



02-Apr-2020

Natalie Steiner  
XTO Energy  
21459 CR5  
Rifle, CO 81650

Re: **Hatch Gulch Pig Launcher**

Work Order: **20031818**

Dear Natalie,

ALS Environmental received 3 samples on 26-Mar-2020 09:30 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 10.

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 

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**Client:** XTO Energy  
**Project:** Hatch Gulch Pig Launcher  
**Work Order:** 20031818

**Work Order Sample Summary**

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<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>
20031818-01	#1	Soil		3/24/2020 12:45	3/26/2020 09:30	<input type="checkbox"/>
20031818-02	#2	Soil		3/24/2020 12:45	3/26/2020 09:30	<input type="checkbox"/>
20031818-03	#3	Soil		3/24/2020 12:45	3/26/2020 09:30	<input type="checkbox"/>

**Client:** XTO Energy  
**Project:** Hatch Gulch Pig Launcher  
**WorkOrder:** 20031818

**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: 02-Apr-20

**Client:** XTO Energy  
**Project:** Hatch Gulch Pig Launcher  
**Sample ID:** #1  
**Collection Date:** 3/24/2020 12:45 PM

**Work Order:** 20031818  
**Lab ID:** 20031818-01  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>METALS BY ICP-MS</b>			Method: <b>SW6020B</b>		Prep: SW3050B / 3/31/20		Analyst: <b>STP</b>
Arsenic	4.0		0.049	0.41	mg/Kg-dry	1	3/31/2020 18:49
<b>MOISTURE</b>			Method: <b>SW3550C</b>				Analyst: <b>KTP</b>
Moisture	21		0.10	0.10	% of sample	1	3/27/2020 08:33

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

# ALS Group, USA

Date: 02-Apr-20

**Client:** XTO Energy  
**Project:** Hatch Gulch Pig Launcher  
**Sample ID:** #2  
**Collection Date:** 3/24/2020 12:45 PM

**Work Order:** 20031818  
**Lab ID:** 20031818-02  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>METALS BY ICP-MS</b>			Method: <b>SW6020B</b>		Prep: SW3050B / 3/31/20		Analyst: <b>STP</b>
Arsenic	4.5		0.064	0.53	mg/Kg-dry	1	3/31/2020 18:51
<b>MOISTURE</b>			Method: <b>SW3550C</b>				Analyst: <b>KTP</b>
Moisture	24		0.10	0.10	% of sample	1	3/27/2020 08:33

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

**ALS Group, USA**

Date: 02-Apr-20

**Client:** XTO Energy  
**Project:** Hatch Gulch Pig Launcher  
**Sample ID:** #3  
**Collection Date:** 3/24/2020 12:45 PM

**Work Order:** 20031818  
**Lab ID:** 20031818-03  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>METALS BY ICP-MS</b>			Method: <b>SW6020B</b>		Prep: SW3050B / 3/31/20		Analyst: <b>STP</b>
Arsenic	4.6		0.055	0.46	mg/Kg-dry	1	3/31/2020 18:53
<b>MOISTURE</b>			Method: <b>SW3550C</b>				Analyst: <b>KTP</b>
Moisture	20		0.10	0.10	% of sample	1	3/27/2020 08:33

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

**Client:** XTO Energy  
**Work Order:** 20031818  
**Project:** Hatch Gulch Pig Launcher

**QC BATCH REPORT**

Batch ID: **154037** Instrument ID **ICPMS4** Method: **SW6020B**

<b>MBLK</b>		Sample ID: <b>MBLK-154037-154037</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>3/31/2020 06:39 PM</b>		
Client ID:		Run ID: <b>ICPMS4_200331B</b>		SeqNo: <b>6333397</b>		Prep Date: <b>3/31/2020</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Arsenic U 0.25

<b>LCS</b>		Sample ID: <b>LCS-154037-154037</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>3/31/2020 06:40 PM</b>		
Client ID:		Run ID: <b>ICPMS4_200331B</b>		SeqNo: <b>6333398</b>		Prep Date: <b>3/31/2020</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Arsenic 4.958 0.25 5 0 99.2 80-120 0

<b>MS</b>		Sample ID: <b>20031822-06AMS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>3/31/2020 07:29 PM</b>		
Client ID:		Run ID: <b>ICPMS4_200331B</b>		SeqNo: <b>6333425</b>		Prep Date: <b>3/31/2020</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Arsenic 11.22 0.38 7.645 5.171 79.1 75-125 0

<b>MSD</b>		Sample ID: <b>20031822-06AMSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>3/31/2020 07:31 PM</b>		
Client ID:		Run ID: <b>ICPMS4_200331B</b>		SeqNo: <b>6333426</b>		Prep Date: <b>3/31/2020</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Arsenic 10.71 0.35 7.022 5.171 78.9 75-125 11.22 4.59 20

The following samples were analyzed in this batch:

20031818-01A	20031818-02A	20031818-03A
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Client: XTO Energy  
 Work Order: 20031818  
 Project: Hatch Gulch Pig Launcher

# QC BATCH REPORT

Batch ID: **R285621** Instrument ID **MOIST** Method: **SW3550C**

<b>MBLK</b>	Sample ID: <b>WBLKS-R285621</b>				Units: % of sample			Analysis Date: <b>3/27/2020 08:33 AM</b>		
Client ID:	Run ID: <b>MOIST_200327A</b>			SeqNo: <b>6328399</b>		Prep Date:		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture U 0.10

<b>LCS</b>	Sample ID: <b>LCS-R285621</b>				Units: % of sample			Analysis Date: <b>3/27/2020 08:33 AM</b>		
Client ID:	Run ID: <b>MOIST_200327A</b>			SeqNo: <b>6328398</b>		Prep Date:		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 99.99 0.10 100 0 100 98-102 0

<b>DUP</b>	Sample ID: <b>20031820-04A DUP</b>				Units: % of sample			Analysis Date: <b>3/27/2020 08:33 AM</b>		
Client ID:	Run ID: <b>MOIST_200327A</b>			SeqNo: <b>6328366</b>		Prep Date:		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 16.6 0.10 0 0 0 0-0 16.8 1.2 10

<b>DUP</b>	Sample ID: <b>20031823-01B DUP</b>				Units: % of sample			Analysis Date: <b>3/27/2020 08:33 AM</b>		
Client ID:	Run ID: <b>MOIST_200327A</b>			SeqNo: <b>6328376</b>		Prep Date:		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 21.66 0.10 0 0 0 0-0 22.06 1.83 10

The following samples were analyzed in this batch:

20031818-01A	20031818-02A	20031818-03A
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.



Sample Receipt Checklist

Client Name: XTO - CO

Date/Time Received: 26-Mar-20 09:30

Work Order: 20031818

Received by: MJG

Checklist completed by Matthew Gaylord 26-Mar-20
eSignature Date

Reviewed by: Chad Whelton 27-Mar-20
eSignature Date

Matrices: Soil
Carrier name: FedEx

Shipping container/cooler in good condition? Yes [checked] No [ ] Not Present [ ]
Custody seals intact on shipping container/cooler? Yes [ ] No [ ] Not Present [checked]
Custody seals intact on sample bottles? Yes [ ] No [ ] Not Present [checked]
Chain of custody present? Yes [checked] No [ ]
Chain of custody signed when relinquished and received? Yes [checked] No [ ]
Chain of custody agrees with sample labels? Yes [checked] No [ ]
Samples in proper container/bottle? Yes [checked] No [ ]
Sample containers intact? Yes [checked] No [ ]
Sufficient sample volume for indicated test? Yes [checked] No [ ]
All samples received within holding time? Yes [checked] No [ ]
Container/Temp Blank temperature in compliance? Yes [checked] No [ ]
Sample(s) received on ice? Yes [checked] No [ ]
Temperature(s)/Thermometer(s): 3.2/3.2C SR2
Cooler(s)/Kit(s):
Date/Time sample(s) sent to storage: 3/26/2020 2:28:13 PM
Water - VOA vials have zero headspace? Yes [ ] No [ ] No VOA vials submitted [checked]
Water - pH acceptable upon receipt? Yes [ ] No [ ] N/A [checked]
pH adjusted? Yes [ ] No [ ] N/A [checked]
pH adjusted by:

Login Notes:



Client Contacted: Date Contacted: Person Contacted:
Contacted By: Regarding:

Comments: [ ]

CorrectiveAction: [ ]