



09-Jan-2019

Jessica Dooling
XTO Energy
21459 CR5
Rifle, CO 81650

Re: **YCF 35-12-1**

Work Order: **1901243**

Dear Jessica,

ALS Environmental received 1 sample on 05-Jan-2019 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental - Holland and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 8.

If you have any questions regarding this report, please feel free to contact me:

ADDRESS: 3352 128th Avenue, Holland, MI, USA
PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Sincerely,

A handwritten signature in black ink, appearing to read "Chad Whelton", is written over a light blue horizontal line.

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Report of Laboratory Analysis

Certificate No: MN 026-999-449

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Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: XTO Energy
Project: YCF 35-12-1
Work Order: 1901243

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1901243-01	As - Spill Area	Soil		1/4/2019 11:45	1/5/2019 10:00	<input type="checkbox"/>

Client: XTO Energy
Project: YCF 35-12-1
WorkOrder: 1901243

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
Hr	BOD/CBOD - Sample was reset outside Hold Time, value should be considered estimated.
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
% of sample	Percent of Sample
mg/Kg-dry	Milligrams per Kilogram Dry Weight

ALS Group, USA

Date: 09-Jan-19

Client: XTO Energy
Project: YCF 35-12-1
Sample ID: As - Spill Area
Collection Date: 1/4/2019 11:45 AM

Work Order: 1901243
Lab ID: 1901243-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS			Method: SW6020A		Prep: SW3050B / 1/8/19		Analyst: STP
Arsenic	11		0.070	0.47	mg/Kg-dry	1	1/8/2019 13:21
MOISTURE			Method: SW3550C				Analyst: KTP
Moisture	19		0.10	0.10	% of sample	1	1/7/2019 14:21

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: XTO Energy
Work Order: 1901243
Project: YCF 35-12-1

QC BATCH REPORT

Batch ID: **130401** Instrument ID **ICPMS3** Method: **SW6020A**

MBLK		Sample ID: MBLK-130401-130401				Units: mg/Kg		Analysis Date: 1/8/2019 01:12 PM		
Client ID:		Run ID: ICPMS3_190108A		SeqNo: 5473010		Prep Date: 1/8/2019		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Arsenic U 0.25

LCS		Sample ID: LCS-130401-130401				Units: mg/Kg		Analysis Date: 1/8/2019 01:13 PM		
Client ID:		Run ID: ICPMS3_190108A		SeqNo: 5473011		Prep Date: 1/8/2019		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Arsenic 5.004 0.25 5 0 100 80-120 0

MS		Sample ID: 1901240-01AMS				Units: mg/Kg		Analysis Date: 1/8/2019 01:17 PM		
Client ID:		Run ID: ICPMS3_190108A		SeqNo: 5473013		Prep Date: 1/8/2019		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Arsenic 11.73 0.38 7.622 4.375 96.5 75-125 0

MSD		Sample ID: 1901240-01AMSD				Units: mg/Kg		Analysis Date: 1/8/2019 01:19 PM		
Client ID:		Run ID: ICPMS3_190108A		SeqNo: 5473014		Prep Date: 1/8/2019		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Arsenic 10.87 0.38 7.645 4.375 85 75-125 11.73 7.61 20

The following samples were analyzed in this batch: 1901243-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: XTO Energy
 Work Order: 1901243
 Project: YCF 35-12-1

QC BATCH REPORT

Batch ID: **R252767** Instrument ID **MOIST** Method: **SW3550C**

MBLK		Sample ID: WBLKS-R252767				Units: % of sample			Analysis Date: 1/7/2019 02:21 PM		
Client ID:		Run ID: MOIST_190107B				SeqNo: 5472483			Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Moisture U 0.10

LCS		Sample ID: LCS-R252767				Units: % of sample			Analysis Date: 1/7/2019 02:21 PM		
Client ID:		Run ID: MOIST_190107B				SeqNo: 5472482			Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Moisture 100 0.10 100 0 100 98-102 0

DUP		Sample ID: 1901236-06A DUP				Units: % of sample			Analysis Date: 1/7/2019 02:21 PM		
Client ID:		Run ID: MOIST_190107B				SeqNo: 5472467			Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Moisture 21.08 0.10 0 0 0 0-0 20.66 2.01 10

DUP		Sample ID: 1901240-01A DUP				Units: % of sample			Analysis Date: 1/7/2019 02:21 PM		
Client ID:		Run ID: MOIST_190107B				SeqNo: 5472470			Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Moisture 8.27 0.10 0 0 0 0-0 8.1 2.08 10

The following samples were analyzed in this batch:

1901243-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Sample Receipt Checklist

Client Name: **XTO - CO**

Date/Time Received: **05-Jan-19 10:00**

Work Order: **1901243**

Received by: **BNF**

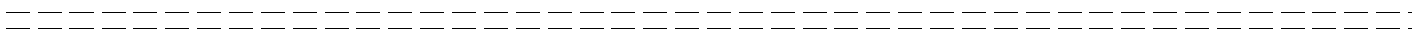
Checklist completed by *Lernina France* 07-Jan-19
eSignature Date

Reviewed by: *Chad Whilton* 08-Jan-19
eSignature Date

Matrices: Soil
 Carrier name: FedEx

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>3.6/3.6 C</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u>1</u>		
Date/Time sample(s) sent to storage:	<u>1/7/2019 10:33:10 AM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted by:	<u> </u>		

Login Notes:



Client Contacted: _____ Date Contacted: _____ Person Contacted: _____

Contacted By: _____ Regarding: _____

Comments:

CorrectiveAction: