



Encana Oil & Gas (USA) Inc.
370 - 17 Street, Suite 1700
Denver, CO 80202

Story Gulch Federal 36-2 (SG36SE) (Location: 312421)
Pit (Facility: 112428)
Encana Oil & Gas (USA) Inc. (Operator: 100185)

Encana Oil & Gas (USA) Inc. (Encana) is submitting this Form 4 (Status Update) to document site investigation and remediation activities associated with the closure of an earthen pit on a location, specified above, in the Plateau Field in Mesa County. The pit record was discovered as part of due diligence efforts undertaken in support of final reclamation activities planned for this location. Based on aerial imagery, the pit was physically closed prior to 2006, but no record of clearance samples or documentation was discovered during the records review for this location. The attached topographic location map shows the location of the well pad.

REPORT OF WORK COMPLETED

After identification of the open pit records in the COGCC database, and confirmation of the former pit location, a Form 27 (Site Investigation and Remediation Workplan) was submitted in January, 2015

In February, 2015 a track-hoe with guidance from an onsite environmental contractor, excavated soil from within the former pit footprint. During that effort, soils with visible staining and noticeable odor were encountered at depths between five feet (5') and 12 feet below ground surface. When lab results confirmed concentrations above allowable limits for TPH-DRO, in-situ characterization with a drilling contractor was scheduled. Laboratory results are provided in the attached summary table and laboratory reports.

In March, 2015 a soil auger rig was used to define vertical and lateral extent of soil impacts. An onsite environmental contractor utilized field screening techniques during drilling efforts to determine screening intervals for possible soil impacts and install bioventing wells to support in-situ bioremediation. After receipt of laboratory results confirming the location of soil impacts, unnecessary wells were removed and wells in the targeted remediation were capped with wind-powered ventilator turbines to support augmented bioremediation. The attached Report of Work Completed details these efforts.

After installation, the system was scheduled to receive operations and maintenance (O&M) visits to collect readings on remediation system function and monitor data for indicators that a remediation endpoint has been achieved. An annual report of O&M data will be provided to the COGCC in a Form 4 (Status Update).

When O&M data indicates that a remediation endpoint may have been reached, a soil-auger rig will be scheduled to collect additional samples to demonstrate successful completion of remediation efforts. A Form 4 (Notification of Completion) for this project will be submitted when clearance samples are received following a characterization event.

ATTACHMENTS

1. Contractor Report of Work Completed with Site Diagram
2. Topographic Location Map
3. Laboratory Results Summary Tables
4. Laboratory Reports



April 22, 2015

Mr. Chris Hines
Environmental Specialist
Encana Oil & Gas (USA) Inc.
143 Diamond Avenue
Parachute, Colorado 81635

**RE: Report of Work Completed – Historical Pit Closure (Facility ID – 112428)
Shire Gulch Federal 36-2 (Location ID – 312421)
Mesa County, Colorado**

Dear Mr. Hines:

LT Environmental, Inc. (LTE), under the direction of Encana Oil and Gas, Inc. (Encana), conducted site assessment activities associated with pit closure at the Shire Gulch Federal 36-2 (Site), located within the Shire Gulch area of operation in Mesa County, Colorado. This correspondence is a summary of the work completed by LTE in March, 2015.

Site Assessment Activities

On March 23 through 25, 2015, LTE advanced 8 soil borings at depths ranging from 17 to 22 feet below ground surface associated with a historical pit location at the Site. Three of the soil borings were converted to soil vapor extraction wells (SVE) to remediate residual hydrocarbon impacts. Soil confirmation samples were collected from each soil boring and submitted for laboratory analysis of constituents identified in Colorado Oil and Gas Conservation Commission (COGCC) Table 910-1. The attached Site Diagram illustrates soil boring locations.

Analytical Results and Remediation

Laboratory analytical results indicate a concentration of 14,000 milligrams per kilogram total petroleum hydrocarbons soil boring PITMID01 from 5 to 7 feet below ground surface, exceeding the COGCC Table 910-1 concentration level. Laboratory analytical reports are included as an attachment and summarized in the attached Laboratory Results Summary Table. Additionally, the above-mentioned exceedance is illustrated on the Site Diagram.

Ventilator turbines will be secured to the top of SVE wells SVEN01, SVEMID01, and SVES01 for the purpose of remediating residual hydrocarbon concentrations. The SVE system is designed to volatilize petroleum constituents adsorbed onto soil particles and promote bio-attenuation of residual hydrocarbons.

Monthly measurements of flow, temperature, and gas concentrations will be collected at each SVE well. With the goal of achieving site closure, LTE will continually evaluate SVE data and provide recommendations for collecting confirmation soil samples when appropriate.



LTE appreciates the opportunity to provide environmental services to Encana. Please call us at 970-285-9985 if you have any questions or comments regarding this report.

Sincerely,

LT ENVIRONMENTAL, INC.

A handwritten signature in black ink, appearing to read "Chris McKisson".

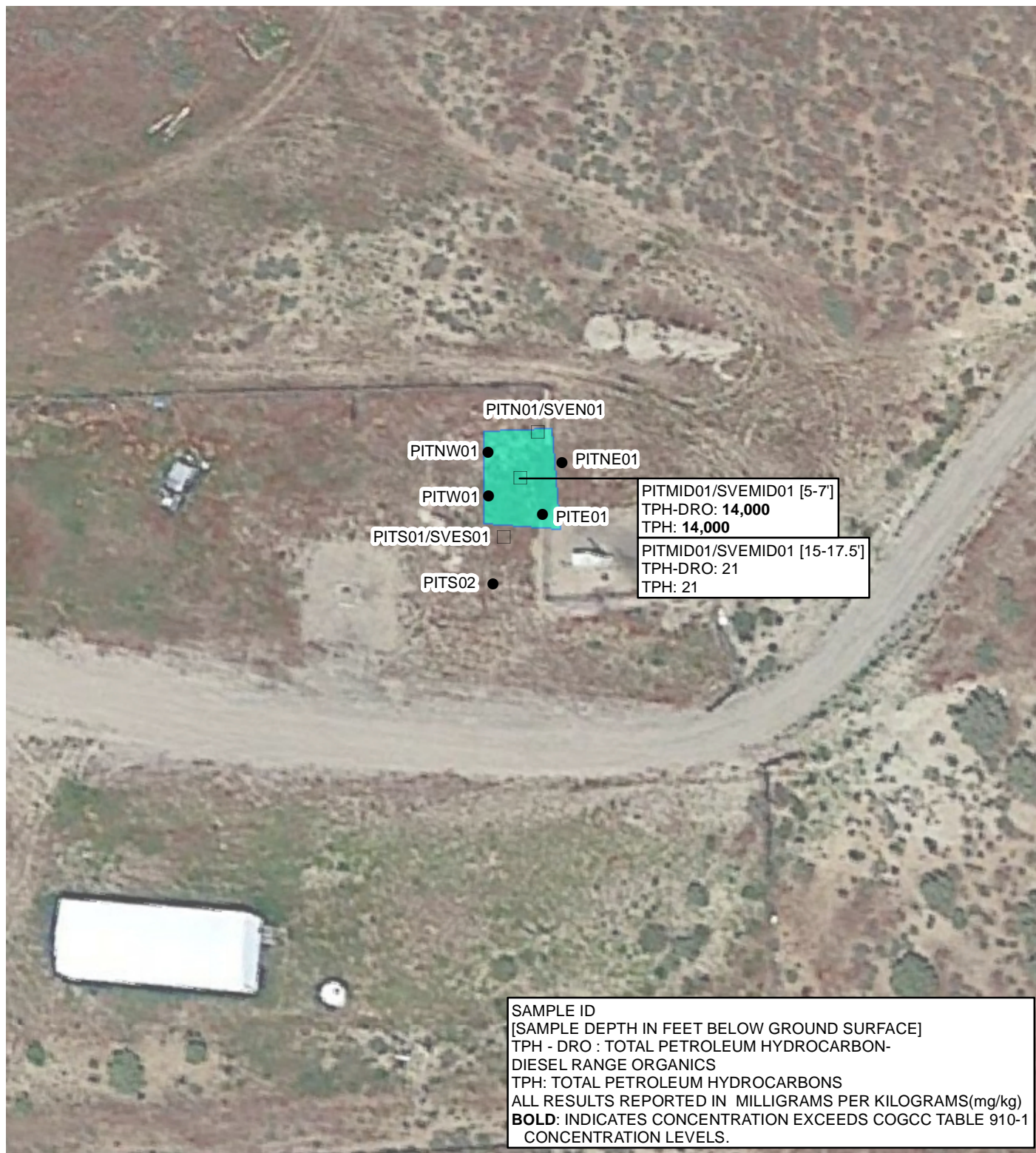
Chris McKisson
Project Manager

A handwritten signature in black ink, appearing to read "Robert Fishburn".

Robert Fishburn, P.G.
Senior Hydrogeologist

Attachments

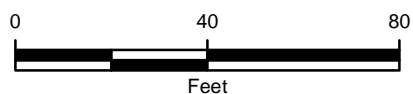
Site Diagram
Laboratory Results Summary Table
Laboratory Analytical Report



LEGEND

- SOIL BORING
- SOIL VAPOR EXTRACTION WELL (SVE)
- HISTORICAL PIT BOUNDARY

IMAGE COURTESY OF GOOGLE EARTH 2014

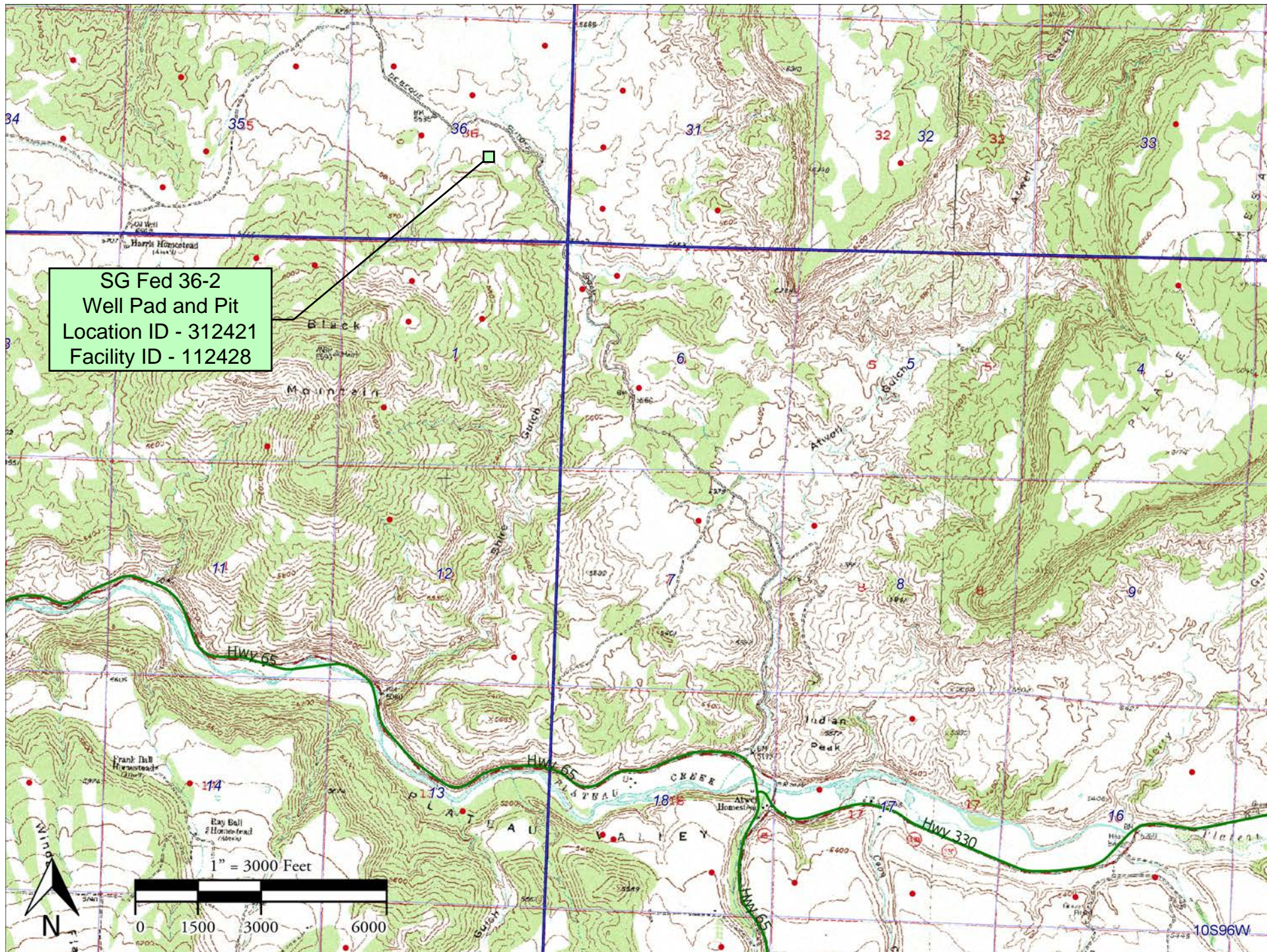


SITE DIAGRAM
SHIRE GULCH FEDERAL 36-2
MESA COUNTY, COLORADO

ENCANA OIL & GAS (USA) INC.



SG Fed 36-2 Location Map



Allowable Concentration -->				Organic Compounds in Soil (mg/kg (ppm))																		Inorganics in Soil			Metals in Soil (mg/kg (ppm))																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
Location	Sample Date:	Sample Matrix	Matrix Notes	500	TPH (total volatile and extractable petroleum hydrocarbons) (TPH-GRO + TPH-DRO)	TPH-GRO (C6-C10) Low Fraction	TPH-DRO (C10-C36) High Fraction	0.17	85	100	175	1000	1000	0.22	0.22	2.2	0.022	22	0.022	1000	1000	0.22	23	1000	EC (<4 mmos/cm or 2x background)	SAR (calculation)	pH	Arsenic	Barium - EPA Total Barium	Cadmium	Chromium (III)	Chromium (VI)	Copper	Lead (inorganic)	Mercury	Nickel (soluble salts)	Selenium	Silver	Zinc																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								



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Chris Hines
EnCana Oil & Gas - Parachute, CO
143 Diamond Avenue
Parachute, CO 81635

Report Summary

Monday March 02, 2015

Report Number: L749716


Samples Received: 02/20/15

Client Project: FED 36-2

Description: FED 36-2 Pit

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:


Jared Willis, ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197,
FL - E87487, GA - 923, IN - C-IN-01, KY - 90010, KYUST - 0016,
NC - ENV375/DW21704/BIO041, ND - R-140, NJ - TN002, NJ NELAP - TN002,
SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612,
MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1,
TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364, EPA - TN002

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

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REPORT OF ANALYSIS

Chris Hines
EnCana Oil & Gas - Parachute, CO
143 Diamond Avenue
Parachute, CO 81635

March 02, 2015

Date Received : February 20, 2015
Description : FED 36-2 Pit
Sample ID : 20150219-FED 36-2(PITE)
Collected By : Matt Kasten
Collection Date : 02/19/15 11:00

ESC Sample # : L749716-01

Site ID : FED 36-2

Project # : FED 36-2

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chromium, Hexavalent	BDL	2.0	mg/kg	3060A/7196A	02/23/15	1
Chromium, Trivalent	6.4	2.0	mg/kg	Calc.	02/24/15	1
ORP	80.		mV	2580 B-2011	02/21/15	1
pH	9.0	0.10	su	9045D	02/23/15	1
Sodium Adsorption Ratio	14.			Calc.	02/25/15	1
Specific Conductance	2600		umhos/cm	9050AMod	02/21/15	1
Mercury	BDL	0.020	mg/kg	7471A	02/23/15	1
Arsenic	4.7	2.0	mg/kg	6010B	02/24/15	1
Barium	300	0.50	mg/kg	6010B	02/24/15	1
Cadmium	BDL	0.50	mg/kg	6010B	02/24/15	1
Chromium	6.4	1.0	mg/kg	6010B	02/24/15	1
Copper	11.	2.0	mg/kg	6010B	02/24/15	1
Lead	9.9	0.50	mg/kg	6010B	02/24/15	1
Nickel	8.5	2.0	mg/kg	6010B	02/24/15	1
Selenium	BDL	2.0	mg/kg	6010B	02/24/15	1
Silver	BDL	1.0	mg/kg	6010B	02/24/15	1
Zinc	37.	5.0	mg/kg	6010B	02/24/15	1
Benzene	0.017	0.012	mg/kg	8021	02/24/15	25
Toluene	BDL	0.12	mg/kg	8021	02/24/15	25
Ethylbenzene	0.066	0.012	mg/kg	8021	02/24/15	25
Total Xylene	1.1	0.038	mg/kg	8021	02/24/15	25
TPH (GC/FID) Low Fraction	52.	2.5	mg/kg	8015	02/24/15	25
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	92.5		% Rec.	8015	02/24/15	1
a,a,a-Trifluorotoluene(PID)	100.		% Rec.	8021	02/24/15	1
TPH (GC/FID) High Fraction	250	4.0	mg/kg	8015D/DRO	02/23/15	1
Surrogate recovery(%)						
o-Terphenyl	75.4		% Rec.	8015D/DRO	02/23/15	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	0.030	0.0060	mg/kg	8270C-SIM	02/24/15	1
Acenaphthene	0.047	0.0060	mg/kg	8270C-SIM	02/24/15	1
Acenaphthylene	0.014	0.0060	mg/kg	8270C-SIM	02/24/15	1
Benzo(a)anthracene	0.0064	0.0060	mg/kg	8270C-SIM	02/24/15	1
Benzo(a)pyrene	BDL	0.0060	mg/kg	8270C-SIM	02/24/15	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L749716-01 (PH) - 9.0@19.9c



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REPORT OF ANALYSIS

Chris Hines
EnCana Oil & Gas - Parachute, CO
143 Diamond Avenue
Parachute, CO 81635

March 02, 2015

Date Received : February 20, 2015
Description : FED 36-2 Pit
Sample ID : 20150219-FED 36-2(PITE)
Collected By : Matt Kasten
Collection Date : 02/19/15 11:00

ESC Sample # : L749716-01

Site ID : FED 36-2

Project # : FED 36-2

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzo(b)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	02/24/15	1
Benzo(g,h,i)perylene	BDL	0.0060	mg/kg	8270C-SIM	02/24/15	1
Benzo(k)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	02/24/15	1
Chrysene	0.0073	0.0060	mg/kg	8270C-SIM	02/24/15	1
Dibenz(a,h)anthracene	BDL	0.0060	mg/kg	8270C-SIM	02/24/15	1
Fluoranthene	0.0075	0.0060	mg/kg	8270C-SIM	02/24/15	1
Fluorene	0.13	0.0060	mg/kg	8270C-SIM	02/24/15	1
Indeno(1,2,3-cd)pyrene	BDL	0.0060	mg/kg	8270C-SIM	02/24/15	1
Naphthalene	0.91	0.020	mg/kg	8270C-SIM	02/24/15	1
Phenanthrene	0.16	0.0060	mg/kg	8270C-SIM	02/24/15	1
Pyrene	0.012	0.0060	mg/kg	8270C-SIM	02/24/15	1
1-Methylnaphthalene	0.59	0.020	mg/kg	8270C-SIM	02/24/15	1
2-Methylnaphthalene	0.91	0.020	mg/kg	8270C-SIM	02/24/15	1
2-Chloronaphthalene	BDL	0.020	mg/kg	8270C-SIM	02/24/15	1
Surrogate Recovery						
p-Terphenyl-d14	68.6		% Rec.	8270C-SIM	02/24/15	1
Nitrobenzene-d5	155.		% Rec.	8270C-SIM	02/24/15	1
2-Fluorobiphenyl	82.3		% Rec.	8270C-SIM	02/24/15	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 02/28/15 19:23 Revised: 03/02/15 14:07
L749716-01 (PH) - 9.0@19.9c



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REPORT OF ANALYSIS

Chris Hines
EnCana Oil & Gas - Parachute, CO
143 Diamond Avenue
Parachute, CO 81635

March 02, 2015

Date Received : February 20, 2015
Description : FED 36-2 Pit

Sample ID : 20150219-FED 36-2(PITW)

Collected By : Matt Kasten
Collection Date : 02/19/15 11:10

ESC Sample # : L749716-02

Site ID : FED 36-2

Project # : FED 36-2

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chromium, Hexavalent	BDL	2.0	mg/kg	3060A/7196A	02/23/15	1
Chromium, Trivalent	8.1	2.0	mg/kg	Calc.	02/24/15	1
ORP	70.		mV	2580 B-2011	02/21/15	1
pH	8.9	0.10	su	9045D	02/23/15	1
Sodium Adsorption Ratio	12.			Calc.	02/25/15	1
Specific Conductance	2400		umhos/cm	9050AMod	02/21/15	1
Mercury	BDL	0.020	mg/kg	7471A	02/23/15	1
Arsenic	4.9	2.0	mg/kg	6010B	02/24/15	1
Barium	820	0.50	mg/kg	6010B	02/24/15	1
Cadmium	BDL	0.50	mg/kg	6010B	02/24/15	1
Chromium	8.1	1.0	mg/kg	6010B	02/24/15	1
Copper	12.	2.0	mg/kg	6010B	02/24/15	1
Lead	15.	0.50	mg/kg	6010B	02/24/15	1
Nickel	9.9	2.0	mg/kg	6010B	02/24/15	1
Selenium	BDL	2.0	mg/kg	6010B	02/24/15	1
Silver	BDL	1.0	mg/kg	6010B	02/24/15	1
Zinc	57.	5.0	mg/kg	6010B	02/24/15	1
Benzene	0.13	0.0025	mg/kg	8021	02/26/15	5
Toluene	0.61	0.025	mg/kg	8021	02/26/15	5
Ethylbenzene	0.11	0.025	mg/kg	8021	02/24/15	50
Total Xylene	5.2	0.075	mg/kg	8021	02/24/15	50
TPH (GC/FID) Low Fraction	150	5.0	mg/kg	8015	02/24/15	50
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	92.9		% Rec.	8015	02/24/15	1
a,a,a-Trifluorotoluene(PID)	99.9		% Rec.	8021	02/24/15	1
TPH (GC/FID) High Fraction	17000	200	mg/kg	8015D/DRO	02/23/15	50
Surrogate recovery(%)						
o-Terphenyl	0.00		% Rec.	8015D/DRO	02/23/15	50
Polynuclear Aromatic Hydrocarbons						
Anthracene	0.14	0.030	mg/kg	8270C-SIM	02/25/15	5
Acenaphthene	0.12	0.030	mg/kg	8270C-SIM	02/25/15	5
Acenaphthylene	0.044	0.030	mg/kg	8270C-SIM	02/25/15	5
Benzo(a)anthracene	0.036	0.030	mg/kg	8270C-SIM	02/25/15	5
Benzo(a)pyrene	BDL	0.030	mg/kg	8270C-SIM	02/25/15	5

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L749716-02 (PH) - 8.9@20.8c



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REPORT OF ANALYSIS

Chris Hines
EnCana Oil & Gas - Parachute, CO
143 Diamond Avenue
Parachute, CO 81635

March 02, 2015

Date Received : February 20, 2015
Description : FED 36-2 Pit
Sample ID : 20150219-FED 36-2(PITW)
Collected By : Matt Kasten
Collection Date : 02/19/15 11:10

ESC Sample # : L749716-02

Site ID : FED 36-2

Project # : FED 36-2

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzo(b)fluoranthene	BDL	0.030	mg/kg	8270C-SIM	02/25/15	5
Benzo(g,h,i)perylene	BDL	0.030	mg/kg	8270C-SIM	02/25/15	5
Benzo(k)fluoranthene	BDL	0.030	mg/kg	8270C-SIM	02/25/15	5
Chrysene	0.040	0.030	mg/kg	8270C-SIM	02/25/15	5
Dibenz(a,h)anthracene	BDL	0.030	mg/kg	8270C-SIM	02/25/15	5
Fluoranthene	BDL	0.030	mg/kg	8270C-SIM	02/25/15	5
Fluorene	0.44	0.030	mg/kg	8270C-SIM	02/25/15	5
Indeno(1,2,3-cd)pyrene	BDL	0.030	mg/kg	8270C-SIM	02/25/15	5
Naphthalene	1.3	0.10	mg/kg	8270C-SIM	02/25/15	5
Phenanthrene	0.58	0.030	mg/kg	8270C-SIM	02/25/15	5
Pyrene	0.050	0.030	mg/kg	8270C-SIM	02/25/15	5
1-Methylnaphthalene	2.6	0.10	mg/kg	8270C-SIM	02/25/15	5
2-Methylnaphthalene	3.8	0.10	mg/kg	8270C-SIM	02/25/15	5
2-Chloronaphthalene	BDL	0.10	mg/kg	8270C-SIM	02/25/15	5
Surrogate Recovery						
p-Terphenyl-d14	71.6		% Rec.	8270C-SIM	02/25/15	5
Nitrobenzene-d5	136.		% Rec.	8270C-SIM	02/25/15	5
2-Fluorobiphenyl	77.2		% Rec.	8270C-SIM	02/25/15	5

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 02/28/15 19:23 Revised: 03/02/15 14:07
L749716-02 (PH) - 8.9@20.8c

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L749716-01	WG771597	SAMP	Nitrobenzene-d5	R3021565	J1
L749716-02	WG771585	SAMP	o-Terphenyl	R3021304	J7

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

- Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Difference.
- Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromatography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.
- TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.



10-Apr-2015

Christopher Hines
Encana Oil and Gas (USA) Inc.
143 Diamond Avenue
Parachute, CO 81635

Re: **Shire Gulch Federal 36-2 Pit Assessment**

Work Order: **15031616**

Dear Christopher,

ALS Environmental received 2 samples on 27-Mar-2015 09:30 AM for the analyses presented in the following report.

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

Sample results are compliant with NELAP standard requirements and QC 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 9.

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

Sincerely,

Chad Whelton

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager



Certificate No: MN 532786

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Encana Oil and Gas (USA) Inc.
Project: Shire Gulch Federal 36-2 Pit Assessment
Work Order: 15031616

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>
15031616-01	20150323-SG Federal 36-2 (PitW01) 5-7.5'	Soil		3/23/2015 15:45	3/27/2015 09:30	<input type="checkbox"/>
15031616-02	20150323-SG Federal 36-2 (PitW01) 20-22.5'	Soil		3/23/2015 16:10	3/27/2015 09:30	<input type="checkbox"/>

Client: Encana Oil and Gas (USA) Inc.
Project: Shire Gulch Federal 36-2 Pit Assessment
WorkOrder: 15031616

QUALIFIERS, ACRONYMS, UNITS

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
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 PQL, 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, Corp

Date: 10-Apr-15

Client: Encana Oil and Gas (USA) Inc.
Project: Shire Gulch Federal 36-2 Pit Assessment
Sample ID: 20150323-SG Federal 36-2 (PitW01) 5-7.5'
Collection Date: 3/23/2015 03:45 PM

Work Order: 15031616
Lab ID: 15031616-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<hr/>							
DIESEL RANGE ORGANICS BY GC-FID			Method: SW8015M		Prep: SW3541 / 3/30/15		Analyst: IT
DRO (C10-C28)	17		1.6	4.8	mg/Kg-dry	1	3/31/2015 15:37
Surr: 4-Terphenyl-d14	60.4			39-133	%REC	1	3/31/2015 15:37
MOISTURE			Method: E160.3M				Analyst: EVB
Moisture	14		0.025	0.050	% of sample	1	3/31/2015 17:41

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

ALS Group USA, Corp

Date: 10-Apr-15

Client: Encana Oil and Gas (USA) Inc.
Project: Shire Gulch Federal 36-2 Pit Assessment
Sample ID: 20150323-SG Federal 36-2 (PitW01) 20-22.5'
Collection Date: 3/23/2015 04:10 PM

Work Order: 15031616
Lab ID: 15031616-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<hr/>							
DIESEL RANGE ORGANICS BY GC-FID			Method: SW8015M		Prep: SW3541 / 3/30/15		Analyst: IT
DRO (C10-C28)	12		1.6	4.9	mg/Kg-dry	1	3/31/2015 16:07
Surr: 4-Terphenyl-d14	57.1			39-133	%REC	1	3/31/2015 16:07
MOISTURE			Method: E160.3M				Analyst: EVB
Moisture	15		0.025	0.050	% of sample	1	3/31/2015 17:41

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

ALS Group USA, Corp

Date: 10-Apr-15

Client: Encana Oil and Gas (USA) Inc.
Work Order: 15031616
Project: Shire Gulch Federal 36-2 Pit Assessment

QC BATCH REPORT

Batch ID: **69205** Instrument ID **GC8** Method: **SW8015M**

MBLK		Sample ID: DBLKS1-69205-69205				Units: mg/Kg		Analysis Date: 3/31/2015 10:06 AM		
Client ID:		Run ID: GC8_150331A				SeqNo: 3203681		Prep Date: 3/30/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	U	5.0								
<i>Surr: 4-Terphenyl-d14</i>	1.557	0	2	0	77.8	39-133	0			

LCS		Sample ID: DLCSS1-69205-69205				Units: mg/Kg		Analysis Date: 3/31/2015 10:36 AM		
Client ID:		Run ID: GC8_150331A				SeqNo: 3203682		Prep Date: 3/30/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	173.2	5.0	200	0	86.6	61-109	0			
<i>Surr: 4-Terphenyl-d14</i>	1.278	0	2	0	63.9	39-133	0			

MS		Sample ID: 15031629-01A MS				Units: mg/Kg		Analysis Date: 3/31/2015 11:07 AM		
Client ID:		Run ID: GC8_150331A				SeqNo: 3203683		Prep Date: 3/30/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	305.5	8.3	331	0	92.3	48-110	0			
<i>Surr: 4-Terphenyl-d14</i>	2.228	0	3.31	0	67.3	39-133	0			

MSD		Sample ID: 15031629-01A MSD				Units: mg/Kg		Analysis Date: 3/31/2015 11:36 AM		
Client ID:		Run ID: GC8_150331A				SeqNo: 3203684		Prep Date: 3/30/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	270.9	7.8	312.8	0	86.6	48-110	305.5	12	30	
<i>Surr: 4-Terphenyl-d14</i>	1.983	0	3.128	0	63.4	39-133	2.228	11.7	30	

The following samples were analyzed in this batch:

15031616-01A	15031616-02A
--------------	--------------

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

Client: Encana Oil and Gas (USA) Inc.
Work Order: 15031616
Project: Shire Gulch Federal 36-2 Pit Assessment

QC BATCH REPORT

Batch ID: **R160316** Instrument ID **MOIST** Method: **E160.3M**

MBLK		Sample ID: WBLKS-R160316				Units: % of sample		Analysis Date: 3/31/2015 05:41 PM		
Client ID:		Run ID: MOIST_150331C				SeqNo: 3204965		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	0.03	0.050								J

LCS		Sample ID: LCS-R160316				Units: % of sample		Analysis Date: 3/31/2015 05:41 PM		
Client ID:		Run ID: MOIST_150331C				SeqNo: 3204958		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	100	0.050	100	0	100	99.5-100.5	0			

DUP		Sample ID: 15031601-01B DUP				Units: % of sample		Analysis Date: 3/31/2015 05:41 PM		
Client ID:		Run ID: MOIST_150331C				SeqNo: 3204939		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	16.54	0.050	0	0	0		16.22	1.95	20	

DUP		Sample ID: 15031616-01A DUP				Units: % of sample		Analysis Date: 3/31/2015 05:41 PM		
Client ID: 20150323-SG Federal 36-2 (PitW01) 5-7.5'		Run ID: MOIST_150331C				SeqNo: 3204956		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	13.59	0.050	0	0	0		14.02	3.11	20	

The following samples were analyzed in this batch:

15031616-01A	15031616-02A
--------------	--------------

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

15031616

**ALS Laboratory Group**

CHAIN OF CUSTODY

Failure to complete all section of this form may delay analysis.

COC number (for client tracking)

Page 1 of 1

[illegible]

Abb.: (a) DW (Drinking water), SW (Surface water), GW (Ground water), WW (Waste water), S (Soil), SL (Sludge), SE (Sediment), OS (Other solid material)

S Technichem (HK) Pty Ltd Address: 11/F, Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong Tel: +852 2610 1044 Fax: +852 2610 2021 Email: HongKong@elsglobal.com

4.2°

Sample Receipt Checklist

Client Name: **ENCANA2**

Date/Time Received: **27-Mar-15 09:30**

Work Order: **15031616**

Received by: **KRW**

Checklist completed by Keith Wurenga
eSignature

27-Mar-15
Date

Reviewed by: Chad Whelton
eSignature

27-Mar-15
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>4.2 C</u> <u>SR2</u>		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	<u>3/27/2015 12:09:10 PM</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:			

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



08-Apr-2015

Christopher Hines
Encana Oil and Gas (USA) Inc.
143 Diamond Avenue
Parachute, CO 81635

Re: **Shire Gulch Federal 36-2 Pit Assessment**

Work Order: **15031629**

Dear Christopher,

ALS Environmental received 12 samples on 27-Mar-2015 09:30 AM for the analyses presented in the following report.

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

Sample results are compliant with NELAP standard requirements and QC 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 18.

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

Sincerely,

Chad Whelton

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager



Certificate No: MN 532786

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Encana Oil and Gas (USA) Inc.
Project: Shire Gulch Federal 36-2 Pit Assessment
Work Order: 15031629

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>
15031629-01	20150324-SG Federal 36-2 (PITE01) 5-7'	Soil		3/24/2015 09:20	3/27/2015 09:30	<input type="checkbox"/>
15031629-02	20150324-SG Federal 36-2 (PITE01) 20-22'	Soil		3/24/2015 08:55	3/27/2015 09:30	<input type="checkbox"/>
15031629-03	20150324-SG Federal 36-2 (PITMID01) 5-7'	Soil		3/24/2015 10:30	3/27/2015 09:30	<input type="checkbox"/>
15031629-04	20150324-SG Federal 36-2 (PITMID01) 15-17.5'	Soil		3/24/2015 11:00	3/27/2015 09:30	<input type="checkbox"/>
15031629-05	20150324-SG Federal 36-2 (PITN01) 5-7.5'	Soil		3/24/2015 12:40	3/27/2015 09:30	<input type="checkbox"/>
15031629-06	20150324-SG Federal 36-2 (PITN01) 15-17'	Soil		3/24/2015 12:55	3/27/2015 09:30	<input type="checkbox"/>
15031629-07	20150324-SG Federal 36-2 (PITNE01) 10-12.5'	Soil		3/24/2015 14:10	3/27/2015 09:30	<input type="checkbox"/>
15031629-08	20150324-SG Federal 36-2 (PITNE01) 16-18'	Soil		3/21/2015 14:30	3/27/2015 09:30	<input type="checkbox"/>
15031629-09	20150324-SG Federal 36-2 (PITNW01) 10-12'	Soil		3/24/2015 15:30	3/27/2015 09:30	<input type="checkbox"/>
15031629-10	20150324-SG Federal 36-2 (PITNW01) 15-17'	Soil		3/24/2015 15:40	3/27/2015 09:30	<input type="checkbox"/>
15031629-11	20150324-SG Federal 36-2 (BGS01) 8"	Soil		3/24/2015 12:15	3/27/2015 09:30	<input type="checkbox"/>
15031629-12	20150324-SG Federal 36-2 (BGMID01) 8"	Soil		3/24/2015 12:20	3/27/2015 09:30	<input type="checkbox"/>

Client: Encana Oil and Gas (USA) Inc.
Project: Shire Gulch Federal 36-2 Pit Assessment
Work Order: 15031629

Case Narrative

Batch 69205, Method DRO_8015_S, Sample 15031629-03A: DRO surrogate recovery high due to matrix interference.

Client: Encana Oil and Gas (USA) Inc.
Project: Shire Gulch Federal 36-2 Pit Assessment
WorkOrder: 15031629

QUALIFIERS, ACRONYMS, UNITS

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
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 PQL, 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, Corp**Date:** 08-Apr-15

Client: Encana Oil and Gas (USA) Inc.
Project: Shire Gulch Federal 36-2 Pit Assessment
Sample ID: 20150324-SG Federal 36-2 (PITE01) 5-7'
Collection Date: 3/24/2015 09:20 AM

Work Order: 15031629
Lab ID: 15031629-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<hr/>							
DIESEL RANGE ORGANICS BY GC-FID			Method: SW8015M		Prep: SW3541 / 3/30/15		Analyst: IT
DRO (C10-C28)	U		1.5	4.6	mg/Kg-dry	1	3/31/2015 12:06
Surr: 4-Terphenyl-d14	69.4			39-133	%REC	1	3/31/2015 12:06
MOISTURE			Method: E160.3M				Analyst: EVB
Moisture	11		0.025	0.050	% of sample	1	4/1/2015 14:00

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

ALS Group USA, Corp

Date: 08-Apr-15

Client: Encana Oil and Gas (USA) Inc.
Project: Shire Gulch Federal 36-2 Pit Assessment
Sample ID: 20150324-SG Federal 36-2 (PITE01) 20-22'
Collection Date: 3/24/2015 08:55 AM

Work Order: 15031629
Lab ID: 15031629-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<hr/>							
DIESEL RANGE ORGANICS BY GC-FID			Method: SW8015M		Prep: SW3541 / 3/30/15		Analyst: IT
DRO (C10-C28)	U		1.6	4.9	mg/Kg-dry	1	3/31/2015 18:37
Surr: 4-Terphenyl-d14	71.0			39-133	%REC	1	3/31/2015 18:37
MOISTURE			Method: E160.3M				Analyst: EVB
Moisture	17		0.025	0.050	% of sample	1	4/1/2015 14:00

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

ALS Group USA, Corp

Date: 08-Apr-15

Client: Encana Oil and Gas (USA) Inc.
Project: Shire Gulch Federal 36-2 Pit Assessment
Sample ID: 20150324-SG Federal 36-2 (PITMID01) 5-7'
Collection Date: 3/24/2015 10:30 AM

Work Order: 15031629
Lab ID: 15031629-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<hr/>							
DIESEL RANGE ORGANICS BY GC-FID			Method: SW8015M		Prep: SW3541 / 3/30/15		Analyst: IT
DRO (C10-C28)	14,000		170	510	mg/Kg-dry	10	3/31/2015 14:37
Surr: 4-Terphenyl-d14	1,240	S		39-133	%REC	10	3/31/2015 14:37
MOISTURE			Method: E160.3M				Analyst: EVB
Moisture	19		0.025	0.050	% of sample	1	4/1/2015 14:00

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

ALS Group USA, Corp**Date:** 08-Apr-15

Client: Encana Oil and Gas (USA) Inc.
Project: Shire Gulch Federal 36-2 Pit Assessment
Sample ID: 20150324-SG Federal 36-2 (PITMID01) 15-17.5'
Collection Date: 3/24/2015 11:00 AM

Work Order: 15031629
Lab ID: 15031629-04
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<hr/>							
DIESEL RANGE ORGANICS BY GC-FID			Method: SW8015M		Prep: SW3541 / 3/30/15		Analyst: IT
DRO (C10-C28)	21		1.6	5.0	mg/Kg-dry	1	3/31/2015 19:07
Surr: 4-Terphenyl-d14	64.9			39-133	%REC	1	3/31/2015 19:07
MOISTURE			Method: E160.3M				Analyst: EVB
Moisture	17		0.025	0.050	% of sample	1	4/1/2015 14:00

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

ALS Group USA, Corp

Date: 08-Apr-15

Client: Encana Oil and Gas (USA) Inc.
Project: Shire Gulch Federal 36-2 Pit Assessment
Sample ID: 20150324-SG Federal 36-2 (PITN01) 5-7.5'
Collection Date: 3/24/2015 12:40 PM

Work Order: 15031629
Lab ID: 15031629-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<hr/>							
DIESEL RANGE ORGANICS BY GC-FID			Method: SW8015M		Prep: SW3541 / 3/30/15		Analyst: IT
DRO (C10-C28)	U		1.6	4.8	mg/Kg-dry	1	3/31/2015 19:37
Surr: 4-Terphenyl-d14	57.1			39-133	%REC	1	3/31/2015 19:37
MOISTURE			Method: E160.3M				Analyst: EVB
Moisture	14		0.025	0.050	% of sample	1	4/1/2015 14:00

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

ALS Group USA, Corp

Date: 08-Apr-15

Client: Encana Oil and Gas (USA) Inc.
Project: Shire Gulch Federal 36-2 Pit Assessment
Sample ID: 20150324-SG Federal 36-2 (PITN01) 15-17'
Collection Date: 3/24/2015 12:55 PM

Work Order: 15031629
Lab ID: 15031629-06
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<hr/>							
DIESEL RANGE ORGANICS BY GC-FID			Method: SW8015M		Prep: SW3541 / 3/30/15		Analyst: IT
DRO (C10-C28)	U		1.6	4.8	mg/Kg-dry	1	3/31/2015 20:07
Surr: 4-Terphenyl-d14	62.8			39-133	%REC	1	3/31/2015 20:07
MOISTURE			Method: E160.3M				Analyst: EVB
Moisture	15		0.025	0.050	% of sample	1	4/1/2015 14:00

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

ALS Group USA, Corp

Date: 08-Apr-15

Client: Encana Oil and Gas (USA) Inc.
Project: Shire Gulch Federal 36-2 Pit Assessment
Sample ID: 20150324-SG Federal 36-2 (PITNE01) 10-12.5'
Collection Date: 3/24/2015 02:10 PM

Work Order: 15031629
Lab ID: 15031629-07
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<hr/>							
DIESEL RANGE ORGANICS BY GC-FID			Method: SW8015M		Prep: SW3541 / 3/30/15		Analyst: IT
DRO (C10-C28)	U		1.6	4.7	mg/Kg-dry	1	3/31/2015 21:07
Surr: 4-Terphenyl-d14	58.7			39-133	%REC	1	3/31/2015 21:07
MOISTURE			Method: E160.3M				Analyst: EVB
Moisture	12		0.025	0.050	% of sample	1	4/1/2015 14:00

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

ALS Group USA, Corp

Date: 08-Apr-15

Client: Encana Oil and Gas (USA) Inc.
Project: Shire Gulch Federal 36-2 Pit Assessment
Sample ID: 20150324-SG Federal 36-2 (PITNE01) 16-18'
Collection Date: 3/21/2015 02:30 PM

Work Order: 15031629
Lab ID: 15031629-08
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<hr/>							
DIESEL RANGE ORGANICS BY GC-FID			Method: SW8015M		Prep: SW3541 / 3/30/15		Analyst: IT
DRO (C10-C28)	U		1.6	4.9	mg/Kg-dry	1	3/31/2015 21:37
Surr: 4-Terphenyl-d14	68.0			39-133	%REC	1	3/31/2015 21:37
MOISTURE			Method: E160.3M				Analyst: EVB
Moisture	16		0.025	0.050	% of sample	1	4/1/2015 14:00

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

ALS Group USA, Corp**Date:** 08-Apr-15

Client: Encana Oil and Gas (USA) Inc.
Project: Shire Gulch Federal 36-2 Pit Assessment
Sample ID: 20150324-SG Federal 36-2 (PITNW01) 10-12'
Collection Date: 3/24/2015 03:30 PM

Work Order: 15031629
Lab ID: 15031629-09
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<hr/>							
DIESEL RANGE ORGANICS BY GC-FID			Method: SW8015M		Prep: SW3541 / 3/30/15		Analyst: IT
DRO (C10-C28)	U		1.5	4.6	mg/Kg-dry	1	3/31/2015 22:07
Surr: 4-Terphenyl-d14	66.7			39-133	%REC	1	3/31/2015 22:07
MOISTURE			Method: E160.3M				Analyst: EVB
Moisture	11		0.025	0.050	% of sample	1	4/1/2015 14:00

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

ALS Group USA, Corp**Date:** 08-Apr-15

Client: Encana Oil and Gas (USA) Inc.
Project: Shire Gulch Federal 36-2 Pit Assessment
Sample ID: 20150324-SG Federal 36-2 (PITNW01) 15-17'
Collection Date: 3/24/2015 03:40 PM

