15

Analyzed By: JS

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1,2,3,4	mg/Kg	1.00	0.957	96	80 - 120	2015-06-15

Standard (CCV-3)

QC Batch: 122332

Date Analyzed: 2015-06-15

Analyzed By: JS

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1,2,3,4	mg/Kg	1.00	1.01	101	80 - 120	2015-06-15

Standard (ICV-1)

QC Batch: 122409

Date Analyzed: 2015-06-17

Analyzed By: HJ

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Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		1,2,3,4,5	mg/L as CaCo3	0.00	<20.0		-	2015-06-17
Carbonate Alkalinity		1,2,3,4,5	mg/L as CaCo3	0.00	234		-	2015-06-17
Bicarbonate Alkalinity		1,2,3,4,5	mg/L as CaCo3	0.00	<20.0		-	2015-06-17
Total Alkalinity		1,2,3,4,5	mg/L as CaCo3	250	235	94	90 - 110	2015-06-17

Standard (CCV-1)

QC Batch: 122409

Date Analyzed: 2015-06-17

Analyzed By: HJ

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		1,2,3,4,5	mg/L as CaCo3	0.00	<20.0		-	2015-06-17
Carbonate Alkalinity		1,2,3,4,5	mg/L as CaCo3	0.00	250		-	2015-06-17
Bicarbonate Alkalinity		1,2,3,4,5	mg/L as CaCo3	0.00	<20.0		-	2015-06-17
Total Alkalinity		1,2,3,4,5	mg/L as CaCo3	250	250	100	90 - 110	2015-06-17

Standard (CCV-2)

QC Batch: 122453

Date Analyzed: 2015-06-18

Analyzed By: JS

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1,2,3,4,5	mg/L	0.100	0.0988	99	80 - 120	2015-06-18
Toluene		1,2,3,4,5	mg/L	0.100	0.103	103	80 - 120	2015-06-18
Ethylbenzene		1,2,3,4,5	mg/L	0.100	0.102	102	80 - 120	2015-06-18
Xylene		1,2,3,4,5	mg/L	0.300	0.310	103	80 - 120	2015-06-18

Standard (CCV-3)

QC Batch: 122453

Date Analyzed: 2015-06-18

Analyzed By: JS

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1,2,3,4,5	mg/L	0.100	0.0998	100	80 - 120	2015-06-18

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Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Toluene		1,2,3,4,5	mg/L	0.100	0.103	103	80 - 120	2015-06-18
Ethylbenzene		1,2,3,4,5	mg/L	0.100	0.102	102	80 - 120	2015-06-18
Xylene		1,2,3,4,5	mg/L	0.300	0.310	103	80 - 120	2015-06-18

Standard (ICV-1)

QC Batch: 122521

Date Analyzed: 2015-06-22

Analyzed By: RL

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Specific Conductance		1,2,3,4,5	uMHOS/cm	1410	1390	99	90 - 110	2015-06-22

Standard (CCV-1)

QC Batch: 122521

Date Analyzed: 2015-06-22

Analyzed By: RL

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Specific Conductance		1,2,3,4,5	uMHOS/cm	1410	1370	97	90 - 110	2015-06-22

Standard (ICV-1)

QC Batch: 122541

Date Analyzed: 2015-06-23

Analyzed By: RR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		2,3,4,5	mg/L	25.5	25.7	101	90 - 110	2015-06-23

Standard (ICV-1)

QC Batch: 122541

Date Analyzed: 2015-06-23

Analyzed By: RR

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Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Potassium		2,3,4,5	mg/L	27.5	27.3	99	90 - 110	2015-06-23

Standard (ICV-1)

QC Batch: 122541

Date Analyzed: 2015-06-23

Analyzed By: RR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Magnesium		2,3,4,5	mg/L	25.5	25.6	100	90 - 110	2015-06-23

Standard (ICV-1)

QC Batch: 122541

Date Analyzed: 2015-06-23

Analyzed By: RR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Sodium		2,3,4,5	mg/L	25.5	25.5	100	90 - 110	2015-06-23

Standard (CCV-1)

QC Batch: 122541

Date Analyzed: 2015-06-23

Analyzed By: RR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		2,3,4,5	mg/L	25.5	26.7	105	90 - 110	2015-06-23

Standard (CCV-1)

QC Batch: 122541

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Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Potassium		2,3,4,5	mg/L	27.5	28.4	103	90 - 110	2015-06-23

Standard (CCV-1)

QC Batch: 122541

Date Analyzed: 2015-06-23

Analyzed By: RR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Magnesium		2,3,4,5	mg/L	25.5	26.5	104	90 - 110	2015-06-23

Standard (CCV-1)

QC Batch: 122541

Date Analyzed: 2015-06-23

Analyzed By: RR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Sodium		2,3,4,5	mg/L	25.5	26.3	103	90 - 110	2015-06-23

Standard (CCV-1)

QC Batch: 122564

Date Analyzed: 2015-06-22

Analyzed By: RL

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		3,4,5	mg/Kg	25.0	24.5	98	90 - 110	2015-06-22

Standard (CCV-2)

QC Batch: 122564

Date Analyzed: 2015-06-22

Analyzed By: RL

Report Date: June 25, 2015
BKE

Work Order: 15061212
Key Energy Bke

Page Number: 52 of 56
Loving, NM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		3,4,5	mg/Kg	25.0	25.2	101	90 - 110	2015-06-22

Standard (CCV-1)

QC Batch: 122567

Date Analyzed: 2015-06-22

Analyzed By: RL

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1,2,3,4,5	mg/L	25.0	25.2	101	90 - 110	2015-06-22

Standard (CCV-1)

QC Batch: 122567

Date Analyzed: 2015-06-22

Analyzed By: RL

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Fluoride		1,2,3,4,5	mg/L	5.00	4.98	100	90 - 110	2015-06-22

Standard (CCV-1)

QC Batch: 122567

Date Analyzed: 2015-06-22

Analyzed By: RL

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Nitrate-N		1,2,3,4,5	mg/L	5.00	4.91	98	90 - 110	2015-06-22

Standard (CCV-1)

QC Batch: 122567

Date Analyzed: 2015-06-22

Analyzed By: RL

Report Date: June 25, 2015
BKE

Work Order: 15061212
Key Energy Bke

Page Number: 53 of 56
Loving, NM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		1,2,3,4,5	mg/L	25.0	24.3	97	90 - 110	2015-06-22

Standard (CCV-2)

QC Batch: 122567

Date Analyzed: 2015-06-22

Analyzed By: RL

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		1,2,3,4,5	mg/L	25.0	23.5	94	90 - 110	2015-06-22

Standard (CCV-2)

QC Batch: 122567

Date Analyzed: 2015-06-22

Analyzed By: RL

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Fluoride		1,2,3,4,5	mg/L	5.00	5.01	100	90 - 110	2015-06-22

Standard (CCV-2)

QC Batch: 122567

Date Analyzed: 2015-06-22

Analyzed By: RL

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Nitrate-N		1,2,3,4,5	mg/L	5.00	5.01	100	90 - 110	2015-06-22

Standard (CCV-2)

QC Batch: 122567

Date Analyzed: 2015-06-22

Analyzed By: RL

Report Date: June 25, 2015
BKE

Work Order: 15061212
Key Energy Bke

Page Number: 54 of 56
Loving, NM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		1,2,3,4,5	mg/L	25.0	24.6	98	90 - 110	2015-06-22

Standard (CCV-1)

QC Batch: 122604

Date Analyzed: 2015-06-23

Analyzed By: RL

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		3,4,5	mg/Kg	25.0	23.0	92	90 - 110	2015-06-23

Standard (CCV-2)

QC Batch: 122604

Date Analyzed: 2015-06-23

Analyzed By: RL

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		3,4,5	mg/Kg	25.0	22.6	90	90 - 110	2015-06-23

Appendix

Report Definitions

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

Laboratory Certifications

C	Certifying Authority	Certification Number	Laboratory Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	L-A-B	L2418	Lubbock
2	Kansas	Kansas E-10317	Lubbock
3	LELAP	LELAP-02003	Lubbock
4	NELAP	T104704219-15-11	Lubbock
5		2014-018	Lubbock

Standard Flags

F	Description
B	Analyte detected in the corresponding method blank above the method detection limit
H	Analyzed out of hold time
J	Estimated concentration
Jb	The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
Je	Estimated concentration exceeding calibration range.
MI1	Split peak or shoulder peak
MI2	Instrument software did not integrate
MI3	Instrument software misidentified the peak
MI4	Instrument software integrated improperly
MI5	Baseline correction
Qc	Calibration check outside of laboratory limits.
Qr	RPD outside of laboratory limits
Qs	Spike recovery outside of laboratory limits.
Qsr	Surrogate recovery outside of laboratory limits.

F	Description
U	The analyte is not detected above the SDL

Result Comments

- 1 Dilution necessitated by high chloride concentration.
- 2 Dilution necessitated by high chloride concentration.
- 3 dilution due to hydrocarbons.
- 4 dilution due to hydrocarbons.
- 5 dilution due to hydrocarbons.
- 6 dilution due to hydrocarbons.

Attachments

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

TraceAnalysis, Inc.

email: lab@traceanalysis.com

6701 Aberdeen Avenue, Suite 9
Lubbock, Texas 79424
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Fax (806) 794-1298
1 (800) 378-12965002 Basin Street, Suite A1
Midland, Texas 79703
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El Paso, Texas 79922
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443BioAquatic Testing
2501 Mayes Rd., Ste 100
Carrollton, Texas 75006
Tel (972) 242-7750

Company Name: PRICE LLC Phone #: 505-892-6543

Address: (Street, City, Zip) NM 87124 Fax #: 505-892-6543
312 Encantado Ridge Court NE Rio Rancho

Contact Person: Lesten Wayne Price Jr E-mail: waprince23@hotmail.com

Invoice to: KEY ENERGY C/O PRICE LLC

(If different from above)

Project #: BKE Project Name: KEY ENERGY BKE

Project Location (including state): Lovina NM Sampler Signature: LUPAR

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume / Amount	MATRIX				PRESERVATIVE METHOD						SAMPLING		MTBE 8021 / 602	BTEX 8021 / 602 / 8260 / 625	TPH 418.1 / TX1005	TPH 8015 BRO / DRO / TVHC	PAH 8270 / 625	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC/MS Vol. 8260 / 624	GC/MS Semi. Vol. 8270 / 625	PCB's 8082 / 608	Pesticides 8081 / 608	BOD, TSS, pH	Moisture Content	Cl, F, SO ₄ , NO ₃ -N, NO ₂ -N, PO ₄ -P, Alkalinity	Na, Ca, Mg, K, TDS, EC	Chlorides 3000	DEN CHEM		Turn Around Time if different from standard	Hold			
				WATER	SOIL	AIR	SLUDGE	HCl	HNO ₃	H ₂ SO ₄	NaOH	ICE	NONE	DATE	TIME																											
395529	WATE VILE	2	40ml glass	X				X				X			6/6/15	1:45PM	X																									
	WATER 1 Liter	2	1 Liter glass	X								X			6/6/15	1:30PM	X																									
530	FBS 0-1'	1	4oz glass	X								X			6/6/15	11:00AM	X	X																								
531	FBS 2-3'	1	4oz glass	X								X			6/6/15	11:10AM	X	X																								
532	FBS 5-6'	1	4oz glass	X								X			6/6/15	11:20AM	X	X																								
533	FBS 8-10'	1	4oz glass	X								X			6/6/15	11:30AM	X	X																								
534	Mid 0-1'	1	4oz glass	X								X			6/6/15	12:00PM	X	X																								
535	Mid 2-3'	1	4oz glass	X								X			6/6/15	12:10PM	X	X																								
536	Mid 5-6'	1	4oz glass	X								X			6/6/15	12:20PM	X	X																								
537	S Point Composite	1	4oz glass	X								X			6/6/15	3:00PM	X	X																								

Relinquished by: Company: Price LLC Date: 6/10/15 Time: 4:30PM Received by: Company: B+C Date: 6/10/15 Time: 4:30PM INST OBS 5.5 COR 5.5

Relinquished by: Company: Date: Time: Received by: Company: Date: Time: INST OBS COR

Relinquished by: Company: Date: Time: Received by: Company: Date: Time: INST OBS COR

LAB USE ONLY

REMARKS:

COC #1

Intact Y / N

Headspace Y / N / NA

Log-in-Review

☒ Dry Weight Basis Required

☒ TRRP Report Required

☒ Check If Special Reporting Limits Are Needed

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C. O. C.

Carrier #

LS 25438013

ORIGINAL COPY

Cation-Anion Balance Sheet

DATE:

Sample #	Calcium ppm	Magnesium ppm	Sodium ppm	Potassium ppm	Alkalinity ppm	Sulfate ppm	Chloride ppm	Nitrate-N ppm	Fluoride ppm	Bromide ppm	TDS ppm	EC µMHOs/cm
395529	4790	1020	16700	420	1250	1620	43400	0	0		94000	115000

Anion Sum meq/L	Acceptable Difference
0-3.0	+/- 0.2 meq/L
3.0-10.0	+/- 2%
10.0-800	5%

Sample #	Calcium in meq/L	Magnesium in meq/L	Sodium in meq/L	Potassium in meq/L	Alkalinity in meq/L	Sulfate in meq/L	Chloride in meq/L	Nitrate-N in meq/L	Fluoride in meq/L	Bromide in meq/L	Total Cations in meq/L	Total Anions in meq/L	% Difference*
395529	239.02	83.94	726.45	10.74	25.00	33.73	1224.31	0.00	0.00	0.00	1060.15	1283.04	10

	EC/Cation	EC/Anion
395529	106015	128304

range 103500 to 126500

TDS/EC	TDS/Cat		TDS/Anion
0.82	0.89		0.73

needs to be 0.55-0.77