Wednesday, October 03, 2018

Ron Hudson
Aptim
6380 S. Fiddler's Green Circle, Ste. 310
Greenwood Village, CO 80111

Re: ALS Workorder: 1809520
Project Name: ConocoPhillips Soil Sampling
Project Number: 148083

Dear Mr. Hudson:

One soil sample were received from Aptim, on 9/26/2018. The sample was scheduled for the following analysis:

Inorganics

The results for these analyses are contained in the enclosed reports.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Thank you for your confidence in ALS Environmental. Should you have any questions, please call.

Sincerely,

ALS Environmental
Jeff R. Kujawa
Project Manager

ALS Environmental – Fort Collins is accredited by the following accreditation bodies for various testing scopes in accordance with requirements of each accreditation body. All testing is performed under the laboratory management system, which is maintained to meet these requirement and regulations. Please contact the laboratory or accreditation body for the current scope testing parameters.

ALS Environmental – Fort Collins	
Accreditation Body	License or Certification Number
AIHA	214884
Alaska (AK)	UST-086
Arizona (AZ)	AZ0742
California (CA)	06251CA
Colorado (CO)	CO01099
Florida (FL)	E87914
Idaho (ID)	CO01099
Kansas (KS)	E-10381
Kentucky (KY)	90137
PJ-LA (DoD ELAP/ISO 170250)	95377
Maryland (MD)	285
Missouri (MO)	175
Nebraska(NE)	NE-OS-24-13
Nevada (NV)	CO000782008A
New York (NY)	12036
North Dakota (ND)	R-057
Oklahoma (OK)	1301
Pennsylvania (PA)	68-03116
Tennessee (TN)	2976
Texas (TX)	T104704241
Utah (UT)	CO01099
Washington (WA)	C1280

1809520

Inorganics:
The sample was analyzed following SW-846 and USDA Handbook 60 Chapter 6 procedures for the current revision of the following SOP and method:

Analyte	Method	SOP #
Electrical conductivity	USDA60	810 Draft

All acceptance criteria were met.

ALS -- Fort Collins

Sample Number(s) Cross-Reference Table

OrderNum: 1809520
Client Name: Aptim
Client Project Name: ConocoPhillips Soil Sampling
Client Project Number: 148083
Client PO Number: 831088

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
S-4	1809520-1		SOIL	25-Sep-18	10:25
S-4	1809520-2		SatExtract	25-Sep-18	10:25

ALS Laboratory Group

225 Commerce Drive, Fort Collins, Colorado 80524
TF: (800) 443-1511 PH: (970) 490-1511 FX: (970) 490-1522

Chain-of-Custody

Form 202r8

		SAMPLER	D. Young	DATE	9/25/2018	WORKORDER #	1809520
PROJECT NAME	ConocoPhillips Soil Sampling	SITE ID	Cline 2-1H -- Round 3	TURNAROUND	RUSH	PAGE	1 of 1
PROJECT No.	148083.22S	EDD FORMAT	COGCC			DISPOSAL	By Lab or Return to Client
		PURCHASE ORDER	Cline 2-1H				
COMPANY NAME	APTIM	BILL TO COMPANY	APTIM				
SEND REPORT TO	Ron Hudson	INVOICE ATTN TO	Ron Hudson				
ADDRESS	6380 S. Fiddler's Green Cir Ste 310	ADDRESS	6380 S. Fiddler's Green Cir Ste 310				
CITY / STATE / ZIP	Greenwood Village, CO 80111	CITY / STATE / ZIP	Greenwood Village, CO 80111				
PHONE	303.741.7161	PHONE	303.741.7161				
FAX		FAX					
E-MAIL	ron.hudson	E-MAIL	ron.hudson@aptim.com				

Lab ID	Field ID	Matrix	Sample Date	Sample Time	# of Samples	Pres.	QC	Inorganics in soil EC - (COGCC - for PW)
	S-4	S	9/25/2018	1025	1	N/A		X

*Time Zone (Circle): EST CST MST PST Matrix: O = oil S = soil NS = non-soil solid W = water L = liquid E = extract F = filter

For metals or anions, please detail analytes below.

Comments:	QC PACKAGE (check below)	
	X	LEVEL II (Standard QC)
Any questions contact R. Hudson		LEVEL III (Std QC + forms)
		LEVEL IV (Std QC + forms + raw data)

Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-NaHSO4 7-Other 8-4 degrees C 9-5035

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY		Daisie Young	9/25/18	1400
RECEIVED BY		Nick Josten	9/26/18	1005
RELINQUISHED BY				
RECEIVED BY				
RELINQUISHED BY				
RECEIVED BY				

ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: Aptim Workorder No: 1809520

Project Manager: JK Initials: NJ Date: 9126118

1.	Are airbills / shipping documents present and/or removable?	DROP OFF	YES	NO
2.	Are custody seals on **shipping** containers intact?	NONE	YES	NO
3.	Are custody seals on **sample** containers intact?	NONE	YES	NO
4.	Is there a COC (chain-of-custody) present?		YES	NO
5.	Is the COC in agreement with samples received? (IDs, dates, times, # of samples, # of containers, matrix, requested analyses, etc.)		YES	NO
6.	Are short-hold samples present?		YES	NO
7.	Are all samples within holding times for the requested analyses?		YES	NO
8.	Were all sample containers received intact? (not broken or leaking)		YES	NO
9.	Is there sufficient sample for the requested analyses?		YES	NO
10.	Are all samples in the proper containers for the requested analyses?		YES	NO
11.	Are all aqueous samples preserved correctly, if required? (excluding volatiles)	N/A	YES	NO
12.	Are all aqueous non-preserved samples pH 4-9?	N/A	YES	NO
13.	Are all samples requiring no headspace (VOC, GRO, RSK/MEE, Rx CN/S, radon) free of bubbles > 6 mm (1/4 inch) diameter? (i.e. size of green pea)	N/A	YES	NO
14.	Were the samples shipped on ice?		YES	NO
15.	Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: #1 #3 #4	RAD ONLY	YES	NO

Cooler #:	1							
Temperature (°C):	4.8							
No. of custody seals on cooler:	1							
DOT Survey/ Acceptance Information — External µR/hr reading:	10							
Background µR/hr reading:	13							

Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? **YES / NO / NA** (If no, see Form 008.)

Additional Information: **Please provide details here for any NO responses to gray-shaded boxes above, or any other issues noted:**

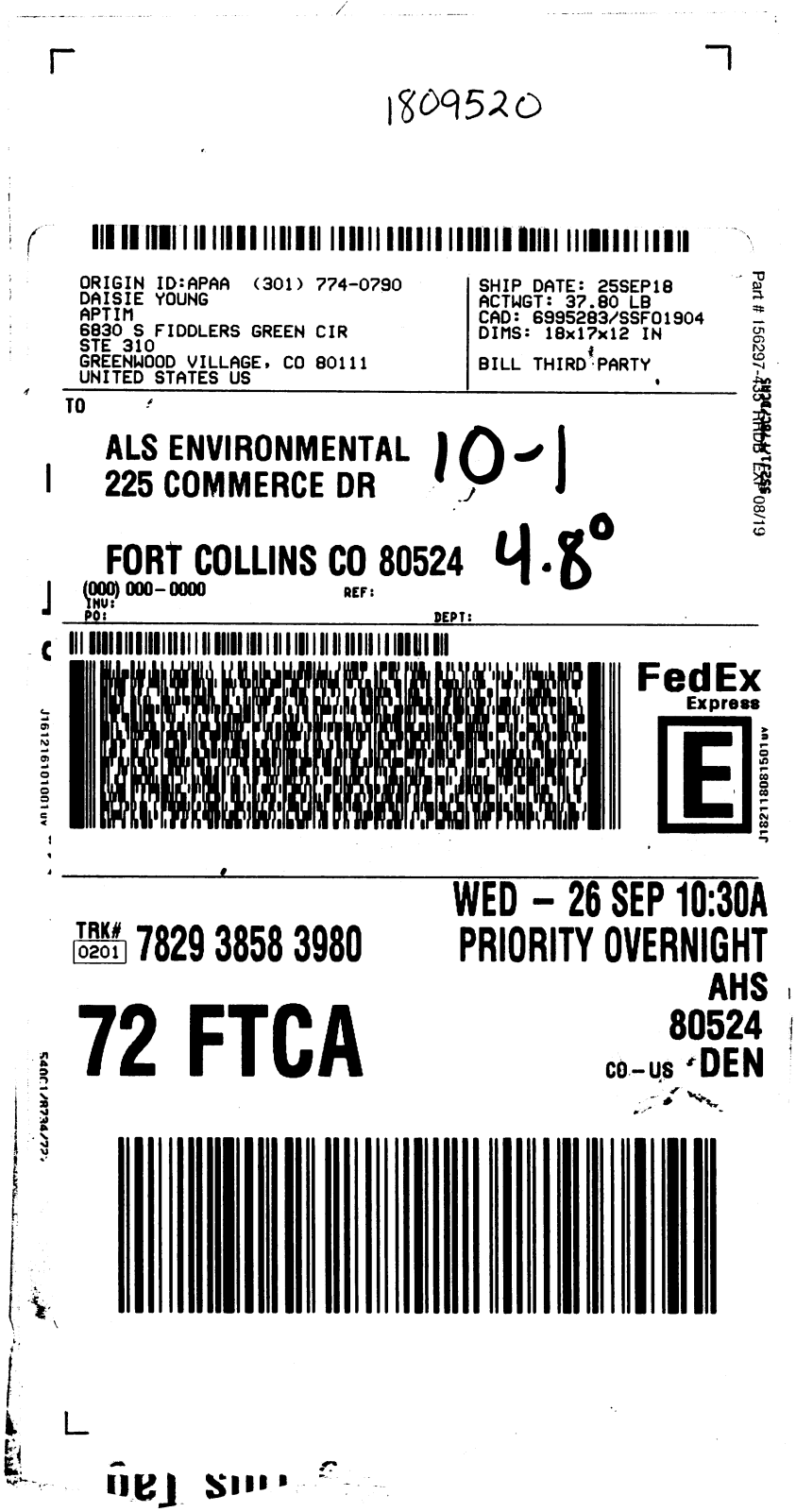
If applicable, was the client contacted? **YES / NO / NA** Contact: _____ Date/Time: _____

