Mountain States
ACCUTEST
LABORATORIES

Technical Report for

XTO Energy

XTO Love Ranch 8

1108-07A

Accutest Job Number: D43594

Sampling Date: 02/18/13

Report to:

dknudson@krwconsulting.com

Total number of pages in report: 21

nelac
ACCREDITED IN ACCORDANCE WITH

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

Brad Madadian
Laboratory Director

Client Service contact: Renea Jackson   303-425-6021

Certifications: CO, ID, NE, NM, ND (R-027) (PW), UT (NELAP CO00049), TX (T104704511-12-1)

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Test results relate only to samples analyzed.

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Sample Summary

XTO Energy

XTO Love Ranch 8
Project No: 1108-07A

Sample	Collected				Matrix		Client
Number	Date	Time	By	Received	Code	Type	Sample ID
D43594-1	02/18/13	12:00	CB	02/19/13	SO	Soil	RP SUBLINER 6 (-4')

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

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	XTO Energy	**Job No**	D43594
Site:	XTO Love Ranch 8	**Report Date**	2/21/2013 12:11:16 PM

On 02/19/2013, 1 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 5.9 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D43594 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 GC By Method SW846 8015B

Matrix	SO	**Batch ID:**	GGB1067

- ▪ All samples were analyzed within the recommended method holding time.
- ▪ All method blanks for this batch meet method specific criteria.
- ▪ Sample(s) D43574-1MS, D43574-1MSD were used as the QC samples indicated.

Extractables by GC By Method SW846-8015B

Matrix	SO	**Batch ID:**	OP7403

- ▪ All samples were extracted within the recommended method holding time.
- ▪ All samples were analyzed within the recommended method holding time.
- ▪ All method blanks for this batch meet method specific criteria.
- ▪ Sample(s) D43574-1MS, D43574-1MSD were used as the QC samples indicated.

Wet Chemistry By Method SM19 2540B M

Matrix	SO	**Batch ID:**	GN18933

- ▪ The data for SM19 2540B M meets quality control requirements.

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: D43594
Account: XTO Energy
Project: XTO Love Ranch 8
Collected: 02/18/13

Lab Sample ID Client Sample ID	Result/				
Analyte	Qual	RL	MDL	Units	Method

D43594-1   **RP SUBLINER 6 (-4')**

Analyte	Result/Qual	RL	MDL	Units	Method
TPH-DRO (C10-C28)	53.3	7.6	4.5	mg/kg	SW846-8015B

Mountain States

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Sample Results

Report of Analysis

D43594

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Accutest Laboratories

Report of Analysis

Client Sample ID: RP SUBLINER 6 (-4')
Lab Sample ID: D43594-1
Matrix: SO - Soil
Method: SW846 8015B
Project: XTO Love Ranch 8

Date Sampled: 02/18/13
Date Received: 02/19/13
Percent Solids: 88.2

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB19555.D	1	02/19/13	BD	n/a	n/a	GGB1067
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	13	6.3	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	96%		60-140%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	RP SUBLINER 6 (-4')
Lab Sample ID:	D43594-1
Matrix:	SO - Soil
Method:	SW846-8015B SW846 3546
Project:	XTO Love Ranch 8

Date Sampled:	02/18/13
Date Received:	02/19/13
Percent Solids:	88.2

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	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FH009288.D	1	02/19/13	AV	02/19/13	OP7403	GFH513
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)	53.3	7.6	4.5	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	50%		35-130%

ND = Not detected   MDL - Method Detection Limit   J = Indicates an estimated value

RL = Reporting Limit   B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range   N = Indicates presumptive evidence of a compound

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Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

• Chain of Custody

CHAIN OF CUSTODY

ACCUTEST LABORATORIES

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 #	D43594

Client / Reporting Information

Company Name
KRW Consulting

Street Address
8000 West 14th Street; Suite 200

City
Lakewood, CO 80214

Project Contact
Dwayne Knudson

Phone #
(970) 488-1098

Sampler's Name(s)
CHRIS BOSBY

Project Information

Project Name:
XTO LOVE RANCH8

Street

City **State**

Billing information (if different from Report to)
Company Name
XTO Energy

Street Address
21459 CR5

City
Rifle, CO 81650

Project #
1108-8 *

Client Purchase Order #

Project Manager
Joe Hess

Attention:
Jessica Dooling

Requested Analysis (see TEST CODE sheet)

TPH (GRO DRO)

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

5.1

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Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE				LAB USE ONLY
	R8 SUBLINER 6 (4')		2-18-13	12:00	CB	SO	2					X				X			01

Number of preserved bottles

Turnaround Time (Business days)
- [ ] Std. 10 Business Days
- [X] Std. 5 Business Days
- [ ] 6 Day RUSH
- [ ] 3 Day Emergency
- [ ] 2 Day Emergency
- [ ] 1 Day Emergency
- [ ]

Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM): / Date:

Data Deliverable Information
- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] COMMBN
- [ ] COMMBN+
- [ ]

- [ ] State Forms Required
- [ ] Send Forms to State
- [ ] Report by Fax
- [X] Report by PDF   ONLY
- [ ] EDD Format

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

Comments / Special Instructions
Please Email Results 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		2/18/13 16:3		2		2
3	Relinquished by Sampler	Date Time	Received By	2 Relinquished By	Date Time	4 Received By 12.15 2-19-13
5	Relinquished by	Date Time	Received By	Custody Seal # CO	Intact [ ] Not Intact [ ]	On Ice [ ] Cooler Temp. 3.9

Preserved where applicable [ ]

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D43594   **Client:** KRW CONSULTING   **Immediate Client Services Action Required:** No

Date / Time Received: 2/19/2013 12:15:00 PM   **No. Coolers:** 1   **Client Service Action Required at Login:** No

Project: XTO LOVE RANCH 8   **Airbill #'s:** HD CO

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

Cooler Temperature	Y	N
1. Temp criteria achieved:	☑	☐
2. Cooler temp verification:	Infared gun	
3. Cooler media:	Ice (bag)	

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

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

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

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

Comments

Accutest Laboratories
V:(303) 425-6021

4036 Youngfield Street
F: (303) 425-6854

Wheat Ridge, CO
www.accutest.com

D43594: Chain of Custody

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CHAIN OF CUSTODY

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4036 Youngfield St., Wheat Ridge, CO 80033
303-425-6021   FAX: 303-425-6854

Accutest Job #:	D43584X
Accutest Quote #:	0
AMS P.O. #:	
Project No.:	

Client Information

Name
Accutest Mountain States (AMS)

Address
4036 Youngfield St.

City Wheat Ridge, **State** CO **Zip** 80033

Send Report to: Scott Heideman
Any questions contact: Shea Greiner

Phone/Fax #: (303) 425-6021; (303)425-6854

Subcontract Laboratory Information

Name
Industrial Lab

Address
4046 Youngfield St.

City Wheat Ridge **State** CO **Zip** 80033

Contact:
Sample Management

Phone: (303) 287-9691

Analytical Information

Field ID / Point of Collection	Collection Date	Time		Matrix	# of bottles	HCL	NaOH	HNO3	H2So4	None	Ecoli				Comments
						Preservation									
D43584X -2	2/18/13	2:41 PM		AQ	1						X				

Turnaround Information

[X] 10 Business Day Standard

[ ] Other _____ (Days)

Approved By: _____

_____

_____

10 Day Turnaround Hardcopy, RUSH is FAX Data unless previously approved.

Data Deliverable Information

[ ] Commercial "A"   [ ] PDF
[ ] Commercial "B"   [ ] Compact Disk Deliverable
[ ] Commercial "BN"   [ ] Electronic Delivery: _____
[ ] Reduced Tier 1   [ ] State Forms
[ ] Full Tier 1   [ ] Other (Specify) _____

Comments / Remarks

Please use Colorado regulations and RLs.

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

Relinquished by: 1	Date & Time: 2/19/13	Received By: 1 K. Inman	Date & Time: 1 2/19/13 1355
Relinquished by: 2	Date & Time:	Received By: 2	Date & Time: 2
Relinquished by: 3	Date & Time:	Received By: 3	Date & Time: 3

For Subcontract Laboratory Use Only

Seal #:	Headspace: Yes [ ] No [ ] NA [ ]
Preserved where applicable: [ ]	
Temperature °C _____	On Ice [ ]

D43594: Chain of Custody
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D43594

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industrial Laboratories is your independent,
third-party analytical testing laboratory

TEST REPORT

ACCUTEST - M

To: Accutest Mountain States (AMS)
4036 Youngfield St.

Wheat Ridge   CO   80033

Attn: Shea Greiner

Date Received: 2/19/2013
Date Reported: 2/20/2013
PO Number: D43584X

Note: Sample test procedures conform to EPA 40CFR136 requirements.

Lab No.	Sample Description	Test Method	Result	Units	MDL	Analysis Date/By
						GH
130219008-01A	D43584X-2, 2/18/13, 2:41pm	Escherichia coli (Quanti-Tray)	32	MPN/100mL		2/19/2013

Department Manager

* = Scope Analysis
# = Subcontracted Analysis
MDL = Method Detection Limit
ND = Not Detected at the Method Detection Limit

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D43594: Chain of Custody
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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: D43594
Account: XTOKRWR XTO Energy
Project: XTO Love Ranch 8

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB1067-MB	GB19547.D	1	02/19/13	BD	n/a	n/a	GGB1067

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

D43594-1

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	10	5.0	mg/kg	

CAS No.	Surrogate Recoveries		Limits	
120-82-1	1,2,4-Trichlorobenzene	96%	60-140%	

Blank Spike Summary

Job Number: D43594
Account: XTOKRWR XTO Energy
Project: XTO Love Ranch 8

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB1067-BS	GB19548.D	1	02/19/13	BD	n/a	n/a	GGB1067

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

D43594-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	110	122	111	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	105%	60-140%

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* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D43594
Account: XTOKRWR XTO Energy
Project: XTO Love Ranch 8

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D43574-1MS	GB19550.D	1	02/19/13	BD	n/a	n/a	GGB1067
D43574-1MSD	GB19551.D	1	02/19/13	BD	n/a	n/a	GGB1067
D43574-1	GB19549.D	1	02/19/13	BD	n/a	n/a	GGB1067

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

D43594-1

CAS No.	Compound	D43574-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND		131	144	110	142	109	1	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D43574-1	Limits
120-82-1	1,2,4-Trichlorobenzene	107%	104%	101%	60-140%

* = Outside of Control Limits.

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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: D43594
Account: XTOKRWR XTO Energy
Project: XTO Love Ranch 8

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP7403-MB	FH009272.D	1	02/19/13	AV	02/19/13	OP7403	GFH513

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

D43594-1

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	6.7	4.0	mg/kg	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	76%	35-130%

7.1.1

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Blank Spike Summary

Job Number: D43594
Account: XTOKRWR XTO Energy
Project: XTO Love Ranch 8

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP7403-BS	FH009305.D	1	02/20/13	AV	02/19/13	OP7403	GFH514

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

D43594-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-DRO (C10-C28)	667	573	86	48-130

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	83%	35-130%

---

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D43594
Account: XTOKRWR XTO Energy
Project: XTO Love Ranch 8

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP7403-MS	FH009276.D	1	02/19/13	AV	02/19/13	OP7403	GFH513
OP7403-MSD	FH009278.D	1	02/19/13	AV	02/19/13	OP7403	GFH513
D43574-1	FH009280.D	1	02/19/13	AV	02/19/13	OP7403	GFH513

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

D43594-1

CAS No.	Compound	D43574-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	176		732	608	59	669	67	10	20-168/30

CAS No.	Surrogate Recoveries	MS	MSD	D43574-1	Limits
84-15-1	o-Terphenyl	63%	68%	75%	35-130%

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* = Outside of Control Limits.