Work Order: 15031629
Lab ID: 15031629-10
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<hr/>							
DIESEL RANGE ORGANICS BY GC-FID			Method: SW8015M		Prep: SW3541 / 3/30/15		Analyst: IT
DRO (C10-C28)	U		1.5	4.7	mg/Kg-dry	1	3/31/2015 22:37
Surr: 4-Terphenyl-d14	63.9			39-133	%REC	1	3/31/2015 22:37
MOISTURE			Method: E160.3M				Analyst: EVB
Moisture	12		0.025	0.050	% of sample	1	4/1/2015 14:00

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

ALS Group USA, Corp

Date: 08-Apr-15

Client: Encana Oil and Gas (USA) Inc.
Work Order: 15031629
Project: Shire Gulch Federal 36-2 Pit Assessment

QC BATCH REPORT

Batch ID: **69205** Instrument ID **GC8** Method: **SW8015M**

MBLK		Sample ID: DBLKS1-69205-69205				Units: mg/Kg		Analysis Date: 3/31/2015 10:06 AM		
Client ID:		Run ID: GC8_150331A				SeqNo: 3203681		Prep Date: 3/30/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28) U 5.0
Surr: 4-Terphenyl-d14 1.557 0 2 0 77.8 39-133 0

LCS		Sample ID: DLCSS1-69205-69205				Units: mg/Kg		Analysis Date: 3/31/2015 10:36 AM		
Client ID:		Run ID: GC8_150331A				SeqNo: 3203682		Prep Date: 3/30/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28) 173.2 5.0 200 0 86.6 61-109 0
Surr: 4-Terphenyl-d14 1.278 0 2 0 63.9 39-133 0

MS		Sample ID: 15031629-01A MS				Units: mg/Kg		Analysis Date: 3/31/2015 11:07 AM		
Client ID: 20150324-SG Federal 36-2 (PITE01) 5-7'		Run ID: GC8_150331A				SeqNo: 3203683		Prep Date: 3/30/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28) 305.5 8.3 331 0 92.3 48-110 0
Surr: 4-Terphenyl-d14 2.228 0 3.31 0 67.3 39-133 0

MSD		Sample ID: 15031629-01A MSD				Units: mg/Kg		Analysis Date: 3/31/2015 11:36 AM		
Client ID: 20150324-SG Federal 36-2 (PITE01) 5-7'		Run ID: GC8_150331A				SeqNo: 3203684		Prep Date: 3/30/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28) 270.9 7.8 312.8 0 86.6 48-110 305.5 12 30
Surr: 4-Terphenyl-d14 1.983 0 3.128 0 63.4 39-133 2.228 11.7 30

The following samples were analyzed in this batch:

15031629-01A	15031629-02A	15031629-03A
15031629-04A	15031629-05A	15031629-06A
15031629-07A	15031629-08A	15031629-09A
15031629-10A		

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

Client: Encana Oil and Gas (USA) Inc.
Work Order: 15031629
Project: Shire Gulch Federal 36-2 Pit Assessment

QC BATCH REPORT

Batch ID: **R160388** Instrument ID **MOIST** Method: **E160.3M**

MBLK		Sample ID: WBLKS-R160388				Units: % of sample		Analysis Date: 4/1/2015 02:00 PM		
Client ID:		Run ID: MOIST_150401A		SeqNo: 3206632		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture U 0.050

LCS		Sample ID: LCS-R160388				Units: % of sample		Analysis Date: 4/1/2015 02:00 PM		
Client ID:		Run ID: MOIST_150401A		SeqNo: 3206631		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 100 0.050 100 0 100 99.5-100.5 0

DUP		Sample ID: 15031626-01A DUP				Units: % of sample		Analysis Date: 4/1/2015 02:00 PM		
Client ID:		Run ID: MOIST_150401A		SeqNo: 3206589		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 14.61 0.050 0 0 0 14.88 1.83 20

DUP		Sample ID: 15031629-04A DUP				Units: % of sample		Analysis Date: 4/1/2015 02:00 PM		
Client ID: 20150324-SG Federal 36-2 (PITMID01) 15-17.5'		Run ID: MOIST_150401A		SeqNo: 3206615		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 17.6 0.050 0 0 0 17.48 0.684 20

The following samples were analyzed in this batch:

15031629-01A	15031629-02A	15031629-03A
15031629-04A	15031629-05A	15031629-06A
15031629-07A	15031629-08A	15031629-09A
15031629-10A	15031629-11A	15031629-12A

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

4,272



Failure to complete all section of this form may delay analysis.

COC number (for client tracking)

Page 1 of 1

[illegible]

Abb.: (a) DW (Drinking water), SW (Surface water), GW (Ground water), WW (Waste water), S (Soil), SL (Sludge), SE (Sediment), OS (Other solid material)

S Technichem (HK) Pty Ltd Address: 11/F, Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong Tel: +852 2810 1044 Fax: +852 2810 2021 Email: HongKong@talsglobal.com

Sample Receipt Checklist

Client Name: ENCANA2

Date/Time Received: 27-Mar-15 09:30

Work Order: 15031629

Received by: KRW

Checklist completed by Keith Wurenga
eSignature

27-Mar-15
Date

Reviewed by: Chad Whelton
eSignature

27-Mar-15
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 type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" 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>4.2 C</u> <u>SR2</u>		
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>3/27/2015 1:58:21 PM</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:



10-Apr-2015

Christopher Hines
Encana Oil and Gas (USA) Inc.
143 Diamond Avenue
Parachute, CO 81635

Re: **Shire Gulch Federal 36-2 Pit Assessment**

Work Order: **15031628**

Dear Christopher,

ALS Environmental received 4 samples on 27-Mar-2015 09:30 AM for the analyses presented in the following report.

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

Sample results are compliant with NELAP standard requirements and QC 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 11.

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

Sincerely,

Chad Whelton

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager



Certificate No: MN 532786

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Encana Oil and Gas (USA) Inc.
Project: Shire Gulch Federal 36-2 Pit Assessment
Work Order: 15031628

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>
15031628-01	20150325-SG Federal 36-2 (PITS01) 2.5-4'	Soil		3/25/2015 09:15	3/27/2015 09:30	<input type="checkbox"/>
15031628-02	20150325-SG Federal 36-2 (PITS01) 17-19'	Soil		3/25/2015 09:25	3/27/2015 09:30	<input type="checkbox"/>
15031628-03	20150325-SG Federal 36-2 (PITS02) 5-7'	Soil		3/25/2015 09:25	3/27/2015 09:30	<input type="checkbox"/>
15031628-04	20150325-SG Federal 36-2 (PITS02) 15-17'	Soil		3/25/2015 09:45	3/27/2015 09:30	<input type="checkbox"/>

Client: Encana Oil and Gas (USA) Inc.
Project: Shire Gulch Federal 36-2 Pit Assessment
WorkOrder: 15031628

QUALIFIERS, ACRONYMS, UNITS

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
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 PQL, 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, Corp

Date: 10-Apr-15

Client: Encana Oil and Gas (USA) Inc.
Project: Shire Gulch Federal 36-2 Pit Assessment
Sample ID: 20150325-SG Federal 36-2 (PITS01) 2.5-4'
Collection Date: 3/25/2015 09:15 AM

Work Order: 15031628
Lab ID: 15031628-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<hr/>							
DIESEL RANGE ORGANICS BY GC-FID			Method: SW8015M		Prep: SW3541 / 3/30/15		Analyst: IT
DRO (C10-C28)	18		1.6	4.9	mg/Kg-dry	1	3/31/2015 16:37
Surr: 4-Terphenyl-d14	57.4			39-133	%REC	1	3/31/2015 16:37
MOISTURE			Method: E160.3M				Analyst: EVB
Moisture	18		0.025	0.050	% of sample	1	4/1/2015 14:00

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

ALS Group USA, Corp

Date: 10-Apr-15

Client: Encana Oil and Gas (USA) Inc.
Project: Shire Gulch Federal 36-2 Pit Assessment
Sample ID: 20150325-SG Federal 36-2 (PITS01) 17-19'
Collection Date: 3/25/2015 09:25 AM

Work Order: 15031628
Lab ID: 15031628-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<hr/>							
DIESEL RANGE ORGANICS BY GC-FID			Method: SW8015M		Prep: SW3541 / 3/30/15		Analyst: IT
DRO (C10-C28)	7.3		1.6	4.7	mg/Kg-dry	1	3/31/2015 17:07
Surr: 4-Terphenyl-d14	72.5			39-133	%REC	1	3/31/2015 17:07
MOISTURE			Method: E160.3M				Analyst: EVB
Moisture	13		0.025	0.050	% of sample	1	4/1/2015 14:00

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

ALS Group USA, Corp

Date: 10-Apr-15

Client: Encana Oil and Gas (USA) Inc.
Project: Shire Gulch Federal 36-2 Pit Assessment
Sample ID: 20150325-SG Federal 36-2 (PITS02) 5-7'
Collection Date: 3/25/2015 09:25 AM

Work Order: 15031628
Lab ID: 15031628-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<hr/>							
DIESEL RANGE ORGANICS BY GC-FID			Method: SW8015M		Prep: SW3541 / 3/30/15		Analyst: IT
DRO (C10-C28)	13		1.6	4.7	mg/Kg-dry	1	3/31/2015 17:37
Surr: 4-Terphenyl-d14	63.0			39-133	%REC	1	3/31/2015 17:37
MOISTURE			Method: E160.3M				Analyst: EVB
Moisture	15		0.025	0.050	% of sample	1	4/1/2015 14:00

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

ALS Group USA, Corp

Date: 10-Apr-15

Client: Encana Oil and Gas (USA) Inc.
Project: Shire Gulch Federal 36-2 Pit Assessment
Sample ID: 20150325-SG Federal 36-2 (PITS02) 15-17'
Collection Date: 3/25/2015 09:45 AM

Work Order: 15031628
Lab ID: 15031628-04
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<hr/>							
DIESEL RANGE ORGANICS BY GC-FID			Method: SW8015M		Prep: SW3541 / 3/30/15		Analyst: IT
DRO (C10-C28)	11		1.5	4.6	mg/Kg-dry	1	3/31/2015 18:07
Surr: 4-Terphenyl-d14	62.0			39-133	%REC	1	3/31/2015 18:07
MOISTURE			Method: E160.3M				Analyst: EVB
Moisture	10		0.025	0.050	% of sample	1	4/1/2015 14:00

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

ALS Group USA, Corp

Date: 10-Apr-15

Client: Encana Oil and Gas (USA) Inc.
Work Order: 15031628
Project: Shire Gulch Federal 36-2 Pit Assessment

QC BATCH REPORT

Batch ID: **69205** Instrument ID **GC8** Method: **SW8015M**

MBLK		Sample ID: DBLKS1-69205-69205				Units: mg/Kg		Analysis Date: 3/31/2015 10:06 AM		
Client ID:		Run ID: GC8_150331A				SeqNo: 3203681		Prep Date: 3/30/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	U	5.0								
Surr: 4-Terphenyl-d14	1.557	0	2	0	77.8	39-133	0			

LCS		Sample ID: DLCSS1-69205-69205				Units: mg/Kg		Analysis Date: 3/31/2015 10:36 AM		
Client ID:		Run ID: GC8_150331A				SeqNo: 3203682		Prep Date: 3/30/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	173.2	5.0	200	0	86.6	61-109	0			
Surr: 4-Terphenyl-d14	1.278	0	2	0	63.9	39-133	0			

MS		Sample ID: 15031629-01A MS				Units: mg/Kg		Analysis Date: 3/31/2015 11:07 AM		
Client ID:		Run ID: GC8_150331A				SeqNo: 3203683		Prep Date: 3/30/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	305.5	8.3	331	0	92.3	48-110	0			
Surr: 4-Terphenyl-d14	2.228	0	3.31	0	67.3	39-133	0			

MSD		Sample ID: 15031629-01A MSD				Units: mg/Kg		Analysis Date: 3/31/2015 11:36 AM		
Client ID:		Run ID: GC8_150331A				SeqNo: 3203684		Prep Date: 3/30/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	270.9	7.8	312.8	0	86.6	48-110	305.5	12	30	
Surr: 4-Terphenyl-d14	1.983	0	3.128	0	63.4	39-133	2.228	11.7	30	

The following samples were analyzed in this batch:

15031628-01A	15031628-02A	15031628-03A
15031628-04A		

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

Client: Encana Oil and Gas (USA) Inc.
Work Order: 15031628
Project: Shire Gulch Federal 36-2 Pit Assessment

QC BATCH REPORT

Batch ID: **R160388** Instrument ID **MOIST** Method: **E160.3M**

MBLK		Sample ID: WBLKS-R160388				Units: % of sample		Analysis Date: 4/1/2015 02:00 PM		
Client ID:		Run ID: MOIST_150401A				SeqNo: 3206632		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture U 0.050

LCS		Sample ID: LCS-R160388				Units: % of sample		Analysis Date: 4/1/2015 02:00 PM		
Client ID:		Run ID: MOIST_150401A				SeqNo: 3206631		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 100 0.050 100 0 100 99.5-100.5 0

DUP		Sample ID: 15031626-01A DUP				Units: % of sample		Analysis Date: 4/1/2015 02:00 PM		
Client ID:		Run ID: MOIST_150401A				SeqNo: 3206589		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 14.61 0.050 0 0 0 14.88 1.83 20

DUP		Sample ID: 15031629-04A DUP				Units: % of sample		Analysis Date: 4/1/2015 02:00 PM		
Client ID:		Run ID: MOIST_150401A				SeqNo: 3206615		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 17.6 0.050 0 0 0 17.48 0.684 20

The following samples were analyzed in this batch:

15031628-01A	15031628-02A	15031628-03A
15031628-04A		

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

15031628

**ALS Laboratory Group**

CHAIN OF CUSTODY

Failure to complete all section of this form may delay analysis.

COC number (for client tracking)

Page 1 of 1

[illegible]

te: (a) DW (Drinking water), SW (Surface water), GW (Ground water), WW (Waste water), S (Soil), SL (Sludge), SE (Sediment), OS (Other solid material)

S Technichem (HK) Pty Ltd Address: 11/F, Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong Tel: +852 2610 1044 Fax: +852 2610 2021 Email: HongKong@elsglobal.com

4.27

Sample Receipt Checklist

Client Name: **ENCANA2**

Date/Time Received: **27-Mar-15 09:30**

Work Order: **15031628**

Received by: **KRW**

Checklist completed by Keith Wurenga
eSignature

27-Mar-15
Date

Reviewed by: Chad Whelton
eSignature

27-Mar-15
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 type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" 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>4.2 C</u> <u>SR2</u>		
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>3/27/2015 1:46:28 PM</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: