

**Technical Report for**

**XTO Energy**

**NPU 196-19B**

**1202-08**

**Accutest Job Number: D40380**

**Sampling Date: 10/26/12**

**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: 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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## Sample Summary

**XTO Energy**

**Job No: D40380**

**NPU 196-19B**

**Project No: 1202-08**

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
D40380-1	10/26/12	13:40 DS	10/30/12	SO	Soil	BACKGROUND AS 1
D40380-2	10/26/12	13:45 DS	10/30/12	SO	Soil	BACKGROUND AS 2
D40380-3	10/26/12	13:50 DS	10/30/12	SO	Soil	BACKGROUND AS 3
D40380-4	10/26/12	13:55 DS	10/30/12	SO	Soil	BACKGROUND AS 4
D40380-5	10/26/12	14:00 DS	10/30/12	SO	Soil	BACKGROUND AS 5
D40380-6	10/26/12	14:05 DS	10/30/12	SO	Soil	BACKGROUND AS 6
D40380-7	10/26/12	14:10 DS	10/30/12	SO	Soil	BACKGROUND AS 7

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



## CASE NARRATIVE / CONFORMANCE SUMMARY

**Client:** XTO Energy

**Job No** D40380

**Site:** NPU 196-19B

**Report Dat** 11/5/2012 1:30:45 PM

On 10/30/2012, 7 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 3.6 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D40380 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

<b>Matrix</b> SO	<b>Batch ID:</b> MP8793
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- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D40379-1MS, D40379-1MSD, D40379-1SDL were used as the QC samples for the metals analysis.

### Wet Chemistry By Method SM19 2540B M

<b>Matrix</b> SO	<b>Batch ID:</b> GN17478
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- 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: D40380  
Account: XTO Energy  
Project: NPU 196-19B  
Collected: 10/26/12



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
D40380-1	BACKGROUND AS 1					
Arsenic		4.6	0.12		mg/kg	SW846 6020A
D40380-2	BACKGROUND AS 2					
Arsenic		3.5	0.11		mg/kg	SW846 6020A
D40380-3	BACKGROUND AS 3					
Arsenic		3.7	0.12		mg/kg	SW846 6020A
D40380-4	BACKGROUND AS 4					
Arsenic		3.1	0.12		mg/kg	SW846 6020A
D40380-5	BACKGROUND AS 5					
Arsenic		4.2	0.11		mg/kg	SW846 6020A
D40380-6	BACKGROUND AS 6					
Arsenic		4.6	0.12		mg/kg	SW846 6020A
D40380-7	BACKGROUND AS 7					
Arsenic		4.8	0.11		mg/kg	SW846 6020A

**Sample Results**

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**Report of Analysis**

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## Report of Analysis

<b>Client Sample ID:</b> BACKGROUND AS 1	<b>Date Sampled:</b> 10/26/12
<b>Lab Sample ID:</b> D40380-1	<b>Date Received:</b> 10/30/12
<b>Matrix:</b> SO - Soil	<b>Percent Solids:</b> 84.9
<b>Project:</b> NPU 196-19B	

### Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	4.6	0.12	mg/kg	5	11/01/12	11/03/12 JB	SW846 6020A <sup>1</sup>	SW846 3050B <sup>2</sup>

(1) Instrument QC Batch: MA2961

(2) Prep QC Batch: MP8793

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RL = Reporting Limit

4.1  
 4

## Report of Analysis

<b>Client Sample ID:</b> BACKGROUND AS 2	<b>Date Sampled:</b> 10/26/12
<b>Lab Sample ID:</b> D40380-2	<b>Date Received:</b> 10/30/12
<b>Matrix:</b> SO - Soil	<b>Percent Solids:</b> 88.3
<b>Project:</b> NPU 196-19B	

### Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	3.5	0.11	mg/kg	5	11/01/12	11/03/12 JB	SW846 6020A <sup>1</sup>	SW846 3050B <sup>2</sup>

(1) Instrument QC Batch: MA2961

(2) Prep QC Batch: MP8793

---

RL = Reporting Limit

4.2  
 4

## Report of Analysis

<b>Client Sample ID:</b> BACKGROUND AS 3	<b>Date Sampled:</b> 10/26/12
<b>Lab Sample ID:</b> D40380-3	<b>Date Received:</b> 10/30/12
<b>Matrix:</b> SO - Soil	<b>Percent Solids:</b> 85.5
<b>Project:</b> NPU 196-19B	

### Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	3.7	0.12	mg/kg	5	11/01/12	11/03/12 JB	SW846 6020A <sup>1</sup>	SW846 3050B <sup>2</sup>

(1) Instrument QC Batch: MA2961

(2) Prep QC Batch: MP8793

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RL = Reporting Limit

4.3  
 4

## Report of Analysis

<b>Client Sample ID:</b> BACKGROUND AS 4	<b>Date Sampled:</b> 10/26/12
<b>Lab Sample ID:</b> D40380-4	<b>Date Received:</b> 10/30/12
<b>Matrix:</b> SO - Soil	<b>Percent Solids:</b> 85.0
<b>Project:</b> NPU 196-19B	

### Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	3.1	0.12	mg/kg	5	11/01/12	11/03/12 JB	SW846 6020A <sup>1</sup>	SW846 3050B <sup>2</sup>

(1) Instrument QC Batch: MA2961

(2) Prep QC Batch: MP8793

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RL = Reporting Limit

4.4  
**4**

## Report of Analysis

<b>Client Sample ID:</b> BACKGROUND AS 5	<b>Date Sampled:</b> 10/26/12
<b>Lab Sample ID:</b> D40380-5	<b>Date Received:</b> 10/30/12
<b>Matrix:</b> SO - Soil	<b>Percent Solids:</b> 91.0
<b>Project:</b> NPU 196-19B	

4.5  
4

### Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	4.2	0.11	mg/kg	5	11/01/12	11/03/12 JB	SW846 6020A <sup>1</sup>	SW846 3050B <sup>2</sup>

(1) Instrument QC Batch: MA2961

(2) Prep QC Batch: MP8793

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RL = Reporting Limit

## Report of Analysis

<b>Client Sample ID:</b> BACKGROUND AS 6	<b>Date Sampled:</b> 10/26/12
<b>Lab Sample ID:</b> D40380-6	<b>Date Received:</b> 10/30/12
<b>Matrix:</b> SO - Soil	<b>Percent Solids:</b> 87.5
<b>Project:</b> NPU 196-19B	

### Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	4.6	0.12	mg/kg	5	11/01/12	11/03/12 JB	SW846 6020A <sup>1</sup>	SW846 3050B <sup>2</sup>

(1) Instrument QC Batch: MA2961

(2) Prep QC Batch: MP8793

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RL = Reporting Limit

4.6  
4

## Report of Analysis

<b>Client Sample ID:</b> BACKGROUND AS 7	<b>Date Sampled:</b> 10/26/12
<b>Lab Sample ID:</b> D40380-7	<b>Date Received:</b> 10/30/12
<b>Matrix:</b> SO - Soil	<b>Percent Solids:</b> 88.5
<b>Project:</b> NPU 196-19B	

### Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	4.8	0.11	mg/kg	5	11/01/12	11/03/12 JB	SW846 6020A <sup>1</sup>	SW846 3050B <sup>2</sup>

(1) Instrument QC Batch: MA2961

(2) Prep QC Batch: MP8793

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RL = Reporting Limit

4.7  
 4

## Misc. Forms

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5

## Custody Documents and Other Forms

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**Includes the following where applicable:**

- Chain of Custody



# CHAIN OF CUSTODY

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 # <b>D40380</b>

Client / Reporting Information		Project Information										Requested Analysis (see TEST CODE sheet)										Matrix Codes
Company Name <b>KRW Consulting</b>		Project Name <b>XTO NPU 196-19B</b>										<b>ARSENIC</b>										DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge SED - Sediment OI - Oil LIO - Other Liquid AIR - Air SOL - Other Solid WP - Wipe FB - Field Blank EB - Equipment Blank RB - Rinse Blank TB - Trip Blank
Street Address <b>8000 West 14th Street, Suite 200</b>		Billing Information (if different from Report to)																				
City <b>Lakewood, CO 80214</b>		Company Name <b>XTO Energy</b>																				
Project Contact <b>Dwayne Knudson</b>		Project # <b>1202-08</b>																				
Phone # <b>970-488-1098</b>		Street Address <b>21459 CR 5</b>																				
Sampler(s) Name(s) <b>DAVID SANDERS</b> 970-488-1098		City <b>Rifle, CO 81650</b>																				
		Client Purchase Order #																				
		Project Manager <b>Joe Hess</b>																				
		Attention <b>Jessica Dooling</b>																				
		Collection										Number of preserved Bottles										LAB USE ONLY
Accutest Sample #	Field ID / Point of Collection	MEQ/HDJ Vial #	Date	Time	Sampled by	Matrix	# of bottles	PCB	MECH	MMOS	VOCs	NOPE	DV Water	MECH	ENFORCE	Residue						
	BACKGROUND AS (1)		10-26-12	13:40	DS	SO	1					X					X					
	BACKGROUND AS (2)			13:45		SO	1					X					X					
	BACKGROUND AS (3)			13:50		SO	1					X					X					
	BACKGROUND AS (4)			13:55		SO	1					X					X					
	BACKGROUND AS (5)			14:00		SO	1					X					X					
	BACKGROUND AS (6)			14:05		SO	1					X					X					
	BACKGROUND AS (7)			14:10		SO	1					X					X					
	BACKGROUND AS (8)		10-26-12	14:15	DS	SO	1					X					X					
Turnaround Time (Business days)		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"/> 3 Day Emergency <input type="checkbox"/> 2 Day Emergency <input type="checkbox"/> 1 Day Emergency <input type="checkbox"/> Emergency & Rush T/A data available via Lablink		Approved By (Accutest PM): / Date: _____ <input type="checkbox"/> Commercial "A" (Level 1) <input type="checkbox"/> State Forms Required <input type="checkbox"/> Commercial "B" (Level 2) <input type="checkbox"/> Send Forms to State <input type="checkbox"/> COMMBN <input type="checkbox"/> Report by Fax <input type="checkbox"/> COMMBN+ <input checked="" type="checkbox"/> Report by PDF ONLY <input type="checkbox"/> _____ <input type="checkbox"/> EDD Format Commercial "A" = Results Only Commercial "B" = Results + QC Summary Commercial BN = Results/QC/Narrative (+ = chromatograms)										Please email 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:	Relinquished By:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:					
1 <b>David Sanders</b>	10/29/12 17:30	<b>Service Center</b>	2			3			4	10/29/12 17:15	<b>[Signature]</b>	5										
3		3				4			4			5										
5		5				5			5			5										
Custody Seal # <b>1000</b>										<input checked="" type="checkbox"/> Intact      Preserved where applicable <input type="checkbox"/> Not Intact										Office Cooler Temp. <b>36!</b>		

5.1  
5



## Metals Analysis

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## QC Data Summaries

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### 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: D40380  
Account: XTOKRWR - XTO Energy  
Project: NPU 196-19B

QC Batch ID: MP8793  
Matrix Type: SOLID

Methods: SW846 6020A  
Units: mg/kg

Prep Date: 11/01/12

Metal	RL	IDL	MDL	MB	
				raw	final
Arsenic	0.10	.006	.06	0.022	<0.10
Calcium	200	7.9	8		
Chromium	1.0	.033	.19		
Cobalt	0.10	.0012	.015		
Copper	1.0	.017	.065		
Manganese	0.50	.0043	.02		
Molybdenum	0.50	.018	.018		
Nickel	1.0	.0049	.011		
Selenium	0.20	.029	.14		
Silver	0.050	.0009	.0065		
Strontium	10	.036	.036		
Tin	5.0	.023	.34		
Zinc	5.0	.033	.35		

Associated samples MP8793: D40380-1, D40380-2, D40380-3, D40380-4, D40380-5, D40380-6, D40380-7

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

6.1.1  
6

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D40380  
 Account: XTOKRWR - XTO Energy  
 Project: NPU 196-19B

QC Batch ID: MP8793  
 Matrix Type: SOLID

Methods: SW846 6020A  
 Units: mg/kg

Prep Date: 11/01/12

Metal	D40379-1 Original MS	Spikelot ICPALL2	% Rec	QC Limits
Arsenic	9.7	152	131	108.3 75-125
Chromium	anr			
Cobalt	anr			
Copper	anr			
Manganese	anr			
Molybdenum	anr			
Nickel	anr			
Selenium	anr			
Silver	anr			
Strontium				
Tin				
Zinc				

Associated samples MP8793: D40380-1, D40380-2, D40380-3, D40380-4, D40380-5, D40380-6, D40380-7

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

6.1.2  
 6

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D40380  
 Account: XTOKRWR - XTO Energy  
 Project: NPU 196-19B

QC Batch ID: MP8793  
 Matrix Type: SOLID

Methods: SW846 6020A  
 Units: mg/kg

Prep Date: 11/01/12

Metal	D40379-1 Original	MSD	SpikeLot ICPALL2	% Rec	MSD RPD	QC Limit
Arsenic	9.7	134	124	100.4	12.6	20
Chromium	anr					
Cobalt	anr					
Copper	anr					
Manganese	anr					
Molybdenum	anr					
Nickel	anr					
Selenium	anr					
Silver	anr					
Strontium						
Tin						
Zinc						

Associated samples MP8793: D40380-1, D40380-2, D40380-3, D40380-4, D40380-5, D40380-6, D40380-7

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

6.1.2  
 6

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D40380  
 Account: XTOKRWR - XTO Energy  
 Project: NPU 196-19B

QC Batch ID: MP8793  
 Matrix Type: SOLID

Methods: SW846 6020A  
 Units: mg/kg

Prep Date: 11/01/12

Metal	BSP Result	Spikelot ICPALL2	% Rec	QC Limits
Arsenic	94.2	100	94.2	80-120
Calcium	anr			
Chromium	anr			
Cobalt	anr			
Copper	anr			
Manganese	anr			
Molybdenum	anr			
Nickel	anr			
Selenium	anr			
Silver	anr			
Strontium				
Tin				
Zinc				

Associated samples MP8793: D40380-1, D40380-2, D40380-3, D40380-4, D40380-5, D40380-6, D40380-7

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

SERIAL DILUTION RESULTS SUMMARY

Login Number: D40380  
 Account: XTOKRWR - XTO Energy  
 Project: NPU 196-19B

QC Batch ID: MP8793  
 Matrix Type: SOLID

Methods: SW846 6020A  
 Units: ug/l

Prep Date: 11/01/12

Metal	D40379-1 Original	SDL 5:25	%DIF	QC Limits
Arsenic	72.0	72.3	0.3	0-10
Chromium	anr			
Cobalt	anr			
Copper	anr			
Manganese	anr			
Molybdenum	anr			
Nickel	anr			
Selenium	anr			
Silver	anr			
Strontium				
Tin				
Zinc				

Associated samples MP8793: D40380-1, D40380-2, D40380-3, D40380-4, D40380-5, D40380-6, D40380-7

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

6.1.4  
 6