Project Manager Signature / Date: 9-26-18

Form 201r26.xls
(06/29/2018)

*IR Gun #1, VWR SN 170560549
*IR Gun #3, VWR SN 170647571
*IR Gun #4, Oakton, SN 2372220101-0002

1809520



ORIGIN ID:APAA (301) 774-0790
DAISIE YOUNG
APTIM
6830 S FIDDLERS GREEN CIR
STE 310
GREENWOOD VILLAGE, CO 80111
UNITED STATES US

SHIP DATE: 25SEP18
ACTWGT: 37.80 LB
CAD: 6995283/SSF01904
DIMS: 18x17x12 IN

BILL THIRD PARTY

TO

ALS ENVIRONMENTAL
225 COMMERCE DR

FORT COLLINS CO 80524

10-1

4.8°

(000) 000-0000
INV:
PO:
REF:
DEPT:

FedEx Express

WED - 26 SEP 10:30A
PRIORITY OVERNIGHT

TRK# 0201 7829 3858 3980

72 FTCA

AHS
80524
CO-US DEN

Part # 156297-435 RMD 12/16 08/19

Client:	Aptim	**Date:**	*03-Oct-18*
Project:	148083 ConocoPhillips Soil Sampling	**Work Order:**	1809520
Sample ID:	S-4	**Lab ID:**	1809520-2
Legal Location:		**Matrix:**	SATEXTRACT
Collection Date:	9/25/2018 10:25	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Sodium Adsorption Ratio		**USDA60**		Prep Date: **10/1/2018**		PrepBy: **HMA**
ELECTRICAL CONDUCTIVITY @ SATURATION	**420**		**1**	**umhos/cm**	1	10/1/2018

Client:	Aptim	**Date:**	*03-Oct-18*
Project:	148083 ConocoPhillips Soil Sampling	**Work Order:**	1809520
Sample ID:	S-4	**Lab ID:**	1809520-2
Legal Location:		**Matrix:**	SATEXTRACT
Collection Date:	9/25/2018 10:25	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed

Explanation of Qualifiers

Radiochemistry:

- "Report Limit" is the MDC

U or ND - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.

Y2 - Chemical Yield outside default limits.

W - DER is greater than Warning Limit of 1.42

* - Aliquot Basis is 'As Received' while the Report Basis is 'Dry Weight'.

- Aliquot Basis is 'Dry Weight' while the Report Basis is 'As Received'.

G - Sample density differs by more than 15% of LCS density.

D - DER is greater than Control Limit

M - Requested MDC not met.

LT - Result is less than requested MDC but greater than achieved MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

L - LCS Recovery below lower control limit.

H - LCS Recovery above upper control limit.

P - LCS, Matrix Spike Recovery within control limits.

N - Matrix Spike Recovery outside control limits

NC - Not Calculated for duplicate results less than 5 times MDC

B - Analyte concentration greater than MDC.

B3 - Analyte concentration greater than MDC but less than Requested MDC.

Inorganics:

B - Result is less than the requested reporting limit but greater than the instrument method detection limit (MDL).

U or ND - Indicates that the compound was analyzed for but not detected.

E - The reported value is estimated because of the presence of interference. An explanatory note may be included in the narrative.

M - Duplicate injection precision was not met.

N - Spiked sample recovery not within control limits. A post spike is analyzed for all ICP analyses when the matrix spike and or spike duplicate fail and the native sample concentration is less than four times the spike added concentration.

Z - Spiked recovery not within control limits. An explanatory note may be included in the narrative.

* - Duplicate analysis (relative percent difference) not within control limits.

S - SAR value is estimated as one or more analytes used in the calculation were not detected above the detection limit.

Organics:

U or ND - Indicates that the compound was analyzed for but not detected.

B - Analyte is detected in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user.

E - Analyte concentration exceeds the upper level of the calibration range.

J - Estimated value. The result is less than the reporting limit but greater than the instrument method detection limit (MDL).

A - A tentatively identified compound is a suspected aldol-condensation product.

X - The analyte was diluted below an accurate quantitation level.

* - The spike recovery is equal to or outside the control criteria used.

+ - The relative percent difference (RPD) equals or exceeds the control criteria.

G - A pattern resembling gasoline was detected in this sample.

D - A pattern resembling diesel was detected in this sample.

M - A pattern resembling motor oil was detected in this sample.

C - A pattern resembling crude oil was detected in this sample.

4 - A pattern resembling JP-4 was detected in this sample.

5 - A pattern resembling JP-5 was detected in this sample.

H - Indicates that the fuel pattern was in the heavier end of the retention time window for the analyte of interest.

L - Indicates that the fuel pattern was in the lighter end of the retention time window for the analyte of interest.

Z - This flag indicates that a significant fraction of the reported result did not resemble the patterns of any of the following petroleum hydrocarbon products:
- gasoline
- JP-8
- diesel
- mineral spirits
- motor oil
- Stoddard solvent
- bunker C