October 29, 2014

Mr. Stan Spencer
Colorado Oil and Gas Conservation Commission
Environmental Protection Specialist
Northwest Region
Rifle, CO 81650

RE: PCU T35X-11G Produced Water Release
Notice of Completion
Initial Form 19 Doc# 400671605, Spill Release Point ID 438668

Dear Mr. Spencer,

XTO Energy (XTO) completed remediation of the produced water release on the PCU T35X-11G location on October 17, 2014. Impacted soils were removed and Table 910-1 compliance samples were collected from the impacted area, see attached Site Plan. Analytical results are below Table 910-1 concentrations with the exception of SAR (23.3), pH (9.77) and Arsenic (5.1 mg/kg).

Any remaining elevated levels of SAR and pH detected beneath the release area was covered with a minimum 3 feet of clean, imported material per COGCC guidance. No additional treatment of these soils will be required.

The elevated Arsenic level above Table 910-1 concentration detected beneath the release area is within the COGCC approved background Arsenic concentration of 7.2 mg/kg, see Form 27 Doc #2148826 approved on 5/7/14.

Impacted soils (<50 cubic yards) have been disposed of at Wray Gulch landfill near Meeker, CO.

XTO Energy herein requests closure of and Notice of Completion for Form 19 Doc #400671605. If you should have any questions or comments please feel free to contact me at your earliest convenience (970) 675-4122.

Respectfully,

Jessica Dooling
Piceance EH&S Supervisor
Jessica_dooling@xtoenergy.com

Enclosures: Table 1
Figure 1 (Site Plan)
D61598
D62509
D62710

Table 1
Location: PCU T35X-11G
Lab Summary - PWDD Spill Assessment

Last update 10/1/2014

Analytical Parameter	PWDD Spill			Background								COGCC	Maximum based on Background
(with units)	PWDD Spill	Post 1' soil removal	Post 3' soil removal	#1	#2	#3	#4	#5	#6	#7	#8	Table 910-1 Concentration Levels	
Accutest Job #	D61598 (8/26/14)	D62509 (9/19/14)	D62710 (9/25/14)	D20676 (1/25/11)					D42871 (1/23/13)			-	-
Sample type (**C**omposite/**D**iscrete)	C	C	C	D	D	D	D	D	D	D	D	-	-
TPH (GRO) (mg/Kg)	ND	-	-	-	-	-	-	-	-	-	-	-	-
TPH (DRO) (mg/Kg)	45.2	-	-	-	-	-	-	-	-	-	-	-	-
TPH (GRO + DRO) (mg/Kg)	45.2	-	-	-	-	-	-	-	-	-	-	500	-
Benzene (mg/Kg)	0.112	-	-	-	-	-	-	-	-	-	-	0.170	-
Toluene (mg/Kg)	0.838	-	-	-	-	-	-	-	-	-	-	85	-
Ethylbenzene (mg/Kg)	0.0646	-	-	-	-	-	-	-	-	-	-	100	-
Xylenes (total) (mg/Kg)	1.62	-	-	-	-	-	-	-	-	-	-	175	-
Acenaphthene (mg/Kg)	ND	-	-	-	-	-	-	-	-	-	-	1000	-
Anthracene (mg/Kg)	ND	-	-	-	-	-	-	-	-	-	-	1000	-
Benzo(A)anthracene (mg/Kg)	ND	-	-	-	-	-	-	-	-	-	-	0.22	-
Benzo(A)pyrene (mg/Kg)	ND	-	-	-	-	-	-	-	-	-	-	0.022	-
Benzo(B)fluoranthene (mg/Kg)	ND	-	-	-	-	-	-	-	-	-	-	0.22	-
Benzo(K)fluoranthene (mg/Kg)	ND	-	-	-	-	-	-	-	-	-	-	2.2	-
Chrysene (mg/Kg)	0.0048	-	-	-	-	-	-	-	-	-	-	22	-
Dibenzo(A,H)anthracene (mg/Kg)	ND	-	-	-	-	-	-	-	-	-	-	0.022	-
Fluoranthene (mg/Kg)	0.0044	-	-	-	-	-	-	-	-	-	-	1000	-
Fluorene (mg/Kg)	0.0148	-	-	-	-	-	-	-	-	-	-	1000	-
Indeno(1,2,3,C,D)pyrene (mg/Kg)	ND	-	-	-	-	-	-	-	-	-	-	0.22	-
Naphthalene (mg/Kg)	0.0489	-	-	-	-	-	-	-	-	-	-	23	-
Pyrene (mg/Kg)	0.0057	-	-	-	-	-	-	-	-	-	-	1000	-
Electrical Conductivity (mmhos/cm)	3.520	-	-	-	-	-	-	-	-	-	-	4	-
Sodium Adsorption Ratio (SAR)	23.3	13.1	29.2	-	-	-	-	-	-	-	-	12	-
pH	9.77	9.61	9.76	-	-	-	-	-	-	-	-	6-9	-
Arsenic (mg/kg)	5.1	-	-	4.4	6.1	4.8	6.5	4.0	3.8	3.7	5.4	0.39	7.2
Barium (mg/kg)	1380	-	-	-	-	-	-	-	-	-	-	15000	-
Cadmium (mg/kg)	<1.3	-	-	-	-	-	-	-	-	-	-	70	-
Chromium (III) (mg/Kg)	21.1	-	-	-	-	-	-	-	-	-	-	120000	-
Chromium (VI) (mg/Kg)	<1.0	-	-	-	-	-	-	-	-	-	-	23	-
Copper (mg/kg)	12.1	-	-	-	-	-	-	-	-	-	-	3100	-
Lead (inorganic) (mg/kg)	15.1	-	-	-	-	-	-	-	-	-	-	400	-
Mercury (mg/kg)	<0.11	-	-	-	-	-	-	-	-	-	-	23	-
Nickel (mg/kg)	13.4	-	-	-	-	-	-	-	-	-	-	1600	-
Selenium (mg/kg)	<6.4	-	-	-	-	-	-	-	-	-	-	390	-
Silver (mg/kg)	<3.8	-	-	-	-	-	-	-	-	-	-	390	-
Zinc (mg/kg)	39.4	-	-	-	-	-	-	-	-	-	-	23000	-
% Solids	79.1	n/a	n/a	78.0	78.0	83	83	80	93	91	89	-	-

Notes:
1) ND = not detectible to the laboratory detection limit.
2) Results highlighted in yellow exceed Table 910-1 concentration levels. Results highlighted in Gray exceed Table 910-1, but are below background levels.
3) "-" indicates no analysis.
4) See site map for sample locations.

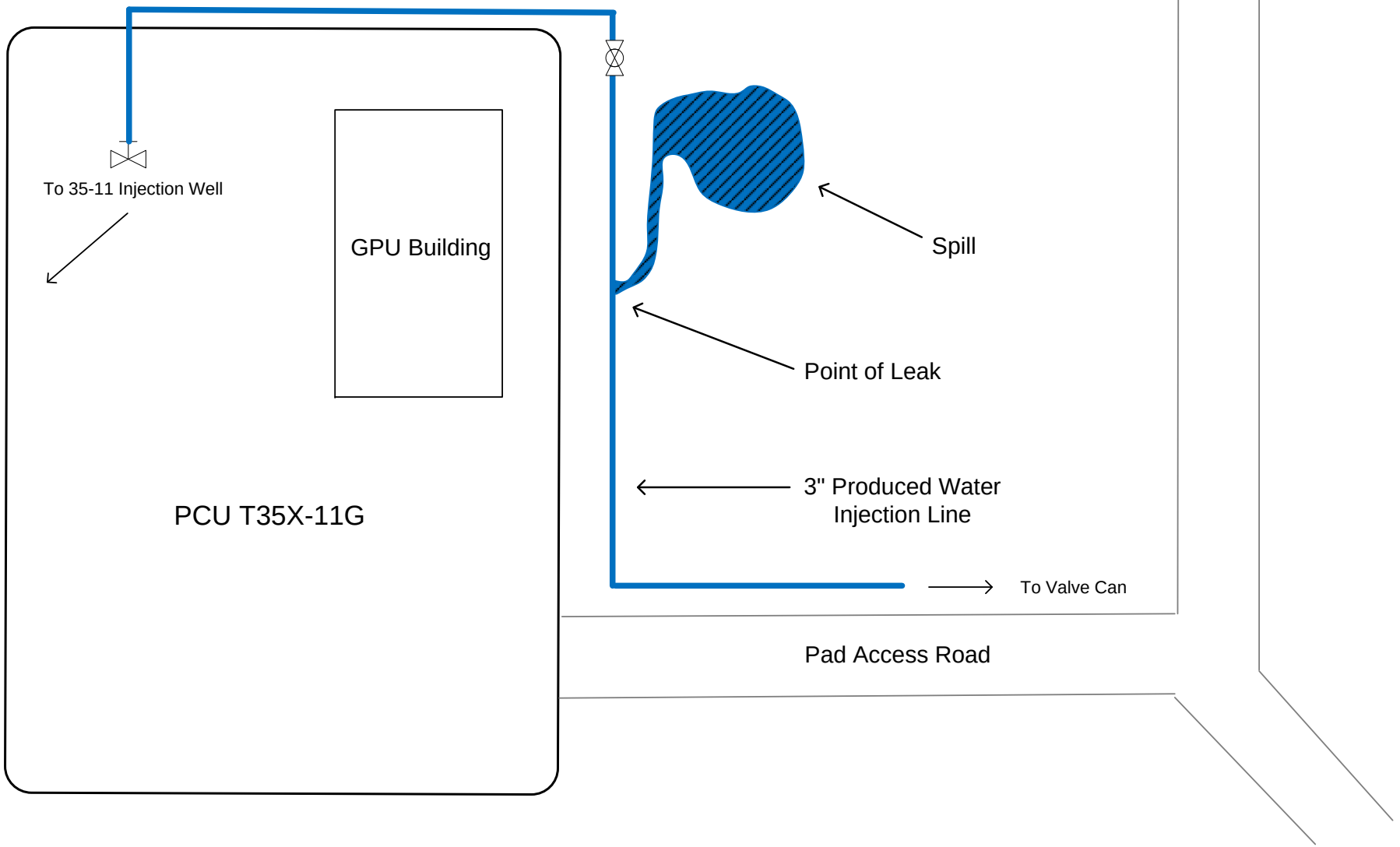
XTO Energy

Spill Diagram	Rev.	PCU T35X-11G

Lat. N 39.89236
Long. W 108.25102

Sec.11, T2S, R97W

Rio Blanco County



Mountain States ACCUTEST LABORATORIES

09/03/14

Technical Report for

XTO Energy

PCU T35X-11G

Accutest Job Number: D61598

Sampling Date: 08/26/14

Report to:

KRW Consulting, Inc.
8000 West 14th Avenue
Lakewood, CO 80214
dknudson@krwconsulting.com; jhess@krwconsulting.com;
crachak@krwconsulting.com; rrasnic@krwconsulting.com;
ATTN: Dwayne Knudson

Total number of pages in report: **72**

NELAP ACCREDITED TNI LABORATORY

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Scott Heideman
Laboratory Director

Client Service contact: Renea Jackson 303-425-6021

Certifications: CO (CO00049), ID, NE (CO00049), ND (R-027), NJ (CO 0007), OK (D9942), UT (NELAP CO00049), TX (T104704511)

Sections: 1 2 3 4 5 6 7 8 9 10 11

Table of Contents

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Sample Summary

XTO Energy

PCU T35X-11G

Job No: D61598

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
D61598-1	08/26/14	11:45	JD	08/28/14	SO	Soil	PCU T35X-11G PWDD SPILL
D61598-1A	08/26/14	11:45	JD	08/28/14	SO	Soil	PCU T35X-11G PWDD SPILL

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	XTO Energy	**Job No**	D61598
Site:	PCU T35X-11G	**Report Date**	9/3/2014 3:29:39 PM

On 08/28/2014, 1 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 2.9 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D61598 was assigned to the project. The lab sample ID, client sample ID, and date of sample collection are detailed in the report's Results Summary.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix: SO **Batch ID:** V5V1958

- All samples were analyzed within the recommended method holding time.
- Sample(s) D61598-1MS, D61609-2DUP were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Extractables by GCMS By Method SW846 8270C BY SIM

Matrix: SO **Batch ID:** OP10521

- All samples were extracted and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D61485-1MS, D61485-1MSD were used as the QC samples indicated.
- OP10521-MS and OP10521-MSD: Elevated reporting limit due to insufficient sample.

Volatiles by GC By Method SW846 8015B

Matrix: SO **Batch ID:** GGB1432

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D61486-1MS, D61486-1MSD were used as the QC samples indicated.

Extractables by GC By Method SW846-8015B

Matrix: SO **Batch ID:** OP10511

- All samples were extracted and analyzed within the recommended method holding time.
- Sample(s) D61477-1MS, D61477-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Metals By Method SW846 6010C

Matrix: AQ **Batch ID:** MP13872

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TC53618-1MS, TC53618-1MSD, TC53618-1SDL were used as the QC samples for the metals analysis.
- The matrix spike (MS) recovery(s) of Sodium are outside control limits. Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
- The serial dilution RPD(s) for Magnesium, Sodium are outside control limits for sample MP13872-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
- MP13872-SD1 for Sodium: Serial dilution indicates possible matrix interference.

Matrix: SO **Batch ID:** MP13873

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D61598-1MS, D61598-1MSD, D61598-1SDL were used as the QC samples for the metals analysis.
- The matrix spike (MS) recovery(s) of Barium are outside control limits. Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
- The serial dilution RPD(s) for Cadmium, Selenium, Lead, Nickel, Zinc are outside control limits for sample MP13873-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
- MP13873-SD1 for Zinc,Lead, Nickel: Serial dilution indicates possible matrix interference.

Metals By Method SW846 6020A

Matrix: SO **Batch ID:** MP13874

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D61598-1MS, D61598-1MSD, D61598-1SDL were used as the QC samples for the metals analysis.

Metals By Method SW846 7471B

Matrix: SO **Batch ID:** MP13888

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D61598-1MS, D61598-1MSD were used as the QC samples for the metals analysis.

Wet Chemistry By Method ASTM D1498-76M

Matrix: SO **Batch ID:** GN26236

- Sample(s) D61485-1DUP were used as the QC samples for the Redox Potential Vs H2 analysis.

Wet Chemistry By Method SM2540G-2011 M

Matrix: SO **Batch ID:** GN26221

- The data for SM2540G-2011 M meets quality control requirements.

Wet Chemistry By Method SW846 3060A/7196A

Matrix: SO **Batch ID:** GP13423

- All samples were prepared and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D61485-1DUP, D61485-1MS, D61485-1MSD were used as the QC samples for the Chromium, Hexavalent analysis.

Wet Chemistry By Method SW846 3060A/7196A M

Matrix:	SO	Batch ID:	R23404

- The data for SW846 3060A/7196A M meets quality control requirements.
- D61598-1 for Chromium, Trivalent: Calculated as: (Chromium) - (Chromium, Hexavalent)

Wet Chemistry By Method SW846 9045D

Matrix:	SO	Batch ID:	GN26250

- The following samples were run outside of holding time for method SW846 9045D: D61598-1

Wet Chemistry By Method USDA HANDBOOK 60

Matrix:	SO	Batch ID:	MP13872

- D61598-1A for Sodium Adsorption Ratio: Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+(Mg meq/L)/2]

AMS certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting AMS's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

AMS is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. This report is authorized by AMS indicated via signature on the report cover.

Summary of Hits

Job Number: D61598
Account: XTO Energy
Project: PCU T35X-11G
Collected: 08/26/14

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
D61598-1	**PCU T35X-11G PWDD SPILL**					
Benzene		0.112	0.076	0.029	mg/kg	SW846 8260B
Toluene		0.838	0.15	0.076	mg/kg	SW846 8260B
Ethylbenzene		0.0646 J	0.15	0.029	mg/kg	SW846 8260B
Xylene (total)		1.62	0.30	0.076	mg/kg	SW846 8260B
Chrysene		0.0048 J	0.0054	0.0026	mg/kg	SW846 8270C BY SIM
Fluoranthene		0.0044 J	0.0054	0.0030	mg/kg	SW846 8270C BY SIM
Fluorene		0.0148	0.0054	0.0039	mg/kg	SW846 8270C BY SIM
Naphthalene		0.0489	0.0054	0.0032	mg/kg	SW846 8270C BY SIM
Pyrene		0.0057	0.0054	0.0032	mg/kg	SW846 8270C BY SIM
TPH-DRO (C10-C28)		45.2	8.4	6.3	mg/kg	SW846-8015B
Arsenic		5.1	0.13		mg/kg	SW846 6020A
Barium		1380	1.3		mg/kg	SW846 6010C
Chromium		21.1	1.3		mg/kg	SW846 6010C
Copper		12.1	1.3		mg/kg	SW846 6010C
Lead		15.1	6.4		mg/kg	SW846 6010C
Nickel		13.4	3.8		mg/kg	SW846 6010C
Zinc		39.4	3.8		mg/kg	SW846 6010C
Specific Conductivity		3520	1.0		umhos/cm	SM 2510B-2011 MOD
Chromium, Trivalent [a]		21.1	2.3		mg/kg	SW846 3060A/7196A M
Redox Potential Vs H2		378			mv	ASTM D1498-76M
pH		9.77			su	SW846 9045D
D61598-1A	**PCU T35X-11G PWDD SPILL**					
Calcium		42.3	2.0		mg/l	SW846 6010C
Magnesium		7.99	1.0		mg/l	SW846 6010C
Sodium		630	2.0		mg/l	SW846 6010C
Sodium Adsorption Ratio [b]		23.3			ratio	USDA HANDBOOK 60

(a) Calculated as: (Chromium) - (Chromium, Hexavalent)
(b) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

Mountain States ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	PCU T35X-11G PWDD SPILL		
Lab Sample ID:	D61598-1	**Date Sampled:**	08/26/14
Matrix:	SO - Soil	**Date Received:**	08/28/14
Method:	SW846 8260B	**Percent Solids:**	79.1
Project:	PCU T35X-11G		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5V33138.D	1	08/29/14	JL	n/a	n/a	V5V1958
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.05 g	5.0 ml	100 ul
Run #2			

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.112	0.076	0.029	mg/kg	
108-88-3	Toluene	0.838	0.15	0.076	mg/kg	
100-41-4	Ethylbenzene	0.0646	0.15	0.029	mg/kg	J
1330-20-7	Xylene (total)	1.62	0.30	0.076	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	104%		64-130%
460-00-4	4-Bromofluorobenzene	95%		62-131%
17060-07-0	1,2-Dichloroethane-D4	98%		70-130%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PCU T35X-11G PWDD SPILL		
Lab Sample ID:	D61598-1	**Date Sampled:**	08/26/14
Matrix:	SO - Soil	**Date Received:**	08/28/14
Method:	SW846 8270C BY SIM SW846 3546	**Percent Solids:**	79.1
Project:	PCU T35X-11G		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3G21180.D	1	09/02/14	DC	08/29/14	OP10521	E3G1049
Run #2							

	Initial Weight	Final Volume
Run #1	30.4 g	1.0 ml
Run #2		

COGCC Table 910-1 PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.0054	0.0042	mg/kg	
120-12-7	Anthracene	ND	0.0054	0.0037	mg/kg	
56-55-3	Benzo(a)anthracene	ND	0.0054	0.0026	mg/kg	
205-99-2	Benzo(b)fluoranthene	ND	0.0054	0.0033	mg/kg	
207-08-9	Benzo(k)fluoranthene	ND	0.0054	0.0027	mg/kg	
50-32-8	Benzo(a)pyrene	ND	0.0054	0.0026	mg/kg	
218-01-9	Chrysene	0.0048	0.0054	0.0026	mg/kg	J
53-70-3	Dibenzo(a,h)anthracene	ND	0.0054	0.0026	mg/kg	
206-44-0	Fluoranthene	0.0044	0.0054	0.0030	mg/kg	J
86-73-7	Fluorene	0.0148	0.0054	0.0039	mg/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.0054	0.0026	mg/kg	
91-20-3	Naphthalene	0.0489	0.0054	0.0032	mg/kg	
129-00-0	Pyrene	0.0057	0.0054	0.0032	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	63%		11-164%
321-60-8	2-Fluorobiphenyl	60%		14-138%
1718-51-0	Terphenyl-d14	74%		35-139%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: PCU T35X-11G PWDD SPILL
Lab Sample ID: D61598-1
Matrix: SO - Soil
Method: SW846 8015B
Project: PCU T35X-11G

Date Sampled: 08/26/14
Date Received: 08/28/14
Percent Solids: 79.1

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB26338.D	1	08/28/14	EP	n/a	n/a	GGB1432
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.1 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	15	7.6	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	92%		60-140%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: PCU T35X-11G PWDD SPILL
Lab Sample ID: D61598-1
Matrix: SO - Soil
Method: SW846-8015B SW846 3546
Project: PCU T35X-11G

Date Sampled: 08/26/14
Date Received: 08/28/14
Percent Solids: 79.1

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FI16183.D	1	08/29/14	JS	08/28/14	OP10511	GFI936
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	45.2	8.4	6.3	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	86%		20-130%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: PCU T35X-11G PWDD SPILL
Lab Sample ID: D61598-1
Matrix: SO - Soil
Project: PCU T35X-11G

Date Sampled: 08/26/14
Date Received: 08/28/14
Percent Solids: 79.1

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	5.1	0.13	mg/kg	5	08/29/14	08/29/14	JB	SW846 6020A [2]	SW846 3050B [5]
Barium	1380	1.3	mg/kg	1	08/29/14	08/29/14	KV	SW846 6010C [1]	SW846 3050B [4]
Cadmium	< 1.3	1.3	mg/kg	1	08/29/14	08/29/14	KV	SW846 6010C [1]	SW846 3050B [4]
Chromium	21.1	1.3	mg/kg	1	08/29/14	08/29/14	KV	SW846 6010C [1]	SW846 3050B [4]
Copper	12.1	1.3	mg/kg	1	08/29/14	08/29/14	KV	SW846 6010C [1]	SW846 3050B [4]
Lead	15.1	6.4	mg/kg	1	08/29/14	08/29/14	KV	SW846 6010C [1]	SW846 3050B [4]
Mercury	< 0.11	0.11	mg/kg	1	09/02/14	09/03/14	KV	SW846 7471B [3]	SW846 7471B [6]
Nickel	13.4	3.8	mg/kg	1	08/29/14	08/29/14	KV	SW846 6010C [1]	SW846 3050B [4]
Selenium	< 6.4	6.4	mg/kg	1	08/29/14	08/29/14	KV	SW846 6010C [1]	SW846 3050B [4]
Silver	< 3.8	3.8	mg/kg	1	08/29/14	08/29/14	KV	SW846 6010C [1]	SW846 3050B [4]
Zinc	39.4	3.8	mg/kg	1	08/29/14	08/29/14	KV	SW846 6010C [1]	SW846 3050B [4]

(1) Instrument QC Batch: MA5183
(2) Instrument QC Batch: MA5187
(3) Instrument QC Batch: MA5193
(4) Prep QC Batch: MP13873
(5) Prep QC Batch: MP13874
(6) Prep QC Batch: MP13888

RL = Reporting Limit

Report of Analysis

Client Sample ID: PCU T35X-11G PWDD SPILL
Lab Sample ID: D61598-1
Matrix: SO - Soil
Project: PCU T35X-11G

Date Sampled: 08/26/14
Date Received: 08/28/14
Percent Solids: 79.1

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
%solids							
Solids, Percent	79.1		%	1	08/28/14	SWT	SM2540G-2011 M
prep: DEPT.OF AG, BOOK N9							
Specific Conductivity	3520	1.0	umhos/cm	1	09/02/14	JD	SM 2510B-2011 MOD
Chromium, Hexavalent	< 1.0	1.0	mg/kg	1	09/02/14	AK	SW846 3060A/7196A
Chromium, Trivalent [a]	21.1	2.3	mg/kg	1	09/02/14	AK	SW846 3060A/7196A M
Redox Potential Vs H2	378		mv	1	08/29/14	JD	ASTM D1498-76M
pH	9.77		su	1	08/29/14 14:35	TB	SW846 9045D

(a) Calculated as: (Chromium) - (Chromium, Hexavalent)

RL = Reporting Limit

Report of Analysis

Client Sample ID: PCU T35X-11G PWDD SPILL
Lab Sample ID: D61598-1A
Matrix: SO - Soil
Project: PCU T35X-11G

Date Sampled: 08/26/14
Date Received: 08/28/14
Percent Solids: 79.1

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Calcium	42.3	2.0	mg/l	1	08/29/14	08/29/14	KV	SW846 6010C [1]	SW846 3010A [2]
Magnesium	7.99	1.0	mg/l	1	08/29/14	08/29/14	KV	SW846 6010C [1]	SW846 3010A [2]
Sodium	630	2.0	mg/l	1	08/29/14	08/29/14	KV	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA5183
(2) Prep QC Batch: MP13872

RL = Reporting Limit

Report of Analysis

Client Sample ID:	PCU T35X-11G PWDD SPILL		
Lab Sample ID:	D61598-1A	**Date Sampled:**	08/26/14
Matrix:	SO - Soil	**Date Received:**	08/28/14
		Percent Solids:	79.1
Project:	PCU T35X-11G		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio [a]	23.3		ratio	1	08/29/14 15:57	KV	USDA HANDBOOK 60

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit

Mountain States ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

Accutest Laboratories Mountain States
4036 Youngfield Street Wheat Ridge, Co 80033
TEL. 303-425-6021 877-737-4521
FAX 303-425-6021

FED-EX Tracking #	Bottle Order Control #
Accutest Quote #	Accutest Job # D61598

Client / Reporting Information

- Company Name: XTO Energy
- Street Address: 2145 9 CR 5
- City: Rifle State: CO Zip: 81650
- Project Contact: Jes Dooling E-mail:
- Phone #: 970-675-4122 Fax #:
- Sampler(s) Name(s): Jes Dooling Phone #:

Project Information

- Project Name: PCU T35X-11G PWDD
- Street:
- City:
- Project#:
- Client PO#:
- Project Manager:

Billing Information (If different from Report to)

- Company Name:
- Street Address:
- City: State: Zip:
- Attention: PO#:

Requested Analysis (see TEST CODE sheet): Table 910

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB- Equipment Blank; RB- Rinse Blank; TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	Bisulfate	Table 910	LAB USE ONLY
	PCUT35X-11G PWDD spill		8/26/2014	11:45	JD	SO	5										5	01

Data Deliverable Information

Turnaround Time (Business days)

- ☐ Std. 10 Business Days
- ☐ Std. 5 Business Days (By Contract only)
- ☐ 5 Day RUSH
- ☒ 3 Day EMERGENCY
- ☐ 2 Day EMERGENCY
- ☐ 1 Day EMERGENCY

Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM): / Date:

- ☐ Commercial "A" (Level 1)
- ☐ Commercial "B" (Level 2)
- ☐ Commercial "B" +Narrative
- ☐ FULLT1 (Level 3+4)
- ☐ State Forms
- ☐ EDD Format
- ☐ PDF

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

Comments / Special Instructions: send reports to KRW Piceance team

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 [signature]	8/26/2014 11:00	1 Dwayne Knudson	2 Dwayne Knudson	8/27/14 1600	2 Rifle Service Center
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4 Co	Date Time:	Received By: 4 [signature] 8-28-14 1120
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	☐ Intact ☐ Not intact	Preserved where applicable ☐ On Ice ☑ Cooler Temp. 2.9

D61598: Chain of Custody
Page 1 of 1

Mountain States ACCUTEST LABORATORIES

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: D61598
Account: XTOKRWR XTO Energy
Project: PCU T35X-11G

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V1958-MB	5V33134.D	1	08/29/14	JL	n/a	n/a	V5V1958

The QC reported here applies to the following samples: **Method:** SW846 8260B

D61598-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	50	19	ug/kg	
100-41-4	Ethylbenzene	ND	100	19	ug/kg	
108-88-3	Toluene	ND	100	50	ug/kg	
1330-20-7	Xylene (total)	ND	200	50	ug/kg	

CAS No.	Surrogate Recoveries		Limits
2037-26-5	Toluene-D8	101%	64-130%
460-00-4	4-Bromofluorobenzene	99%	62-131%
17060-07-0	1,2-Dichloroethane-D4	104%	70-130%

Blank Spike Summary

Job Number: D61598
Account: XTOKRWR XTO Energy
Project: PCU T35X-11G

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V1958-BS	5V33135.D	1	08/29/14	JL	n/a	n/a	V5V1958

The QC reported here applies to the following samples: **Method:** SW846 8260B

D61598-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	2500	2560	102	70-130
100-41-4	Ethylbenzene	2500	2600	104	70-130
108-88-3	Toluene	2500	2430	97	70-130
1330-20-7	Xylene (total)	7500	7720	103	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
2037-26-5	Toluene-D8	102%	64-130%
460-00-4	4-Bromofluorobenzene	96%	62-131%
17060-07-0	1,2-Dichloroethane-D4	102%	70-130%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: D61598
Account: XTOKRWR XTO Energy
Project: PCU T35X-11G

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V1958-BS	5V33136.D	1	08/29/14	JL	n/a	n/a	V5V1958

The QC reported here applies to the following samples: **Method:** SW846 8260B

D61598-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits

CAS No.	Surrogate Recoveries	BSP	Limits
2037-26-5	Toluene-D8	101%	64-130%
460-00-4	4-Bromofluorobenzene	99%	62-131%
17060-07-0	1,2-Dichloroethane-D4	95%	70-130%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: D61598
Account: XTOKRWR XTO Energy
Project: PCU T35X-11G

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D61598-1MS	5V33137.D	1	08/29/14	JL	n/a	n/a	V5V1958
D61598-1	5V33138.D	1	08/29/14	JL	n/a	n/a	V5V1958

The QC reported here applies to the following samples: **Method:** SW846 8260B

D61598-1

CAS No.	Compound	D61598-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Limits
71-43-2	Benzene	112		3790	3370	86	64-139
100-41-4	Ethylbenzene	64.6	J	3790	3620	94	68-136
108-88-3	Toluene	838		3790	4250	90	60-130
1330-20-7	Xylene (total)	1620		11400	12000	91	58-142

CAS No.	Surrogate Recoveries	MS	D61598-1	Limits
2037-26-5	Toluene-D8	103%	104%	64-130%
460-00-4	4-Bromofluorobenzene	91%	95%	62-131%
17060-07-0	1,2-Dichloroethane-D4	98%	98%	70-130%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: D61598
Account: XTOKRWR XTO Energy
Project: PCU T35X-11G

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D61598-1MS	5V33144.D	1	08/29/14	JL	n/a	n/a	V5V1958
D61598-1	5V33138.D	1	08/29/14	JL	n/a	n/a	V5V1958

The QC reported here applies to the following samples: **Method:** SW846 8260B

D61598-1

CAS No.	Compound	D61598-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Limits

CAS No.	Surrogate Recoveries	MS	D61598-1	Limits
2037-26-5	Toluene-D8	101%	104%	64-130%
460-00-4	4-Bromofluorobenzene	99%	95%	62-131%
17060-07-0	1,2-Dichloroethane-D4	101%	98%	70-130%

* = Outside of Control Limits.

Duplicate Summary

Job Number: D61598
Account: XTOKRWR XTO Energy
Project: PCU T35X-11G

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D61609-2DUP	5V33141.D	1	08/29/14	JL	n/a	n/a	V5V1958
D61609-2	5V33139.D	1	08/29/14	JL	n/a	n/a	V5V1958
D61609-2	5V33140.D	1	08/29/14	JL	n/a	n/a	V5V1958

The QC reported here applies to the following samples: **Method:** SW846 8260B

D61598-1

CAS No.	Compound	D61609-2 ug/kg	Q	DUP ug/kg	Q	RPD	Limits
71-43-2	Benzene	1390		1390		2	30
100-41-4	Ethylbenzene	23500 [a]		22900		3	30
108-88-3	Toluene	66400 [a]		65400		2	30
1330-20-7	Xylene (total)	523000 [b]		463000	E	1	30

CAS No.	Surrogate Recoveries	DUP	D61609-2	D61609-2	Limits
2037-26-5	Toluene-D8	106%	125%	105%	64-130%
460-00-4	4-Bromofluorobenzene	92%	84%	90%	62-131%
17060-07-0	1,2-Dichloroethane-D4	100%	104%	104%	70-130%

(a) Result is from Run #2.
(b) Result is from Run #3.

* = Outside of Control Limits.

Mountain States ACCUTEST LABORATORIES

GC/MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: D61598
Account: XTOKRWR XTO Energy
Project: PCU T35X-11G

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10521-MB	3G21175.D	1	09/02/14	DC	08/29/14	OP10521	E3G1049

The QC reported here applies to the following samples: **Method:** SW846 8270C BY SIM

D61598-1

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.3	3.3	ug/kg	
120-12-7	Anthracene	ND	4.3	3.0	ug/kg	
56-55-3	Benzo(a)anthracene	ND	4.3	2.1	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	4.3	2.7	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	4.3	2.1	ug/kg	
50-32-8	Benzo(a)pyrene	ND	4.3	2.1	ug/kg	
218-01-9	Chrysene	ND	4.3	2.1	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	4.3	2.1	ug/kg	
206-44-0	Fluoranthene	ND	4.3	2.4	ug/kg	
86-73-7	Fluorene	ND	4.3	3.1	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.3	2.1	ug/kg	
91-20-3	Naphthalene	ND	4.3	2.6	ug/kg	
129-00-0	Pyrene	ND	4.3	2.5	ug/kg	

CAS No.	Surrogate Recoveries		Limits
4165-60-0	Nitrobenzene-d5	77%	11-164%
321-60-8	2-Fluorobiphenyl	75%	14-138%
1718-51-0	Terphenyl-d14	100%	35-139%

Blank Spike Summary

Job Number: D61598
Account: XTOKRWR XTO Energy
Project: PCU T35X-11G

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10521-BS	3G21176.D	1	09/02/14	DC	08/29/14	OP10521	E3G1049

The QC reported here applies to the following samples: **Method:** SW846 8270C BY SIM

D61598-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
83-32-9	Acenaphthene	83.3	78.4	94	42-130
120-12-7	Anthracene	83.3	66.2	79	45-130
56-55-3	Benzo(a)anthracene	83.3	75.5	91	49-137
205-99-2	Benzo(b)fluoranthene	83.3	84.1	101	43-146
207-08-9	Benzo(k)fluoranthene	83.3	69.8	84	27-146
50-32-8	Benzo(a)pyrene	83.3	75.4	90	53-130
218-01-9	Chrysene	83.3	77.5	93	61-130
53-70-3	Dibenzo(a,h)anthracene	83.3	70.2	84	59-130
206-44-0	Fluoranthene	83.3	69.1	83	48-130
86-73-7	Fluorene	83.3	76.2	91	44-130
193-39-5	Indeno(1,2,3-cd)pyrene	83.3	72.3	87	58-130
91-20-3	Naphthalene	83.3	78.9	95	56-130
129-00-0	Pyrene	83.3	77.9	93	53-130

CAS No.	Surrogate Recoveries	BSP	Limits
4165-60-0	Nitrobenzene-d5	91%	11-164%
321-60-8	2-Fluorobiphenyl	88%	14-138%
1718-51-0	Terphenyl-d14	98%	35-139%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D61598
Account: XTOKRWR XTO Energy
Project: PCU T35X-11G

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10521-MS [a]	3G21178.D	1	09/02/14	DC	08/29/14	OP10521	E3G1049
OP10521-MSD [a]	3G21179.D	1	09/02/14	DC	08/29/14	OP10521	E3G1049
D61485-1 [a]	3G21177.D	1	09/02/14	DC	08/29/14	OP10521	E3G1049

The QC reported here applies to the following samples: **Method:** SW846 8270C BY SIM

D61598-1

CAS No.	Compound	D61485-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND		177	148	84	178	149	84	1	10-167/30
120-12-7	Anthracene	ND		177	138	78	178	139	78	1	10-200/30
56-55-3	Benzo(a)anthracene	ND		177	157	89	178	160	90	2	10-161/30
205-99-2	Benzo(b)fluoranthene	ND		177	157	89	178	157	88	0	10-166/30
207-08-9	Benzo(k)fluoranthene	ND		177	129	73	178	131	74	2	10-152/30
50-32-8	Benzo(a)pyrene	ND		177	145	82	178	148	83	2	10-149/30
218-01-9	Chrysene	ND		177	147	83	178	147	82	0	10-156/30
53-70-3	Dibenzo(a,h)anthracene	ND		177	132	75	178	137	77	4	11-149/30
206-44-0	Fluoranthene	ND		177	149	84	178	150	84	1	10-175/30
86-73-7	Fluorene	ND		177	151	85	178	155	87	3	10-280/30
193-39-5	Indeno(1,2,3-cd)pyrene	ND		177	136	77	178	140	79	3	10-151/30
91-20-3	Naphthalene	ND		177	146	82	178	144	81	1	10-230/30
129-00-0	Pyrene	ND		177	159	90	178	161	90	1	10-160/30

CAS No.	Surrogate Recoveries	MS	MSD	D61485-1	Limits
4165-60-0	Nitrobenzene-d5	78%	75%	76%	11-164%
321-60-8	2-Fluorobiphenyl	75%	75%	79%	14-138%
1718-51-0	Terphenyl-d14	83%	83%	84%	35-139%

(a) Elevated reporting limit due to insufficient sample.

* = Outside of Control Limits.

Mountain States ACCUTEST LABORATORIES

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: D61598
Account: XTOKRWR XTO Energy
Project: PCU T35X-11G

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB1432-MB	GB26327.D	1	08/28/14	EP	n/a	n/a	GGB1432

The QC reported here applies to the following samples: **Method:** SW846 8015B

D61598-1

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	9.9	4.9	mg/kg	

CAS No.	Surrogate Recoveries		Limits
120-82-1	1,2,4-Trichlorobenzene	95%	60-140%

Blank Spike Summary

Job Number: D61598
Account: XTOKRWR XTO Energy
Project: PCU T35X-11G

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB1432-BS	GB26328.D	1	08/28/14	EP	n/a	n/a	GGB1432

The QC reported here applies to the following samples: **Method:** SW846 8015B

D61598-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	108	109	100	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	97%	60-140%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D61598
Account: XTOKRWR XTO Energy
Project: PCU T35X-11G

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D61486-1MS	GB26330.D	1	08/28/14	EP	n/a	n/a	GGB1432
D61486-1MSD	GB26331.D	1	08/28/14	EP	n/a	n/a	GGB1432
D61486-1	GB26329.D	1	08/28/14	EP	n/a	n/a	GGB1432

The QC reported here applies to the following samples: **Method:** SW846 8015B

D61598-1

CAS No.	Compound	D61486-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	Spike mg/kg	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND		118	121	103	118	116	98	4	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D61486-1	Limits
120-82-1	1,2,4-Trichlorobenzene	96%	95%	98%	60-140%

* = Outside of Control Limits.

Mountain States ACCUTEST LABORATORIES

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: D61598
Account: XTOKRWR XTO Energy
Project: PCU T35X-11G

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10511-MB	FI16134.D	1	08/28/14	JS	08/28/14	OP10511	GFI933

The QC reported here applies to the following samples: **Method:** SW846-8015B

D61598-1

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	6.7	5.0	mg/kg	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	85%	20-130%

Blank Spike Summary

Job Number: D61598
Account: XTOKRWR XTO Energy
Project: PCU T35X-11G

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10511-BS	FI16136.D	1	08/28/14	JS	08/28/14	OP10511	GFI933

The QC reported here applies to the following samples: **Method:** SW846-8015B

D61598-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-DRO (C10-C28)	167	115	69	42-130

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	108%	20-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D61598
Account: XTOKRWR XTO Energy
Project: PCU T35X-11G

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10511-MS	FI16138.D	1	08/28/14	JS	08/28/14	OP10511	GFI933
OP10511-MSD	FI16140.D	1	08/28/14	JS	08/28/14	OP10511	GFI933
D61477-1	FI16142.D	1	08/28/14	JS	08/28/14	OP10511	GFI933

The QC reported here applies to the following samples: **Method:** SW846-8015B

D61598-1

CAS No.	Compound	D61477-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	Spike mg/kg	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	35.9		184	129	51	183	146	60	12	20-150/30

CAS No.	Surrogate Recoveries	MS	MSD	D61477-1	Limits
84-15-1	o-Terphenyl	85%	85%	83%	20-130%

* = Outside of Control Limits.

Mountain States ACCUTEST LABORATORIES

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D61598
Account: XTOKRWR - XTO Energy
Project: PCU T35X-11G

QC Batch ID: MP13872
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 08/29/14

Metal	RL	IDL	MDL	MB raw	final
Aluminum	500	55	210		
Antimony	150	11	95		
Arsenic	130	19	28		
Barium	50	1	7		
Beryllium	50	4.5	6		
Boron	250	4	33		
Cadmium	50	1	1.8		
Calcium	2000	12	210	-39	<2000
Chromium	50	1.5	2		
Cobalt	25	2.5	2.9		
Copper	50	4	9.5		
Iron	350	7.5	48		
Lead	250	11	110		
Lithium	25	2	14		
Magnesium	1000	34	95	38.0	<1000
Manganese	25	2.5	2.3		
Molybdenum	50	2	4.2		
Nickel	150	2.5	4.4		
Phosphorus	500	75	100		
Potassium	5000	500	1400		
Selenium	250	36	55		
Silicon	250	24	26		
Silver	150	1.5	3		
Sodium	2000	37	850	-89	<2000
Strontium	25	.05	.6		
Thallium	50	9	20		
Tin	250	60	80		
Titanium	50	.5	11		
Uranium	250	15	28		
Vanadium	50	2	2		
Zinc	150	2	16		

Associated samples MP13872: D61598-1A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D61598
Account: XTOKRWR - XTO Energy
Project: PCU T35X-11G

QC Batch ID: MP13872
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 08/29/14

Metal	RL	IDL	MDL	MB raw	final

(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D61598
Account: XTOKRWR - XTO Energy
Project: PCU T35X-11G

QC Batch ID: MP13872
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 08/29/14

Metal	TC53618-1 Original	MS	Spikelot ICPALL2	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic					
Barium					
Beryllium					
Boron					
Cadmium					
Calcium	1620000	1770000	125000	120.0	75-125
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Lithium					
Magnesium	925	114000	125000	90.5	75-125
Manganese					
Molybdenum					
Nickel					
Phosphorus					
Potassium					
Selenium					
Silicon					
Silver					
Sodium	31900000	35000000	125000	2480.0(a	75-125
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc					

Associated samples MP13872: D61598-1A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D61598
Account: XTOKRWR - XTO Energy
Project: PCU T35X-11G

QC Batch ID: MP13872
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 08/29/14

Metal	TC53618-1 Original MS	Spikelot ICPALL2	% Rec	QC Limits

(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D61598
Account: XTOKRWR - XTO Energy
Project: PCU T35X-11G

QC Batch ID: MP13872
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 08/29/14

Metal	TC53618-1 Original	MSD	Spikelot ICPALL2	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Boron						
Cadmium						
Calcium	1620000	1890000	125000	216.0(a)	4.7	20
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Lithium						
Magnesium	925	115000	125000	91.3	9.9	20
Manganese						
Molybdenum						
Nickel						
Phosphorus						
Potassium						
Selenium						
Silicon						
Silver						
Sodium	31900000	34500000	125000	2080.0(a	1.4	20
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc						

Associated samples MP13872: D61598-1A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D61598
Account: XTOKRWR - XTO Energy
Project: PCU T35X-11G

QC Batch ID: MP13872
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 08/29/14

Metal	TC53618-1 Original MSD	Spikelot ICPALL2 % Rec	MSD RPD	QC Limit

(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D61598
Account: XTOKRWR - XTO Energy
Project: PCU T35X-11G

QC Batch ID: MP13872
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 08/29/14

Metal	BSP Result	Spikelot ICPALL2	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	129000	125000	103.2	80-120
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Lithium				
Magnesium	122000	125000	97.6	80-120
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium	120000	125000	96.0	80-120
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP13872: D61598-1A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D61598
Account: XTOKRWR - XTO Energy
Project: PCU T35X-11G

QC Batch ID: MP13872
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 08/29/14

Metal	BSP Result	Spikelot ICPALL2	% Rec	QC Limits

(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: D61598
Account: XTOKRWR - XTO Energy
Project: PCU T35X-11G

QC Batch ID: MP13872
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 08/29/14

Metal	TC53618-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	325000	332000	2.1	0-10
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Lithium				
Magnesium	185	231	24.7 (a)	0-10
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium	6390000	7230000	13.2*(b)	0-10
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP13872: D61598-1A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

SERIAL DILUTION RESULTS SUMMARY

Login Number: D61598
Account: XTOKRWR - XTO Energy
Project: PCU T35X-11G

QC Batch ID: MP13872
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 08/29/14

	TC53618-1		QC
Metal	Original SDL 1:5	%DIF	Limits

(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
(b) Serial dilution indicates possible matrix interference.

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D61598
Account: XTOKRWR - XTO Energy
Project: PCU T35X-11G

QC Batch ID: MP13873
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 08/29/14

Metal	RL	IDL	MDL	MB raw	final
Aluminum	10	1.1	1.8		
Antimony	3.0	.21	.5		
Arsenic	2.5	.38	.63		
Barium	1.0	.02	.36	0.12	<1.0
Beryllium	1.0	.09	.06		
Boron	5.0	.08	.16		
Cadmium	1.0	.02	.28	0.020	<1.0
Calcium	40	.24	6.8		
Chromium	1.0	.03	.03	0.060	<1.0
Cobalt	0.50	.05	.039		
Copper	1.0	.08	.13	0.23	<1.0
Iron	7.0	.15	1.8		
Lead	5.0	.21	.25	0.10	<5.0
Lithium	0.50	.04	.13		
Magnesium	20	.68	1.8		
Manganese	0.50	.05	.038		
Molybdenum	1.0	.04	.13		
Nickel	3.0	.05	.07	0.17	<3.0
Phosphorus	10	1.5	1.2		
Potassium	200	9.9	12		
Selenium	5.0	.71	1.1	0.10	<5.0
Silicon	5.0	.47	1.1		
Silver	3.0	.03	.05	0.060	<3.0
Sodium	40	.73	3.7		
Strontium	5.0	.001	.022		
Thallium	1.0	.18	.46		
Tin	5.0	1.2	2.3		
Titanium	1.0	.01	.46		
Uranium	5.0	.29	.31		
Vanadium	1.0	.04	.043		
Zinc	3.0	.04	.16	0.47	<3.0

Associated samples MP13873: D61598-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D61598
Account: XTOKRWR - XTO Energy
Project: PCU T35X-11G

QC Batch ID: MP13873
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 08/29/14

Metal	RL	IDL	MDL	MB raw	final

(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D61598
Account: XTOKRWR - XTO Energy
Project: PCU T35X-11G

QC Batch ID: MP13873
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 08/29/14

Metal	D61598-1 Original	MS	Spikelot ICPALL2	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic					
Barium	1380	1570	255	74.4 (a)	75-125
Beryllium					
Boron					
Cadmium	0.57	55.5	63.8	86.0	75-125
Calcium					
Chromium	21.1	75.4	63.8	85.0	75-125
Cobalt					
Copper	12.1	69.7	63.8	90.2	75-125
Iron					
Lead	15.1	125	128	86.1	75-125
Lithium					
Magnesium					
Manganese					
Molybdenum					
Nickel	13.4	64.6	63.8	80.2	75-125
Phosphorus	anr				
Potassium					
Selenium	3.4	117	128	89.0	75-125
Silicon					
Silver	0.0	22.0	25.5	86.1	75-125
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc	39.4	93.5	63.8	84.7	75-125

Associated samples MP13873: D61598-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D61598
Account: XTOKRWR - XTO Energy
Project: PCU T35X-11G

QC Batch ID: MP13873
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 08/29/14

Metal	D61598-1 Original MS	Spikelot ICPALL2	% Rec	QC Limits

(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D61598
Account: XTOKRWR - XTO Energy
Project: PCU T35X-11G

QC Batch ID: MP13873
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 08/29/14

Metal	D61598-1 Original	MSD	Spikelot ICPALL2	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium	1380	1640	253	102.8	4.4	20
Beryllium						
Boron						
Cadmium	0.57	55.2	63.2	86.4	0.5	20
Calcium						
Chromium	21.1	75.4	63.2	85.9	0.0	20
Cobalt						
Copper	12.1	69.1	63.2	90.2	0.9	20
Iron						
Lead	15.1	124	126	86.1	0.8	20
Lithium						
Magnesium						
Manganese						
Molybdenum						
Nickel	13.4	64.0	63.2	80.0	0.9	20
Phosphorus	anr					
Potassium						
Selenium	3.4	117	126	89.9	0.0	20
Silicon						
Silver	0.0	21.8	25.3	86.2	0.9	20
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc	39.4	93.7	63.2	85.9	0.2	20

Associated samples MP13873: D61598-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D61598
Account: XTOKRWR - XTO Energy
Project: PCU T35X-11G

QC Batch ID: MP13873 Methods: SW846 6010C
Matrix Type: SOLID Units: mg/kg

Prep Date: 08/29/14

Metal	D61598-1 Original MSD	Spikelot ICPALL2	% Rec	MSD RPD	QC Limit

(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D61598
Account: XTOKRWR - XTO Energy
Project: PCU T35X-11G

QC Batch ID: MP13873
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 08/29/14

Metal	BSP Result	Spikelot ICPALL2	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium	194	200	97.0	80-120
Beryllium				
Boron				
Cadmium	47.9	50	95.8	80-120
Calcium				
Chromium	49.4	50	98.8	80-120
Cobalt				
Copper	48.3	50	96.6	80-120
Iron				
Lead	100	100	100.0	80-120
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel	46.9	50	93.8	80-120
Phosphorus	anr			
Potassium				
Selenium	101	100	101.0	80-120
Silicon				
Silver	20.1	20	100.5	80-120
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc	48.9	50	97.8	80-120

Associated samples MP13873: D61598-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D61598
Account: XTOKRWR - XTO Energy
Project: PCU T35X-11G

QC Batch ID: MP13873
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 08/29/14

Metal	BSP Result	Spikelot ICPALL2	% Rec	QC Limits

(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: D61598
Account: XTOKRWR - XTO Energy
Project: PCU T35X-11G

QC Batch ID: MP13873
Matrix Type: SOLID

Methods: SW846 6010C
Units: ug/l

Prep Date: 08/29/14

Metal	D61598-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium	10800	11800	9.0	0-10
Beryllium				
Boron				
Cadmium	4.50	5.00	11.1 (a)	0-10
Calcium				
Chromium	165	181	9.5	0-10
Cobalt				
Copper	95.0	91.5	3.7	0-10
Iron				
Lead	118	140	18.3*(b)	0-10
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel	105	121	15.2*(b)	0-10
Phosphorus	anr			
Potassium				
Selenium	26.9	39.0	45.0 (a)	0-10
Silicon				
Silver	0.00	0.00	NC	0-10
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc	309	362	17.0*(b)	0-10

Associated samples MP13873: D61598-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

SERIAL DILUTION RESULTS SUMMARY

Login Number: D61598
Account: XTOKRWR - XTO Energy
Project: PCU T35X-11G

QC Batch ID: MP13873
Matrix Type: SOLID

Methods: SW846 6010C
Units: ug/l

Prep Date: 08/29/14

	D61598-1		QC
Metal	Original SDL 1:5	%DIF	Limits

(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
(b) Serial dilution indicates possible matrix interference.

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D61598
Account: XTOKRWR - XTO Energy
Project: PCU T35X-11G

QC Batch ID: MP13874
Matrix Type: SOLID

Methods: SW846 6020A
Units: mg/kg

Prep Date: 08/29/14

Metal	RL	IDL	MDL	MB raw	final
Arsenic	0.10	.0085	.024	0.0051	<0.10

Associated samples MP13874: D61598-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D61598
Account: XTOKRWR - XTO Energy
Project: PCU T35X-11G

QC Batch ID: MP13874
Matrix Type: SOLID

Methods: SW846 6020A
Units: mg/kg

Prep Date: 08/29/14

Metal	D61598-1 Original	MS	Spikelot ICPALL2	% Rec	QC Limits
Arsenic	5.1	131	128	98.6	75-125

Associated samples MP13874: D61598-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D61598
Account: XTOKRWR - XTO Energy
Project: PCU T35X-11G

QC Batch ID: MP13874 Methods: SW846 6020A
Matrix Type: SOLID Units: mg/kg

Prep Date: 08/29/14

Metal	D61598-1 Original	MSD	Spikelot ICPALL2	% Rec	MSD RPD	QC Limit
Arsenic	5.1	127	126	96.4	3.1	20

Associated samples MP13874: D61598-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D61598
Account: XTOKRWR - XTO Energy
Project: PCU T35X-11G

QC Batch ID: MP13874
Matrix Type: SOLID

Methods: SW846 6020A
Units: mg/kg

Prep Date: 08/29/14

Metal	BSP Result	Spikelot ICPALL2	% Rec	QC Limits
Arsenic	97.9	100	97.9	80-120

Associated samples MP13874: D61598-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: D61598
Account: XTOKRWR - XTO Energy
Project: PCU T35X-11G

QC Batch ID: MP13874
Matrix Type: SOLID

Methods: SW846 6020A
Units: ug/l

Prep Date: 08/29/14

Metal	D61598-1 Original	SDL 5:25	%DIF	QC Limits
Arsenic	39.9	40.1	0.5	0-10

Associated samples MP13874: D61598-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D61598
Account: XTOKRWR - XTO Energy
Project: PCU T35X-11G

QC Batch ID: MP13888 Methods: SW846 7471B
Matrix Type: SOLID Units: mg/kg

Prep Date: 09/02/14

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.083	.00088	.0067	0.00053	<0.083

Associated samples MP13888: D61598-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D61598
Account: XTOKRWR - XTO Energy
Project: PCU T35X-11G

QC Batch ID: MP13888
Matrix Type: SOLID

Methods: SW846 7471B
Units: mg/kg

Prep Date: 09/02/14

Metal	D61598-1 Original	MS	Spikelot HGWSR1	% Rec	QC Limits
Mercury	0.019	0.43	0.408	100.8	75-125

Associated samples MP13888: D61598-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D61598
Account: XTOKRWR - XTO Energy
Project: PCU T35X-11G

QC Batch ID: MP13888 Methods: SW846 7471B
Matrix Type: SOLID Units: mg/kg

Prep Date: 09/02/14

Metal	D61598-1 Original	MSD	Spikelot HGWSR1	% Rec	MSD RPD	QC Limit
Mercury	0.019	0.44	0.421	99.9	2.3	20

Associated samples MP13888: D61598-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D61598
Account: XTOKRWR - XTO Energy
Project: PCU T35X-11G

QC Batch ID: MP13888
Matrix Type: SOLID

Methods: SW846 7471B
Units: mg/kg

Prep Date: 09/02/14

Metal	BSP Result	Spikelot HGWSR1	% Rec	QC Limits
Mercury	0.33	0.333	99.0	80-120

Associated samples MP13888: D61598-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

Mountain States ACCUTEST LABORATORIES

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D61598
Account: XTOKRWR - XTO Energy
Project: PCU T35X-11G

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chromium, Hexavalent	GP13423/GN26273	1.0	0.0	mg/kg	205	205	100.2	80-120%
Specific Conductivity	GP13418/GN26256			umhos/cm	10000	9790	97.9	90-110%
pH	GN26250			su	8.00	7.99	99.9	99.1-100.9%

Associated Samples:
Batch GN26250: D61598-1
Batch GP13418: D61598-1
Batch GP13423: D61598-1
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D61598
Account: XTOKRWR - XTO Energy
Project: PCU T35X-11G

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chromium, Hexavalent	GP13423/GN26273	D61485-1	mg/kg	0.0	0.0	0.0	0-20%
Redox Potential Vs H2	GN26236	D61485-1	mv	370	377	1.9	0-20%

Associated Samples:
Batch GN26236: D61598-1
Batch GP13423: D61598-1
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D61598
Account: XTOKRWR - XTO Energy
Project: PCU T35X-11G

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chromium, Hexavalent	GP13423/GN26273	D61485-1	mg/kg	0.0	40.0	40.1	100.0	75-125%

Associated Samples:
Batch GP13423: D61598-1
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D61598
Account: XTOKRWR - XTO Energy
Project: PCU T35X-11G

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Chromium, Hexavalent	GP13423/GN26273	D61485-1	mg/kg	0.0	40.0	40.5	1.1	20%

Associated Samples:
Batch GP13423: D61598-1
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

Mountain States ACCUTEST LABORATORIES

09/24/14

Technical Report for

XTO Energy, Inc.

PCU T35X-11G

Accutest Job Number: D62509

Sampling Date: 09/19/14

Report to:

XTO Energy, Inc.
21459 County Road 5
Rifle, CO 81650
jessica_dooling@xtoenergy.com

ATTN: Jes Dooling

Total number of pages in report: **25**

NELAP ACCREDITED TNI LABORATORY

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Scott Heideman
Laboratory Director

Client Service contact: Renea Jackson 303-425-6021

Certifications: CO (CO00049), ID, NE (CO00049), ND (R-027), NJ (CO 0007), OK (D9942), UT (NELAP CO00049), TX (T104704511)

Sections: 1 2 3 4 5 6 7

Table of Contents

Sample Summary

XTO Energy, Inc.

PCU T35X-11G

Job No: D62509

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
D62509-1	09/19/14	09:00	AS	09/20/14	SO	Soil	PCU T35X-11G-1
D62509-1A	09/19/14	09:00	AS	09/20/14	SO	Soil	PCU T35X-11G-1

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	XTO Energy, Inc.	**Job No**	D62509
Site:	PCU T35X-11G	**Report Date**	9/24/2014 6:44:17 PM

On 09/20/2014, 1 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 4.9 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D62509 was assigned to the project. The lab sample ID, client sample ID, and date of sample collection are detailed in the report's Results Summary.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Metals By Method SW846 6010C

Matrix: AQ **Batch ID:** MP14085

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D62498-1AMS, D62498-1AMSD, D62498-1ASDL were used as the QC samples for the metals analysis.

Wet Chemistry By Method SW846 9045D

Matrix: SO **Batch ID:** GN26613

- The following samples were run outside of holding time for method SW846 9045D: D62509-1

Wet Chemistry By Method USDA HANDBOOK 60

Matrix: SO **Batch ID:** MP14085

- D62509-1A for Sodium Adsorption Ratio: Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+(Mg meq/L)/2]

AMS certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting AMS's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

AMS is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. This report is authorized by AMS indicated via signature on the report cover.

Summary of Hits

Job Number: D62509
Account: XTO Energy, Inc.
Project: PCU T35X-11G
Collected: 09/19/14

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
D62509-1	**PCU T35X-11G-1**					
pH		9.61			su	SW846 9045D
D62509-1A	**PCU T35X-11G-1**					
Calcium		66.4	2.0		mg/l	SW846 6010C
Magnesium		12.1	1.0		mg/l	SW846 6010C
Sodium		442	2.0		mg/l	SW846 6010C
Sodium Adsorption Ratio [a]		13.1			ratio	USDA HANDBOOK 60

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

Mountain States ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	PCU T35X-11G-1		
Lab Sample ID:	D62509-1	**Date Sampled:**	09/19/14
Matrix:	SO - Soil	**Date Received:**	09/20/14
		Percent Solids:	n/a
Project:	PCU T35X-11G		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
pH	9.61		su	1	09/23/14 15:30	TB	SW846 9045D

RL = Reporting Limit

Report of Analysis

Client Sample ID: PCU T35X-11G-1
Lab Sample ID: D62509-1A
Matrix: SO - Soil
Project: PCU T35X-11G

Date Sampled: 09/19/14
Date Received: 09/20/14
Percent Solids: n/a

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Calcium	66.4	2.0	mg/l	1	09/23/14	09/23/14	KV	SW846 6010C [1]	SW846 3010A/M [2]
Magnesium	12.1	1.0	mg/l	1	09/23/14	09/23/14	KV	SW846 6010C [1]	SW846 3010A/M [2]
Sodium	442	2.0	mg/l	1	09/23/14	09/23/14	KV	SW846 6010C [1]	SW846 3010A/M [2]

(1) Instrument QC Batch: MA5274
(2) Prep QC Batch: MP14085

RL = Reporting Limit

Report of Analysis

Client Sample ID:	PCU T35X-11G-1		
Lab Sample ID:	D62509-1A	**Date Sampled:**	09/19/14
Matrix:	SO - Soil	**Date Received:**	09/20/14
		Percent Solids:	n/a
Project:	PCU T35X-11G		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio [a]	13.1		ratio	1	09/23/14 17:45	KV	USDA HANDBOOK 60

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit

Mountain States ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

PAGE 1 OF 1

Accutest Laboratories Mountain States
4036 Youngfield Street Wheat Ridge, Co 80033
TEL. 303-425-6021 877-737-4521
FAX 303-425-6021

FED-EX Tracking # | Bottle Order Control #
Accutest Quote # | Accutest Job # D62509

Client / Reporting Information

Company Name: XTO Energy
Street Address: 21459 CR 5
City: Rifle State: Co Zip: 81650
Project Contact: Jessica Dooling E-mail:
Phone #: 970-675-4122 Fax #:
Sampler(s) Name(s): Phone #:

Project Information

Project Name: PCU T35X-11G -1
Street:
City:
Project#:
Client PO#:
Project Manager:

Billing Information (if different from Report to)

Company Name:
Street Address:
City State Zip:
Attention: PO#:

Requested Analysis (see TEST CODE sheet)

SAR H2

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB- Equipment Blank
RB- Rinse Blank
TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	Bisulfite		LAB USE ONLY
	PCU T35X-11G -1		9-9-14	9:00AM	BS	SO	2										2	01

Turnaround Time (Business days)

Approved By (Accutest PM): / Date:

- [ ] Std. 10 Business Days
- [ ] Std. 5 Business Days (By Contract only)
- [ ] 5 Day RUSH
- [x] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] Commercial "B" +Narrative
- [ ] FULLT1 (Level 3+4)
- [ ] State Forms
- [ ] EDD Format
- [ ] PDF

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

Comments / Special Instructions

Send to Rifle KRW team

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		9-11-14 10:30	Rifle Service Center	2		2 Jacob Porter 9/20/14 1200
3			3	4		4
5			5			

Custody Seal # FX | Intact | Not Intact | Preserved where applicable | On Ice | Cooler Temp. 4.9

D62509: Chain of Custody
Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D62509 **Client:** XTO ENERGY **Project:** PCU T35X-11G

Date / Time Received: 9/20/2014 12:00:00 PM **Delivery Method:** **Airbill #'s:** Fedex

Cooler Temps (Initial/Adjusted): 0

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	;		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☐
2. Trip Blank listed on COC:	☐		☐	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☐

Comments

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Accutest Laboratories
V:(303) 425-6021

4036 Youngfield Street
F: (303) 425-6854

Wheat Ridge, CO
www/accutest.com

D62509: Chain of Custody
Page 2 of 2

Mountain States ACCUTEST LABORATORIES

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D62509
Account: XTOECOR - XTO Energy, Inc.
Project: PCU T35X-11G

QC Batch ID: MP14085
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 09/23/14

Metal	RL	IDL	MDL	MB raw	final
Aluminum	500	55	210		
Antimony	150	11	95		
Arsenic	130	19	28		
Barium	50	1	7		
Beryllium	50	4.5	6		
Boron	250	4	33		
Cadmium	50	1	1.8		
Calcium	2000	12	210	209	<2000
Chromium	50	1.5	2		
Cobalt	25	2.5	2.9		
Copper	50	4	9.5		
Iron	350	7.5	48		
Lead	250	11	110		
Lithium	25	2	14		
Magnesium	1000	34	95	18.5	<1000
Manganese	25	2.5	2.3		
Molybdenum	50	2	4.2		
Nickel	150	2.5	4.4		
Phosphorus	500	75	100		
Potassium	5000	500	1400		
Selenium	250	36	55		
Silicon	250	24	26		
Silver	150	1.5	3		
Sodium	2000	37	850	-480	<2000
Strontium	25	.05	.6		
Thallium	50	9	20		
Tin	250	60	80		
Titanium	50	.5	11		
Uranium	250	15	28		
Vanadium	50	2	2		
Zinc	150	2	16		

Associated samples MP14085: D62509-1A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D62509
Account: XTOECOR - XTO Energy, Inc.
Project: PCU T35X-11G

QC Batch ID: MP14085
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 09/23/14

Metal	RL	IDL	MDL	MB raw	final

(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D62509
Account: XTOECOR - XTO Energy, Inc.
Project: PCU T35X-11G

QC Batch ID: MP14085
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 09/23/14

Metal	D62498-1A Original	MS	Spikelot ICPALL2	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic					
Barium					
Beryllium					
Boron					
Cadmium					
Calcium	150000	278000	125000	102.4	75-125
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Lithium					
Magnesium	20600	147000	125000	101.1	75-125
Manganese					
Molybdenum					
Nickel					
Phosphorus					
Potassium					
Selenium					
Silicon					
Silver					
Sodium	916000	1030000	125000	91.2	75-125
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc					

Associated samples MP14085: D62509-1A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D62509
Account: XTOECOR - XTO Energy, Inc.
Project: PCU T35X-11G

QC Batch ID: MP14085
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 09/23/14

Metal	D62498-1A Original MS	Spikelot ICPALL2	% Rec	QC Limits

(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D62509
Account: XTOECOR - XTO Energy, Inc.
Project: PCU T35X-11G

QC Batch ID: MP14085
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 09/23/14

Metal	D62498-1A Original	MSD	Spikelot ICPALL2	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Boron						
Cadmium						
Calcium	150000	262000	125000	89.6	5.9	20
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Lithium						
Magnesium	20600	146000	125000	100.3	0.7	20
Manganese						
Molybdenum						
Nickel						
Phosphorus						
Potassium						
Selenium						
Silicon						
Silver						
Sodium	916000	929000	125000	10.4 (a)	10.3	20
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc						

Associated samples MP14085: D62509-1A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D62509
Account: XTOECOR - XTO Energy, Inc.
Project: PCU T35X-11G

QC Batch ID: MP14085
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 09/23/14

Metal	D62498-1A Original MSD	Spikelot ICPALL2	% Rec	MSD RPD	QC Limit

(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D62509
Account: XTOECOR - XTO Energy, Inc.
Project: PCU T35X-11G

QC Batch ID: MP14085
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 09/23/14

Metal	BSP Result	Spikelot ICPALL2	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	131000	125000	104.8	80-120
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Lithium				
Magnesium	128000	125000	102.4	80-120
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium	129000	125000	103.2	80-120
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP14085: D62509-1A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D62509
Account: XTOECOR - XTO Energy, Inc.
Project: PCU T35X-11G

QC Batch ID: MP14085
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 09/23/14

Metal	BSP Result	Spikelot ICPALL2	% Rec	QC Limits

(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: D62509
Account: XTOECOR - XTO Energy, Inc.
Project: PCU T35X-11G

QC Batch ID: MP14085
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 09/23/14

Metal	D62498-1A Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	29900	30100	0.8	0-10
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Lithium				
Magnesium	4130	4190	1.6	0-10
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium	183000	187000	2.0	0-10
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP14085: D62509-1A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

SERIAL DILUTION RESULTS SUMMARY

Login Number: D62509
Account: XTOECOR - XTO Energy, Inc.
Project: PCU T35X-11G

QC Batch ID: MP14085
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 09/23/14

	D62498-1A		QC
Metal	Original SDL 1:5	%DIF	Limits

(anr) Analyte not requested

Mountain States ACCUTEST LABORATORIES

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D62509
Account: XTOECOR - XTO Energy, Inc.
Project: PCU T35X-11G

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
pH	GN26613			su	8.00	7.98	99.8	99.1-100.9%

Associated Samples:
Batch GN26613: D62509-1
(*) Outside of QC limits

Mountain States ACCUTEST LABORATORIES

09/30/14

Technical Report for

XTO Energy

PCU T35X-11G

05103 PCDK-092514-1245

Accutest Job Number: D62710

Sampling Date: 09/25/14

Report to:

KRW Consulting, Inc.
8000 West 14th Avenue
Lakewood, CO 80214
dknudson@krwconsulting.com; jhess@krwconsulting.com;
crachak@krwconsulting.com; rrasnic@krwconsulting.com;
ATTN: Dwayne Knudson

Total number of pages in report: **25**

NELAP ACCREDITED TNI LABORATORY

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Scott Heideman
Laboratory Director

Client Service contact: Renea Jackson 303-425-6021

Certifications: CO (CO00049), ID, NE (CO00049), ND (R-027), NJ (CO 0007), OK (D9942), UT (NELAP CO00049), TX (T104704511)

Sections: 1 2 3 4 5 6 7

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Sample Summary

XTO Energy

Job No: D62710

PCU T35X-11G
Project No: 05103 PCDK-092514-1245

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
D62710-1	09/25/14	12:45	DK	09/26/14	SO	Soil	35-11 PWDD RELEASE (-3')
D62710-1A	09/25/14	12:45	DK	09/26/14	SO	Soil	35-11 PWDD RELEASE (-3')

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	XTO Energy	**Job No**	D62710
Site:	PCU T35X-11G	**Report Date**	9/30/2014 4:29:17 PM

On 09/26/2014, 1 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 4 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D62710 was assigned to the project. The lab sample ID, client sample ID, and date of sample collection are detailed in the report's Results Summary.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Metals By Method SW846 6010C

Matrix: AQ **Batch ID:** MP14136

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D62707-1AMS, D62707-1AMSD, D62707-1ASDL were used as the QC samples for the metals analysis.
- The matrix spike (MS) recovery(s) of Sodium are outside control limits. Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

Wet Chemistry By Method USDA HANDBOOK 60

Matrix: SO **Batch ID:** MP14136

- D62710-1A for Sodium Adsorption Ratio: Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+(Mg meq/L)/2]

AMS certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting AMS's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

AMS is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. This report is authorized by AMS indicated via signature on the report cover.

Summary of Hits

Job Number: D62710
Account: XTO Energy
Project: PCU T35X-11G
Collected: 09/25/14

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
D62710-1	**35-11 PWDD RELEASE (-3')**					
pH		9.76			su	SW846 9045D
D62710-1A	**35-11 PWDD RELEASE (-3')**					
Calcium		39.2	2.0		mg/l	SW846 6010C
Magnesium		9.28	1.0		mg/l	SW846 6010C
Sodium		783	2.0		mg/l	SW846 6010C
Sodium Adsorption Ratio [a]		29.2			ratio	USDA HANDBOOK 60

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

Mountain States ACCUTEST LABORATORIES

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Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	35-11 PWDD RELEASE (-3')		
Lab Sample ID:	D62710-1	**Date Sampled:**	09/25/14
Matrix:	SO - Soil	**Date Received:**	09/26/14
		Percent Solids:	n/a
Project:	PCU T35X-11G		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
pH	9.76		su	1	09/26/14 15:45	AK	SW846 9045D

RL = Reporting Limit

Report of Analysis

Client Sample ID: 35-11 PWDD RELEASE (-3')
Lab Sample ID: D62710-1A
Matrix: SO - Soil
Project: PCU T35X-11G

Date Sampled: 09/25/14
Date Received: 09/26/14
Percent Solids: n/a

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Calcium	39.2	2.0	mg/l	1	09/29/14	09/29/14	JB	SW846 6010C [1]	SW846 3010A/M [2]
Magnesium	9.28	1.0	mg/l	1	09/29/14	09/29/14	JB	SW846 6010C [1]	SW846 3010A/M [2]
Sodium	783	2.0	mg/l	1	09/29/14	09/29/14	JB	SW846 6010C [1]	SW846 3010A/M [2]

(1) Instrument QC Batch: MA5297
(2) Prep QC Batch: MP14136

RL = Reporting Limit

Report of Analysis

Client Sample ID:	35-11 PWDD RELEASE (-3')		
Lab Sample ID:	D62710-1A	**Date Sampled:**	09/25/14
Matrix:	SO - Soil	**Date Received:**	09/26/14
		Percent Solids:	n/a
Project:	PCU T35X-11G		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio [a]	29.2		ratio	1	09/29/14 21:37	JB	USDA HANDBOOK 60

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit

Mountain States ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

PAGE ___ OF ___

4036 Youngfield Street, Wheat Ridge, CO 80033
TEL. 303-425-6021 FAX: 303-425-6854
www.accutest.com

FED-EX Tracking #	Bottle Order Control #
Accutest Quote #	Accutest Job # D62710

Client / Reporting Information

Company Name	KRW Consulting, Inc.
Street Address	8000 West 14th Street, Suite 200
City	Lakewood, CO 80214
Project Contact	Dwayne Knudson
Phone #	970-488-1098
Sampler(s) Name(s)	Dwayne K

Project Information

Project Name:	PCU T35X-11G
XTO Contact #	970-675-4122
Test Reason:	Spill
API #	05103
KRW Job #	
Project Manager	Joe Hess

Billing Information (if different from Report to)

Company Name	XTO Energy
Street Address	21459 CR 5
City	Rifle, CO 81650
Attention:	Jessica Dooling

Requested Analysis (see TEST CODE sheet): SAR, pH

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

Accutest Sample #	Sample Name	Sample ID	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	SAR, pH	LAB USE ONLY
	35-11 PWDD Release (-3')	PCDK092514-1245	9-25-14	1245	DK	SO										X	01

Turnaround Time (Business days)

- [ ] Std. 15 Business Days
- [ ] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day Emergency
- [ ] 2 Day Emergency
- [x] 1 Day Emergency

Approved By (Accutest PM): / Date:

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] COMMBN
- [ ] COMMBN+
- [ ] State Forms Required
- [ ] Send Forms to State
- [ ] Report by Fax
- [ ] Report by PDF
- [ ] EDD Format

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial BN = Results/QC/Narrative (+ = chromatograms)

Comments / Special Instructions

Email results to KRW Piceance Team

2day per (JP) (JO) 9/26/14

Relinquished by Sampler: 1 Dwayne Knudson 9/25/14 1600	Received By: 1 Rifle Service Center	Relinquished By: 2	Date Time:	Received By: 2 Jacob Ponti 9/26/14 1035
Relinquished by Sampler: 3	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Received By: 5	Custody Seal # HD/LC [x] Intact [ ] Not intact	Preserved where applicable [x] TO80	On Ice [x] Cooler Temp. 4.0

5.1

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D62710: Chain of Custody
Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D62710 **Client:** KRW **Project:** XTO

Date / Time Received: 9/26/2014 10:35:00 AM **Delivery Method:** **Airbill #'s:** CO

Cooler Temps (Initial/Adjusted): 0

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	;		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☐
2. Trip Blank listed on COC:	☐		☐	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☐

Comments

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Accutest Laboratories
V:(303) 425-6021

4036 Youngfield Street
F: (303) 425-6854

Wheat Ridge, CO
www/accutest.com

D62710: Chain of Custody
Page 2 of 2

Mountain States ACCUTEST LABORATORIES

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D62710
Account: XTOKRWR - XTO Energy
Project: PCU T35X-11G

QC Batch ID: MP14136
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 09/29/14

Metal	RL	IDL	MDL	MB raw	final
Aluminum	500	55	210		
Antimony	150	11	95		
Arsenic	130	19	28		
Barium	50	1	7		
Beryllium	50	4.5	6		
Boron	250	4	33		
Cadmium	50	1	1.8		
Calcium	2000	12	210	-3.0	<2000
Chromium	50	1.5	2		
Cobalt	25	2.5	2.9		
Copper	50	4	9.5		
Iron	350	7.5	48		
Lead	250	11	110		
Lithium	25	2	14		
Magnesium	1000	34	95	-78	<1000
Manganese	25	2.5	2.3		
Molybdenum	50	2	4.2		
Nickel	150	2.5	4.4		
Phosphorus	500	75	100		
Potassium	5000	500	1400		
Selenium	250	36	55		
Silicon	250	24	26		
Silver	150	1.5	3		
Sodium	2000	37	850	-1.5	<2000
Strontium	25	.05	.6		
Thallium	50	9	20		
Tin	250	60	80		
Titanium	50	.5	11		
Uranium	250	15	28		
Vanadium	50	2	2		
Zinc	150	2	16		

Associated samples MP14136: D62710-1A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D62710
Account: XTOKRWR - XTO Energy
Project: PCU T35X-11G

QC Batch ID: MP14136
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 09/29/14

Metal	RL	IDL	MDL	MB raw	final

(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D62710
Account: XTOKRWR - XTO Energy
Project: PCU T35X-11G

QC Batch ID: MP14136
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 09/29/14

Metal	D62707-1A Original MS		Spikelot ICPALL2	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic					
Barium					
Beryllium					
Boron					
Cadmium					
Calcium	7710	136000	125000	102.6	75-125
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Lithium					
Magnesium	5340	129000	125000	98.9	75-125
Manganese					
Molybdenum					
Nickel					
Phosphorus					
Potassium					
Selenium					
Silicon					
Silver					
Sodium	1010000	1220000	125000	168.0(a)	75-125
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc					

Associated samples MP14136: D62710-1A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D62710
Account: XTOKRWR - XTO Energy
Project: PCU T35X-11G

QC Batch ID: MP14136
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 09/29/14

Metal	D62707-1A Original MS	Spikelot ICPALL2	% Rec	QC Limits

(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D62710
Account: XTOKRWR - XTO Energy
Project: PCU T35X-11G

QC Batch ID: MP14136
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 09/29/14

Metal	D62707-1A Original	MSD	Spikelot ICPALL2	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Boron						
Cadmium						
Calcium	7710	134000	125000	101.0	1.5	20
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Lithium						
Magnesium	5340	127000	125000	97.3	1.6	20
Manganese						
Molybdenum						
Nickel						
Phosphorus						
Potassium						
Selenium						
Silicon						
Silver						
Sodium	1010000	1070000	125000	48.0 (a)	13.1	20
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc						

Associated samples MP14136: D62710-1A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D62710
Account: XTOKRWR - XTO Energy
Project: PCU T35X-11G

QC Batch ID: MP14136
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 09/29/14

Metal	D62707-1A Original MSD	Spikelot ICPALL2	% Rec	MSD RPD	QC Limit

(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D62710
Account: XTOKRWR - XTO Energy
Project: PCU T35X-11G

QC Batch ID: MP14136
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 09/29/14

Metal	BSP Result	Spikelot ICPALL2	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	128000	125000	102.4	80-120
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Lithium				
Magnesium	126000	125000	100.8	80-120
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium	124000	125000	99.2	80-120
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP14136: D62710-1A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D62710
Account: XTOKRWR - XTO Energy
Project: PCU T35X-11G

QC Batch ID: MP14136
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 09/29/14

Metal	BSP Result	Spikelot ICPALL2	% Rec	QC Limits

(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: D62710
Account: XTOKRWR - XTO Energy
Project: PCU T35X-11G

QC Batch ID: MP14136
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 09/29/14

Metal	D62707-1A Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	1540	1480	4.1	0-10
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Lithium				
Magnesium	1070	1020	4.7	0-10
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium	201000	206000	2.1	0-10
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP14136: D62710-1A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

SERIAL DILUTION RESULTS SUMMARY

Login Number: D62710
Account: XTOKRWR - XTO Energy
Project: PCU T35X-11G

QC Batch ID: MP14136
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 09/29/14

	D62707-1A		QC
Metal	Original SDL 1:5	%DIF	Limits

(anr) Analyte not requested

Mountain States ACCUTEST LABORATORIES

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D62710
Account: XTOKRWR - XTO Energy
Project: PCU T35X-11G

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
pH	GN26671			su	8.00	7.99	99.8	99.1-100.9%

Associated Samples:
Batch GN26671: D62710-1
(*) Outside of QC limits