



06/07/12

Technical Report for

XTO Energy

PCU F31-19G

1206-03

Accutest Job Number: D35034

Sampling Date: 05/31/12


Report to:

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

Total number of pages in report: 22



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: D35034

PCU F31-19G

Project No: 1206-03

Sample Number	Collected			Received	Matrix		Client Sample ID
	Date	Time	By		Code	Type	
D35034-1	05/31/12	11:45	DS	06/02/12	SO	Soil	BACKGROUND #1
D35034-2	05/31/12	11:55	DS	06/02/12	SO	Soil	BACKGROUND #2
D35034-3	05/31/12	12:00	DS	06/02/12	SO	Soil	BACKGROUND #3
D35034-4	05/31/12	12:05	DS	06/02/12	SO	Soil	BACKGROUND #4
D35034-5	05/31/12	12:10	DS	06/02/12	SO	Soil	BACKGROUND #5
D35034-6	05/31/12	12:20	DS	06/02/12	SO	Soil	BACKGROUND #6
D35034-7	05/31/12	12:25	DS	06/02/12	SO	Soil	BACKGROUND #7
D35034-8	05/31/12	12:30	DS	06/02/12	SO	Soil	BACKGROUND #8

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



CASE NARRATIVE / CONFORMANCE SUMMARY

Client: XTO Energy

Job No D35034

Site: PCU F31-19G

Report Date 6/7/2012 10:47:43 AM

On 06/02/2012, 8 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 4.2 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D35034 was assigned to the project. The lab sample IDs, client sample IDs, 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: MP7585

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D35034-1MS, D35034-1MSD, D35034-1SDL were used as the QC samples for the metals analysis.

Wet Chemistry By Method SM19 2540B M

Matrix SO

Batch ID: GN15246

- 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.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	BACKGROUND #1	Date Sampled:	05/31/12
Lab Sample ID:	D35034-1	Date Received:	06/02/12
Matrix:	SO - Soil	Percent Solids:	97.0
Project:	PCU F31-19G		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	19.4	0.10	mg/kg	5	06/05/12	06/06/12 GJ	SW846 6020A ¹	SW846 3050B ²

(1) Instrument QC Batch: MA2492
(2) Prep QC Batch: MP7585

RL = Reporting Limit

Report of Analysis

Client Sample ID:	BACKGROUND #2	
Lab Sample ID:	D35034-2	Date Sampled: 05/31/12
Matrix:	SO - Soil	Date Received: 06/02/12
		Percent Solids: 97.7
Project:	PCU F31-19G	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	17.2	0.10	mg/kg	5	06/05/12	06/06/12 GJ	SW846 6020A ¹	SW846 3050B ²

(1) Instrument QC Batch: MA2492
(2) Prep QC Batch: MP7585

RL = Reporting Limit

Report of Analysis

Client Sample ID:	BACKGROUND #3	Date Sampled:	05/31/12
Lab Sample ID:	D35034-3	Date Received:	06/02/12
Matrix:	SO - Soil	Percent Solids:	98.5
Project:	PCU F31-19G		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	21.4	0.099	mg/kg	5	06/05/12	06/06/12 GJ	SW846 6020A ¹	SW846 3050B ²

(1) Instrument QC Batch: MA2492
(2) Prep QC Batch: MP7585

RL = Reporting Limit

Report of Analysis

Client Sample ID:	BACKGROUND #4		
Lab Sample ID:	D35034-4	Date Sampled:	05/31/12
Matrix:	SO - Soil	Date Received:	06/02/12
		Percent Solids:	97.5
Project:	PCU F31-19G		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	10.4	0.10	mg/kg	5	06/05/12	06/06/12 GJ	SW846 6020A ¹	SW846 3050B ²

(1) Instrument QC Batch: MA2492
(2) Prep QC Batch: MP7585

RL = Reporting Limit

Report of Analysis

Client Sample ID:	BACKGROUND #5		
Lab Sample ID:	D35034-5	Date Sampled:	05/31/12
Matrix:	SO - Soil	Date Received:	06/02/12
		Percent Solids:	95.2
Project:	PCU F31-19G		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	9.2	0.21	mg/kg	10	06/05/12	06/06/12 GJ	SW846 6020A ¹	SW846 3050B ²

(1) Instrument QC Batch: MA2492
(2) Prep QC Batch: MP7585

RL = Reporting Limit

Report of Analysis

Client Sample ID:	BACKGROUND #6		
Lab Sample ID:	D35034-6	Date Sampled:	05/31/12
Matrix:	SO - Soil	Date Received:	06/02/12
		Percent Solids:	96.3
Project:	PCU F31-19G		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	8.2	0.10	mg/kg	5	06/05/12	06/06/12 GJ	SW846 6020A ¹	SW846 3050B ²

(1) Instrument QC Batch: MA2492
(2) Prep QC Batch: MP7585

RL = Reporting Limit

Report of Analysis

Client Sample ID:	BACKGROUND #7		
Lab Sample ID:	D35034-7	Date Sampled:	05/31/12
Matrix:	SO - Soil	Date Received:	06/02/12
		Percent Solids:	96.0
Project:	PCU F31-19G		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	18.1	0.10	mg/kg	5	06/05/12	06/06/12 GJ	SW846 6020A ¹	SW846 3050B ²

(1) Instrument QC Batch: MA2492
(2) Prep QC Batch: MP7585

RL = Reporting Limit

Report of Analysis

Client Sample ID:	BACKGROUND #8	Date Sampled:	05/31/12
Lab Sample ID:	D35034-8	Date Received:	06/02/12
Matrix:	SO - Soil	Percent Solids:	96.9
Project:	PCU F31-19G		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	19.5	0.10	mg/kg	5	06/05/12	06/06/12 GJ	SW846 6020A ¹	SW846 3050B ²

(1) Instrument QC Batch: MA2492
(2) Prep QC Batch: MP7585

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- 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 # D35034

Client / Reporting Information		Project Information		Requested Analysis (see TEST CODE sheet)												Matrix Codes							
Company Name KRW CONSULTING, INC. Street Address 8000 W. 4TH AV, STE 200 City LAKEWOOD, CO. 80214 Project Contact DWAYNE KENNEDY Phone # (970) 488-1098 Sampler(s) Name(s) DAVID SANDERS (704) 616-7875		Project Name XTO #431-191A Street City/State/Zip 1206-03 Project # Client PO# Project Manager JOE HESS		Billing Information (If different from Report to) Company Name XTO ENERGY, INC. Street Address 21459 CR 5 City RIFLE, CO 81650 Attention: JES DOOLING												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							
Field ID / Point of Collection		MEOHDI Vial #		Collection		Matrix		# of bottles		Number of preserved bottles												LAB USE ONLY	
Date	Time	Sampled by	Matrix	# of bottles	ICI	NO3	NO2	H2SO4	NO3	NO2	DI Water	MEOH	ENCORE	Blank									
Background #1	5/31/12 11:45	AS	SO	1											X	01							
Background #2	5/31/12 11:55	AS	SO	1											X	02							
Background #3	5/31/12 12:00	AS	SO	1											X	03							
Background #4	5/31/12 12:05	AS	SO	1											X	04							
Background #5	5/31/12 12:10	AS	SO	1											X	05							
Background #6	5/31/12 12:20	AS	SO	1											X	06							
Background #7	5/31/12 12:25	AS	SO	1											X	07							
Background #8	5/31/12 12:30	AS	SO	1											X	08							
(R 1/2)																							

Turnaround Time (Business days)		Approved By (Accutest PM) / Date:		Data Deliverable Information		Comments / Special Instructions	
<input type="checkbox"/> Std. 10 Business Days <input checked="" type="checkbox"/> Std. 5 Business Days (By Contract only) <input type="checkbox"/> 5 Day R/SH <input type="checkbox"/> 3 Day EMERGENCY <input type="checkbox"/> 2 Day EMERGENCY <input type="checkbox"/> 1 Day EMERGENCY				<input type="checkbox"/> Commercial "A" (Level 1) <input type="checkbox"/> Commercial "B" (Level 2) <input type="checkbox"/> Commercial "B" + Narrative <input type="checkbox"/> FULLT1 (Level 3+4)	<input type="checkbox"/> State Forms <input type="checkbox"/> PDF Format <input checked="" type="checkbox"/> PDF	PLEASE EMAIL RESULTS TO KRW TEAM - PICEANCE	
Emergency & Rush T/A data available VIA Lablink				Commercial "A" = Results Only Commercial "B" = Results + QC Summary			

Sample Custody must be documented below each time samples change possession, including courier delivery.							
Relinquished by: <u>[Signature]</u>	Date Time: <u>6/1/12</u>	Received By: <u>[Signature]</u>	Date Time: <u>6/1/12</u>	Relinquished By: <u>[Signature]</u>	Date Time: <u>6/1/12</u>	Received By: <u>[Signature]</u>	Date Time: <u>6/1/12</u>
Relinquished by: <u>[Signature]</u>	Date Time: <u>6/1/12</u>	Received By: <u>[Signature]</u>	Date Time: <u>6/1/12</u>	Relinquished By: <u>[Signature]</u>	Date Time: <u>6/1/12</u>	Received By: <u>[Signature]</u>	Date Time: <u>6/1/12</u>
Relinquished by: <u>[Signature]</u>	Date Time: <u>6/1/12</u>	Received By: <u>[Signature]</u>	Date Time: <u>6/1/12</u>	Relinquished By: <u>[Signature]</u>	Date Time: <u>6/1/12</u>	Received By: <u>[Signature]</u>	Date Time: <u>6/1/12</u>
Custody Seal # <u>600 Ex</u>				<input checked="" type="checkbox"/> Intact <input type="checkbox"/> Not Intact			
Preserved where applicable <input type="checkbox"/>				On Ice <input checked="" type="checkbox"/> Cooler Temp. <u>4.2</u>			

D35034: Chain of Custody

Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D35034

Client: KRW CONSULTING, INC

Immediate Client Services Action Required: No

Date / Time Received: 6/2/2012 9:15:00 AM

No. Coolers: 1

Client Service Action Required at Login: No

Project: XTO PCU F31-19G

Airbill #'s: FedEx

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

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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: D35034
Account: XTOKRWR - XTO Energy
Project: PCU F31-19G

QC Batch ID: MP7585
Matrix Type: SOLID

Methods: SW846 6020A
Units: mg/kg

Prep Date: 06/05/12

Metal	RL	IDL	MDL	MB raw	final
Aluminum	25	.22	.31		
Antimony	0.20	.0018	.0075		
Arsenic	0.10	.042	.06	-0.015	<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		
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 MP7585: D35034-1, D35034-2, D35034-3, D35034-4, D35034-5, D35034-6, D35034-7, D35034-8

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: D35034
Account: XTOKRWR - XTO Energy
Project: PCU F31-19G

QC Batch ID: MP7585
Matrix Type: SOLID

Methods: SW846 6020A
Units: mg/kg

Prep Date: 06/05/12

Metal	D35034-1 Original MS		Spikelot ICPALL2	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	19.4	127	104	103.3	75-125
Barium					
Beryllium					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Magnesium					
Manganese					
Molybdenum					
Nickel					
Phosphorus					
Potassium					
Selenium					
Silver					
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc					

Associated samples MP7585: D35034-1, D35034-2, D35034-3, D35034-4, D35034-5, D35034-6, D35034-7, D35034-8

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: D35034
Account: XTOKRWR - XTO Energy
Project: PCU F31-19G

QC Batch ID: MP7585
Matrix Type: SOLID

Methods: SW846 6020A
Units: mg/kg

Prep Date: 06/05/12

Metal	D35034-1 Original	MSD	SpikeLot ICPALL2	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	19.4	122	104	98.5	4.0	20
Barium						
Beryllium						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Phosphorus						
Potassium						
Selenium						
Silver						
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc						

Associated samples MP7585: D35034-1, D35034-2, D35034-3, D35034-4, D35034-5, D35034-6, D35034-7, D35034-8

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: D35034
Account: XTOKRWR - XTO Energy
Project: PCU F31-19G

QC Batch ID: MP7585
Matrix Type: SOLID

Methods: SW846 6020A
Units: mg/kg

Prep Date: 06/05/12

Metal	BSP Result	Spikelot ICPALL2	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	114	100	114.0	80-120
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP7585: D35034-1, D35034-2, D35034-3, D35034-4, D35034-5, D35034-6, D35034-7, D35034-8

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: D35034
 Account: XTOKRWR - XTO Energy
 Project: PCU F31-19G

QC Batch ID: MP7585
 Matrix Type: SOLID

Methods: SW846 6020A
 Units: ug/l

Prep Date: 06/05/12

Metal	D35034-1 Original SDL 5:25 %DIF			QC Limits
Aluminum				
Antimony				
Arsenic	192	207	7.8	0-10
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP7585: D35034-1, D35034-2, D35034-3, D35034-4, D35034-5, D35034-6, D35034-7, D35034-8

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