



01/24/13

Technical Report for

XTO Energy

XTO Love Ranch 8

1108-07A

Accutest Job Number: D42514

Sampling Date: 01/08/13


Report to:

KRW Consulting, Inc.
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ATTN: Dwayne Knudson

Total number of pages in report: 20



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

Job No: D42514

XTO Love Ranch 8
Project No: 1108-07A

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
D42514-1	01/08/13	10:00 DS	01/10/13	SO	Soil	RP SUBLINER (1)
D42514-2	01/08/13	10:10 DS	01/10/13	SO	Soil	RP SUBLINER (2)
D42514-3	01/08/13	10:20 DS	01/10/13	SO	Soil	RP SUBLINER (3)
D42514-4	01/08/13	10:30 DS	01/10/13	SO	Soil	RP SUBLINER (4)
D42514-5	01/08/13	10:40 DS	01/10/13	SO	Soil	RP SUBLINER (5)
D42514-6	01/08/13	10:50 DS	01/10/13	SO	Soil	RP SUBLINER (6)

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

Summary of Hits

Page 1 of 1

Job Number: D42514
Account: XTO Energy
Project: XTO Love Ranch 8
Collected: 01/08/13

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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D42514-1 RP SUBLINER (1)

TPH-GRO (C6-C10)	9.64 J	14	7.0	mg/kg	SW846 8015B
TPH-DRO (C10-C28)	630	8.0	4.8	mg/kg	SW846-8015B

D42514-2 RP SUBLINER (2)

TPH-GRO (C6-C10)	13.7	13	6.3	mg/kg	SW846 8015B
TPH-DRO (C10-C28)	2850	76	45	mg/kg	SW846-8015B

D42514-3 RP SUBLINER (3)

TPH-GRO (C6-C10)	61.7	16	8.0	mg/kg	SW846 8015B
TPH-DRO (C10-C28)	1660	8.7	5.2	mg/kg	SW846-8015B

D42514-4 RP SUBLINER (4)

TPH-DRO (C10-C28)	279	7.8	4.7	mg/kg	SW846-8015B
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D42514-5 RP SUBLINER (5)

TPH-DRO (C10-C28)	794	7.7	4.6	mg/kg	SW846-8015B
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D42514-6 RP SUBLINER (6)

TPH-GRO (C6-C10)	82.8	13	6.4	mg/kg	SW846 8015B
TPH-DRO (C10-C28)	1610	7.7	4.6	mg/kg	SW846-8015B

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	RP SUBLINER (1)	Date Sampled:	01/08/13
Lab Sample ID:	D42514-1	Date Received:	01/10/13
Matrix:	SO - Soil	Percent Solids:	83.6
Method:	SW846 8015B		
Project:	XTO Love Ranch 8		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB19179.D	1	01/18/13	BD	n/a	n/a	GGB1048
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	9.64	14	7.0	mg/kg	J
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	94%		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:	RP SUBLINER (1)	Date Sampled:	01/08/13
Lab Sample ID:	D42514-1	Date Received:	01/10/13
Matrix:	SO - Soil	Percent Solids:	83.6
Method:	SW846-8015B SW846 3546		
Project:	XTO Love Ranch 8		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FH008712.D	1	01/24/13	AV	01/21/13	OP7253	GFH483
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)	630	8.0	4.8	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	82%		35-130%		

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: RP SUBLINER (2)
Lab Sample ID: D42514-2
Matrix: SO - Soil
Method: SW846 8015B
Project: XTO Love Ranch 8

Date Sampled: 01/08/13
Date Received: 01/10/13
Percent Solids: 88.2

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB19182.D	1	01/18/13	BD	n/a	n/a	GGB1048
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	13.7	13	6.3	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	104%		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:	RP SUBLINER (2)	Date Sampled:	01/08/13
Lab Sample ID:	D42514-2	Date Received:	01/10/13
Matrix:	SO - Soil	Percent Solids:	88.2
Method:	SW846-8015B SW846 3546		
Project:	XTO Love Ranch 8		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FH008714.D	10	01/24/13	AV	01/21/13	OP7253	GFH483
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)	2850	76	45	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	84%		35-130%		

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: RP SUBLINER (3)
Lab Sample ID: D42514-3
Matrix: SO - Soil
Method: SW846 8015B
Project: XTO Love Ranch 8

Date Sampled: 01/08/13
Date Received: 01/10/13
Percent Solids: 76.3

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB19183.D	1	01/18/13	BD	n/a	n/a	GGB1048
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)	61.7	16	8.0	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	111%		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:	RP SUBLINER (3)	Date Sampled:	01/08/13
Lab Sample ID:	D42514-3	Date Received:	01/10/13
Matrix:	SO - Soil	Percent Solids:	76.3
Method:	SW846-8015B SW846 3546		
Project:	XTO Love Ranch 8		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FH008716.D	1	01/24/13	AV	01/21/13	OP7253	GFH483
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	1660	8.7	5.2	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	88%		35-130%		

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

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Client Sample ID: RP SUBLINER (4)
Lab Sample ID: D42514-4
Matrix: SO - Soil
Method: SW846 8015B
Project: XTO Love Ranch 8

Date Sampled: 01/08/13
Date Received: 01/10/13
Percent Solids: 85.8

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB19184.D	1	01/18/13	BD	n/a	n/a	GGB1048
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	13	6.6	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	89%		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:	RP SUBLINER (4)	Date Sampled:	01/08/13
Lab Sample ID:	D42514-4	Date Received:	01/10/13
Matrix:	SO - Soil	Percent Solids:	85.8
Method:	SW846-8015B SW846 3546		
Project:	XTO Love Ranch 8		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FH008718.D	1	01/24/13	AV	01/21/13	OP7253	GFH483
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	279	7.8	4.7	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	82%		35-130%		

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: RP SUBLINER (5)
Lab Sample ID: D42514-5
Matrix: SO - Soil
Method: SW846 8015B
Project: XTO Love Ranch 8

Date Sampled: 01/08/13
Date Received: 01/10/13
Percent Solids: 86.6

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB19185.D	1	01/18/13	BD	n/a	n/a	GGB1048
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	13	6.5	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
 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

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Client Sample ID:	RP SUBLINER (5)	Date Sampled:	01/08/13
Lab Sample ID:	D42514-5	Date Received:	01/10/13
Matrix:	SO - Soil	Percent Solids:	86.6
Method:	SW846-8015B SW846 3546		
Project:	XTO Love Ranch 8		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FH008720.D	1	01/24/13	AV	01/21/13	OP7253	GFH483
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)	794	7.7	4.6	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	79%		35-130%		

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

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Client Sample ID:	RP SUBLINER (6)	Date Sampled:	01/08/13
Lab Sample ID:	D42514-6	Date Received:	01/10/13
Matrix:	SO - Soil	Percent Solids:	87.0
Method:	SW846 8015B		
Project:	XTO Love Ranch 8		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB19186.D	1	01/18/13	BD	n/a	n/a	GGB1048
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	82.8	13	6.4	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	135%		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:	RP SUBLINER (6)	Date Sampled:	01/08/13
Lab Sample ID:	D42514-6	Date Received:	01/10/13
Matrix:	SO - Soil	Percent Solids:	87.0
Method:	SW846-8015B SW846 3546		
Project:	XTO Love Ranch 8		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FH008722.D	1	01/24/13	AV	01/21/13	OP7253	GFH483
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)	1610	7.7	4.6	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	81%		35-130%		

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

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



CHAIN OF CUSTODY

PAGE 1 OF 1

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 # D42514	
Client / Reporting Information		Project Information	
Company Name KRW Consulting		Project Name XTO Love Ranch 8	
Street Address 8000 West 14th Street; Suite 200		Street 1108-07A	
City Lakewood, CO 80214		State CO	
Project Contact Dwayne Knudson		Company Name XTO Energy	
Phone # 970-488-1098		Street Address 21459 CR 5	
Sampler(s) Name(s) David Sanders		Client Purchase Order #	
Project Manager Joe Hess		City Rifle, CO 81650	
Attention: Jessica Dooling		Number of preserved bottles	
Field ID / Point of Collection		Collection	
MECH/CI Viol #		Date	
Time		Sampled by	
Matrix		# of bottles	
PCD		NACH	
PAC3		LSC04	
NONE		DI Water	
MECH		ENCLOSURE	
Residue		Residue	
LAB USE ONLY		LAB USE ONLY	
Turnaround Time (Business days)		Data Deliverable Information	
Approved By (Accutest PM): / Date:		Comments / Special Instructions	
<input type="checkbox"/> Std. 10 Business Days <input checked="" type="checkbox"/> Std. 5 Business Days (By contract only) <input type="checkbox"/> 3 Day Emergency <input type="checkbox"/> 2 Day Emergency <input type="checkbox"/> 1 Day Emergency <input type="checkbox"/> Emergency & Rush TIA data available VIA Lablink		<input type="checkbox"/> Commercial "A" (Level 1) <input type="checkbox"/> Commercial "B" (Level 2) <input type="checkbox"/> COMMBN <input type="checkbox"/> COMMBN+ <input type="checkbox"/> State Forms Required <input type="checkbox"/> Send Forms to State <input type="checkbox"/> Report by Fax <input checked="" type="checkbox"/> Report by PDF ONLY <input type="checkbox"/> EDD Format Commercial "A" = Results Only Commercial "B" = Results + QC Summary Commercial Biv = Results/QC/Narrative (+ = chromatograms)	
Sample Custody must be documented below each time samples change possession, including courier delivery.		Please email to: KRW Piceance Team	
Relinquished by Sampler: 1 CMR		Received By: 2 Rine Service Center	
Date Time: 1-9-13		Date Time: 1/10/13 13:00	
Relinquished by Sampler: 3		Received By: 4	
Date Time: 16:00		Date Time: 1/10/13 13:00	
Relinquished by: 5		Received By: 5	
Custody Seal # 1100		On Ice <input checked="" type="checkbox"/> Not Intact <input type="checkbox"/>	
Preserved where applicable <input checked="" type="checkbox"/>		Cooler Temp. 4.9 °C	

D42514: Chain of Custody

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Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D42514

Client: KRW

Immediate Client Services Action Required: No

Date / Time Received: 1/10/2013 1:00:00 PM

No. Coolers: 1

Client Service Action Required at Login: No

Project: XTO LOVE RANCH 8

Airbill #'s: HDCO

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	3. COC Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Custody Seals Intact:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	4. Smpl Dates/Time OK	<input checked="" type="checkbox"/>		<input type="checkbox"/>

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Cooler temp verification:			Infrared gun
3. Cooler media:			Ice (bag)

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	<input type="checkbox"/>		<input type="checkbox"/>	
2. Trip Blank listed on COC:	<input type="checkbox"/>		<input type="checkbox"/>	
3. Samples preserved properly:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. VOCs headspace free:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Container labeling complete:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Sample container label / COC agree:	<input checked="" type="checkbox"/>		<input type="checkbox"/>

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. All containers accounted for:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Condition of sample:			Intact

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Bottles received for unspecified tests	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
3. Sufficient volume rec'd for analysis:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. Compositing instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Filtering instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Comments

Accutest Laboratories
V:(303) 425-6021

4036 Youngfield Street
F: (303) 425-6854

Wheat Ridge, CO
www.accutest.com