



07/13/12

Technical Report for

XTO Energy

FRU 297-8B

1106-06

Accutest Job Number: D36166

Sampling Date: 07/03/12

Report to:

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

Total number of pages in report: 21



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: D36166****FRU 297-8B****Project No: 1106-06**

Sample Number	Collected			Received	Matrix		Client Sample ID
	Date	Time	By		Code	Type	
D36166-1	07/03/12	10:30	CB	07/06/12	SO	Soil	BG6
D36166-2	07/03/12	10:35	CB	07/06/12	SO	Soil	BG7
D36166-3	07/03/12	10:45	CB	07/06/12	SO	Soil	BG8
D36166-4	07/03/12	10:50	CB	07/06/12	SO	Soil	BG9
D36166-5	07/03/12	10:55	CB	07/06/12	SO	Soil	BG10
D36166-6	07/03/12	11:05	CB	07/06/12	SO	Soil	BG11

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



CASE NARRATIVE / CONFORMANCE SUMMARY

Client: XTO Energy

Job No D36166

Site: FRU 297-8B

Report Date 7/13/2012 2:52:04 PM

On 07/06/2012, 6 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 4.0 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D36166 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 6020A

Matrix SO

Batch ID: MP7850

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D36170-1MS, D36170-1MSD, D36170-ISDL were used as the QC samples for the metals analysis.

Wet Chemistry By Method SM19 2540B M

Matrix SO

Batch ID: GN15743

- 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: D36166
Account: XTO Energy
Project: FRU 297-8B
Collected: 07/03/12



Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
D36166-1	BG6					
Arsenic		4.2	0.10	0.060	mg/kg	SW846 6020A
D36166-2	BG7					
Arsenic		4.4	0.10	0.062	mg/kg	SW846 6020A
D36166-3	BG8					
Arsenic		5.2	0.096	0.057	mg/kg	SW846 6020A
D36166-4	BG9					
Arsenic		5.7	0.10	0.062	mg/kg	SW846 6020A
D36166-5	BG10					
Arsenic		5.3	0.097	0.058	mg/kg	SW846 6020A
D36166-6	BG11					
Arsenic		6.0	0.10	0.060	mg/kg	SW846 6020A

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	BG6	Date Sampled:	07/03/12
Lab Sample ID:	D36166-1	Date Received:	07/06/12
Matrix:	SO - Soil	Percent Solids:	98.3
Project:	FRU 297-8B		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	4.2	0.10	mg/kg	5	07/09/12	07/13/12 JB	SW846 6020A ¹	SW846 3050B ²

(1) Instrument QC Batch: MA2605
(2) Prep QC Batch: MP7850

RL = Reporting Limit

Report of Analysis

Client Sample ID:	BG7	Date Sampled:	07/03/12
Lab Sample ID:	D36166-2	Date Received:	07/06/12
Matrix:	SO - Soil	Percent Solids:	99.1
Project:	FRU 297-8B		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	4.4	0.10	mg/kg	5	07/09/12	07/13/12 JB	SW846 6020A ¹	SW846 3050B ²

(1) Instrument QC Batch: MA2605
(2) Prep QC Batch: MP7850

RL = Reporting Limit

4.2
4

Report of Analysis

Client Sample ID:	BG8	Date Sampled:	07/03/12
Lab Sample ID:	D36166-3	Date Received:	07/06/12
Matrix:	SO - Soil	Percent Solids:	98.5
Project:	FRU 297-8B		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	5.2	0.096	mg/kg	5	07/09/12	07/13/12 JB	SW846 6020A ¹	SW846 3050B ²

(1) Instrument QC Batch: MA2605
(2) Prep QC Batch: MP7850

RL = Reporting Limit

Report of Analysis

Client Sample ID:	BG9	Date Sampled:	07/03/12
Lab Sample ID:	D36166-4	Date Received:	07/06/12
Matrix:	SO - Soil	Percent Solids:	98.2
Project:	FRU 297-8B		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	5.7	0.10	mg/kg	5	07/09/12	07/13/12 JB	SW846 6020A ¹	SW846 3050B ²

(1) Instrument QC Batch: MA2605
(2) Prep QC Batch: MP7850

RL = Reporting Limit

4.4
4

Report of Analysis

Client Sample ID:	BG10	Date Sampled:	07/03/12
Lab Sample ID:	D36166-5	Date Received:	07/06/12
Matrix:	SO - Soil	Percent Solids:	98.2
Project:	FRU 297-8B		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	5.3	0.097	mg/kg	5	07/09/12	07/13/12 JB	SW846 6020A ¹	SW846 3050B ²

(1) Instrument QC Batch: MA2605
(2) Prep QC Batch: MP7850

RL = Reporting Limit

Report of Analysis

Client Sample ID:	BG11	Date Sampled:	07/03/12
Lab Sample ID:	D36166-6	Date Received:	07/06/12
Matrix:	SO - Soil	Percent Solids:	98.7
Project:	FRU 297-8B		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	6.0	0.10	mg/kg	5	07/09/12	07/13/12 JB	SW846 6020A ¹	SW846 3050B ²

(1) Instrument QC Batch: MA2605
(2) Prep QC Batch: MP7850

RL = Reporting Limit

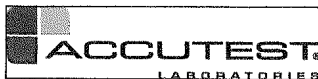
Misc. Forms

5

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

PED-EX Tracking #		Bottle Order Control #	
Accutest Quote #		Accutest Job # D36166	
Client / Reporting Information		Project Information	
Company Name KRW Consulting		Project Name XTO FRU 297-8B	
Street Address 8000 West 14th Street, Suite 200		Street	
City Lakewood, CO 80214		City	
Project Contact Dwayne Knudson		Billing Information (If different from Report to)	
Phone # (970) 488-1098		Company Name XTO Energy	
Sampler(s) Name(s) Craig Burger		Street Address 21459 CR5	
Project # 1106-06		City Rifle, CO 81650	
Client Purchase Order #		Attention: Jessica Dooling	
Project Manager Joe Hess		Number of preserved bottles	
Collection		Matrix	
MECH/DI Vial #		# of bottles	
Date		Time	
Sampled by		Matrix	
H2O		NaOH	
HNO3		H2SO4	
NONE		DI Water	
MECH		ENCORE	
LAB USE ONLY		LAB USE ONLY	
Field ID / Point of Collection		LAB USE ONLY	
B66		01	
B67		02	
B68		03	
B69		04	
B610		05	
B611		06	
Turnaround Time (Business days)		Data Deliverable Information	
Approved By (Accutest PM): / Date:		Comments / Special Instructions	
Std. 16 Business Days		Commercial "A" (Level 1)	
Std. 10 Business Days		Commercial "B" (Level 2)	
8 Day by contract		COMMEN	
3 Day Emergency		COMMEN+	
2 Day Emergency		State Forms Required	
1 Day Emergency		Send Forms to State	
Emergency & Rush T/A data available VIA Lablink		Report by Fax	
		Report by PDF ONLY	
		EDD Format	
		Commercial "A" = Results Only	
		Commercial "B" = Results + QC Summary	
		Commercial BN = Results/QC/Narrative (+ = chromatograms)	
Sample Custody must be documented below each time samples change possession, including courier delivery.		Please Email Results to KRW Piceance Team	
Relinquished by: 1		Received By: 2	
Date Time: 7/13/12 16:10		Date Time: 7-6-12 1300	
Relinquished by: 3		Received By: 4	
Date Time:		Date Time:	
Relinquished by: 5		Received By:	
Date Time:		Date Time:	
Custody Seal # C0		Intact <input checked="" type="checkbox"/> Not Intact <input type="checkbox"/>	
Preserved where applicable <input type="checkbox"/>		On Ice <input checked="" type="checkbox"/> Cooler Temp. 4.0	

D36166: Chain of Custody

Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D36166

Client: KRW

Immediate Client Services Action Required: No

Date / Time Received: 7/6/2012 1:00:00 PM

No. Coolers: 1

Client Service Action Required at Login: No

Project: XTO

Airbill #'s: CO

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

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: D36166
Account: XTOKRWR - XTO Energy
Project: FRU 297-8B

QC Batch ID: MP7850
Matrix Type: SOLID

Methods: SW846 6020A
Units: mg/kg

Prep Date: 07/09/12

Metal	RL	IDL	MDL	MB raw	final
Aluminum	25	.22	.31		
Antimony	0.20	.0018	.0075		
Arsenic	0.10	.042	.06	-0.0054	<0.10
Barium	1.0	.0065	.037		
Beryllium	0.10	.016	.09		
Boron	20	1.2	1.2		
Cadmium	0.050	.014	.021		
Calcium	200	7.9	8		
Chromium	1.0	.033	.19		
Cobalt	0.10	.0012	.015		
Copper	1.0	.017	.065		
Iron	20	.8	5		
Lead	0.25	.0011	.024		
Magnesium	50	.44	.85		
Manganese	0.50	.0043	.02		
Molybdenum	0.50	.018	.018		
Nickel	1.0	.0049	.011		
Phosphorus	30	1.4	3.6		
Potassium	100	9.8	10		
Selenium	0.20	.029	.14		
Silver	0.050	.0009	.0065		
Sodium	250	1.5	2.3		
Strontium	10	.036	.036		
Thallium	0.10	.00095	.0095		
Thorium	0.25	.009	.025		
Tin	5.0	.023	.34		
Titanium	1.0	.044	.1		
Uranium	0.25	.00085	.001		
Vanadium	2.0	.12	.21		
Zinc	5.0	.033	.35		

Associated samples MP7850: D36166-1, D36166-2, D36166-3, D36166-4, D36166-5, D36166-6

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: D36166
Account: XTOKRWR - XTO Energy
Project: FRU 297-8B

QC Batch ID: MP7850
Matrix Type: SOLID

Methods: SW846 6020A
Units: mg/kg

Prep Date: 07/09/12

Metal	D36170-1 Original MS		Spikelot ICPAL3	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	4.4	124	117	102.3	75-125
Barium					
Beryllium					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Magnesium					
Manganese					
Molybdenum					
Nickel					
Phosphorus					
Potassium					
Selenium					
Silver					
Sodium					
Strontium					
Thallium					
Thorium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc					

Associated samples MP7850: D36166-1, D36166-2, D36166-3, D36166-4, D36166-5, D36166-6

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: D36166
Account: XTOKRWR - XTO Energy
Project: FRU 297-8B

QC Batch ID: MP7850
Matrix Type: SOLID

Methods: SW846 6020A
Units: mg/kg

Prep Date: 07/09/12

Metal	D36170-1 Original	MSD	Spikelot ICPAL3	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	4.4	113	109	99.6	9.3	20
Barium						
Beryllium						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Phosphorus						
Potassium						
Selenium						
Silver						
Sodium						
Strontium						
Thallium						
Thorium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc						

Associated samples MP7850: D36166-1, D36166-2, D36166-3, D36166-4, D36166-5, D36166-6

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: D36166
Account: XTOKRWR - XTO Energy
Project: FRU 297-8B

QC Batch ID: MP7850
Matrix Type: SOLID

Methods: SW846 6020A
Units: mg/kg

Prep Date: 07/09/12

Metal	BSP Result	Spikelot ICPALL3	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	99.5	100	99.5	80-120
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Thorium	anr			
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP7850: D36166-1, D36166-2, D36166-3, D36166-4, D36166-5, D36166-6

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: D36166
 Account: XTOKRWR - XTO Energy
 Project: FRU 297-8B

QC Batch ID: MP7850
 Matrix Type: SOLID

Methods: SW846 6020A
 Units: ug/l

Prep Date: 07/09/12

Metal		D36170-1 Original SDL 5:25 %DIF		QC Limits
Aluminum				
Antimony				
Arsenic	39.6	41.1	3.9	0-10
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Thorium	anr			
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP7850: D36166-1, D36166-2, D36166-3, D36166-4, D36166-5, D36166-6

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