FORM
27
Rev 6/99

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State of Colorado
Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203 (303)894-2100 Fax:(303)894-2109

FOR OGCC USE ONLY
REM 9346
Document 2144644
Date 11/02/2015

OGCC Employee:
☐ Spill ☐ Complaint
☐ Inspection ☐ NOAV
Tracking No:

SITE INVESTIGATION AND REMEDIATION WORKPLAN

This form shall be submitted to the Director for approval prior to the initiation of site investigation and remediation activities. Form 27 is intended to be used whenever possible. Additional documentation will be required when large volumes of soil and groundwater have been impacted or involve large facilities with multiple source areas. See Rule 910. Attach as many pages as needed to fully describe the proposed work.

CAUSE OF CONDITION BEING INVESTIGATED AND REMEDIATED

☑ Spill or Release ☐ Plug & Abandon ☐ Central Facility Closure ☐ Site/Facility Closure ☐ Other (describe):

OGCC Operator Number: 100185
Name of Operator: ENCANA OIL & GAS (USA) INC
Address: 370 17TH ST STE 1700
City: DENVER State: CO Zip: 80202-5632

Contact Name and Telephone:
Brett Middleton
No: 970-285-2739
Fax:

API Number:
County: RIO BLANCO
Facility Name: Scandard Draw 3-14
Facility Number: 443303
Well Name:
Well Number:
Location: (QtrQtr, Sec, Twp, Rng, Meridian): SENW SEC 14 TWP 3S RNG 97W Latitude: 39.791914 Longitude: -108.249881

TECHNICAL CONDITIONS

Type of Waste Causing Impact (crude oil, condensate, produced water, etc): Produced Water

Site Conditions: Is location within a sensitive area (according to Rule 901e)? ☐ Y ☑ N If yes, attach evaluation.

Adjacent land use (cultivated, irrigated, dry land farming, industrial, residential, etc.): Dry land farming

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: Glendive fine sandy loam

Potential receptors (water wells within 1/4 mi, surface waters, etc.): Willow Creek

Description of Impact (if previously provided, refer to that form or document):

Impacted Media (check):	Extent of Impact:	How Determined:
☑ Soils	0.15 acres	sample analysis
☑ Vegetation	0.15 acres	visually
☐ Groundwater		
☐ Surface Water		

REMEDIATION WORKPLAN

Describe initial action taken (if previously provided, refer to that form or document):

see attached

Describe how source is to be removed:

see attached

Describe how remediation of existing impacts is to be accomplished, including removal and disposal at an injection well or licensed facility, land treatment on site, removal of impacted groundwater, insitu bioremediation, burning of oily vegetation, etc.:

see attached

Submit Page 2 with Page 1

FORM 27 Rev 6/99

Page 2

State of Colorado
Oil and Gas Conservation Commission
1120 Lincoln Street, Suite 801, Denver, Colorado 80203
(303)894-2100 Fax:(303)894-2109

Tracking Number: _____
Name of Operator: _____
OGCC Operator No: _____
Received Date: _____
Well Name & No: _____
Facility Name & No: _____

REMEDIATION WORKPLAN (Cont.)

OGCC Employee:

If groundwater has been impacted, describe proposed monitoring plan (# of wells or sample points, sampling schedule, analytical methods, etc.):

See attached

Describe reclamation plan. Discuss existing and new grade recontouring; method and testing of compaction alleviation; and reseeding program, including location of new seed, seed mix and noxious weed prevention. Attach diagram or drawing. Use additional sheet for description if required.

see attached

Attach samples and analytical results taken to verify remediation of impacts. Show locations of samples on an onsite schematic or drawing.

Is further site investigation required? ☒ Y ☐ N If yes, describe:

see attached

Final disposition of E&P waste (landtreated and disposed onsite, name of licensed disposal facility, recycling, reuse, etc.):

see attached

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: 9/21/15 Date Site Investigation Completed: _____ Date Remediation Plan Submitted: _____

Remediation Start Date: _____ Anticipated Completion Date: _____ Actual Completion Date: _____

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct, and complete.

Print Name: Brett Middleton Signed: _____

Title: Environmental Specialist Date: 10/30/15

OGCC Approved: Stanley C. Spencer Digitally signed by Stanley C. Spencer DN: cn=Stanley C. Spencer, o=COGCC, ou=EPS Northwest, email=stan.spencer@state.co.us, c=US Date: 2015.11.02 15:09:53 -07'00' Title: EPS Northwest Date: 11/2/15

Scandard Draw 3-14 (P14) Remediation Workplan
(Spill/Release Point ID – 443303)
(Location ID – 316323)

This Form 27 (Remediation Workplan) was prepared for the purpose of generating a remediation project number in support of pipeline release at the Scandard Draw 3-14 (Location ID – 316323) in Encana Oil & Gas (USA) Inc. (Encana's) Sulphur Creek area of operation in Rio Blanco County. This document includes a topographic map identifying the site location.

REMEDIATION WORKPLAN

Describe initial action taken (if previously provided, refer to that form or document):

Reference Form 19 #400903075 dated 9/22/2015.

Describe how source is to be removed:

The section of pipeline where the release occurred has been repaired.

Describe how remediation of existing impact is to be accomplished, including removal and disposal at an injection well or licensed facility, land treatment on site, removal of impacted groundwater, insitu bioremediation, burning of oily vegetation, etc.:

On September 30, and October 20, 2015, additional soil sampling activities were conducted in the trench and release area and submitted for laboratory analysis of constituents identified in COGCC Table 910-1.

Laboratory analytical results of soil samples indicate concentrations of TPH, benzene, EC, SAR, and arsenic that exceed the COGCC Table 910-1 allowable concentrations. Laboratory analytical results are summarized in the attached Laboratory Results Summary Table. The release path, excavation extent, and soil sample locations are depicted on the attached Site Diagram. Laboratory analytical reports are attached.

The release area as depicted in the attached Site Diagram will be excavated to between one foot and maximum of three foot below ground surface (bgs) in accordance with COGCC Table 910-1 requirement for inorganic concentrations. Following the removal of impacted material as indicated by field screening techniques, soil confirmation samples will be collected from the excavated area. All remediation activities will be verified with sample collection and laboratory analysis, conducted in accordance with COGCC Rule 910
On October 20, 2015, two passive soil vapor extraction (SVE) wells were installed within the excavated trench using a hand auger. High nitrogen fertilizer was added to the open trench prior to backfilling to promote microbial activity. Ventilator turbines will be secured to the top of each well for the purpose of remediating residual hydrocarbon concentrations. The SVE system is designed to volatilize petroleum constituents adhered onto soil particles and promote bio-attenuation of residual hydrocarbons. Bi-monthly measurements of flow, temperature, and soil gas concentrations will be collected at each SVE well. As soil gas concentrations stabilize, Encana will evaluate collected data and collect confirmation soil samples with the goal of achieving site closure. SVE well locations are depicted on the attached Site Diagram.

Scandard Draw 3-14 (P14) Remediation Workplan
(Spill/Release Point ID – 443303)
(Location ID – 316323)

If groundwater has been impacted, described proposed monitoring plan(# of wells or sample points, sampling schedule, analytical methods, etc.:

Groundwater is not expected to be encountered during remediation activities.

In the event that impacts to groundwater are identified, a vertical and lateral extent would be determined by a third party contractor and an appropriate in-situ remediation and monitoring plan would be prepared and submitted to the COGCC.

Describe reclamation plan. Discuss existing and new grade recontouring; method and testing of compaction alleviation; and reseeding program, including location of new seed, seed mix and noxious weed prevention. Attach diagram or drawing. Use additional sheet for description if required.

Following laboratory analytical results and confirmation of the removal of impacted material, clean imported fill material will be used to backfill the excavation area to match the existing grade. The disturbed area approximately 0.15 acres will be graded, disked and seeded with Encana's lowland mountain seed mix. The reclaimed area will be stabilized to prevent erosion while vegetation is being established. The site will be monitored for noxious weeds and treated accordingly.

Attach samples and analytical results taken to verify remediation of impacts. Show locations of samples on an onsite schematic or drawing. Is further site investigation required? If yes, describe:

The remediation activities will be carried out as described above. All analytical data collected in support of this remediation project will be provided to the COGCC in a Form 19 (Spill / Release Report) and/or in the Form 4 (Report of Work Completed and Notification of Completion). A site diagram showing the location of collected samples will also be provided. Additional samples will be taken prior to excavation to vertically define inorganic impacts to a maximum depth of three feet.

Final disposition of E&P waste (land treated and disposed onsite, name of licensed disposal facility, recycling, reuse, etc.):

Final disposition of E&P waste would be detailed in the Form 4 (Report of Work Completed and Notification of Completion) submitted following successful completion of remediation activities.

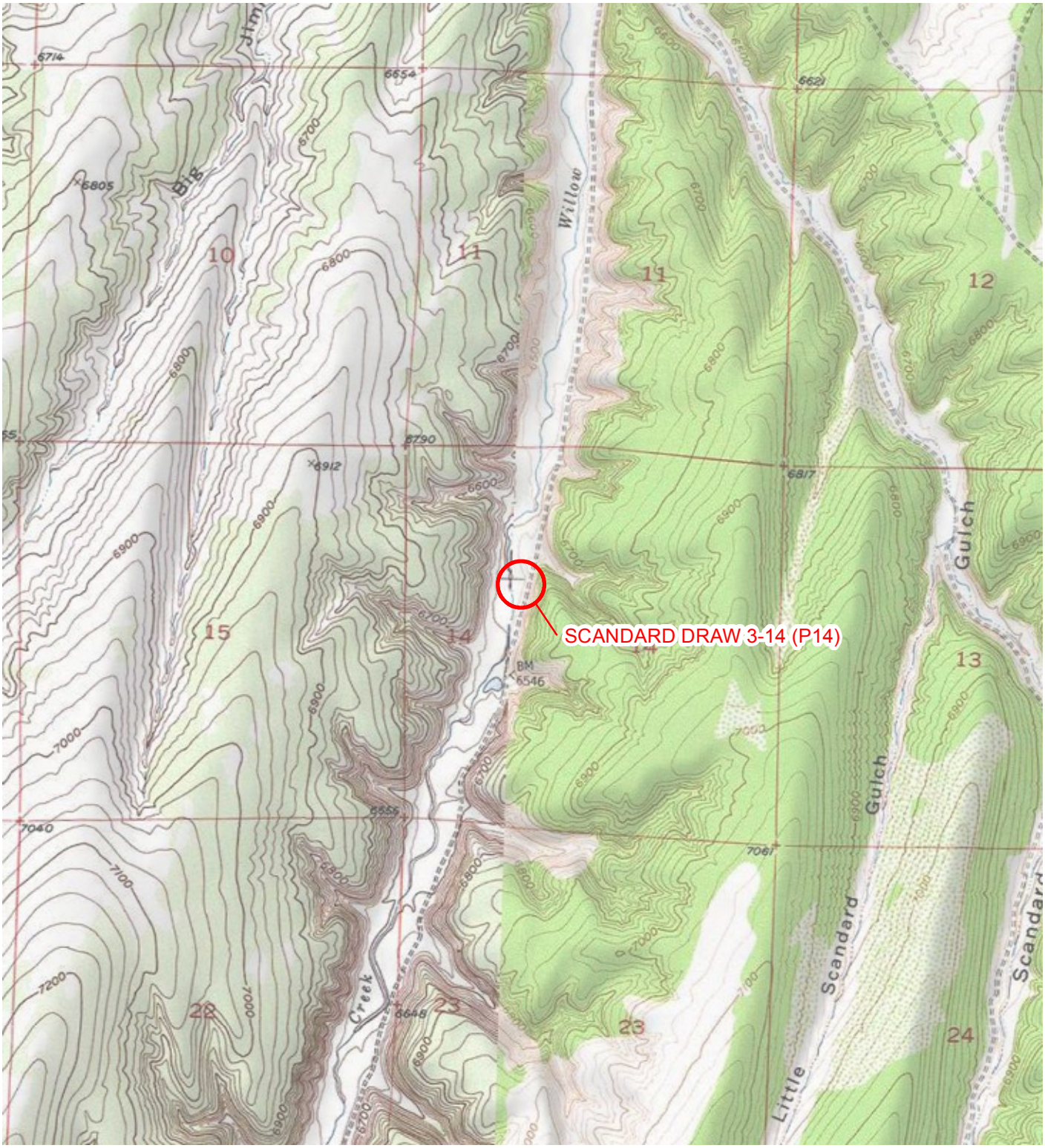

IMAGE COURTESY OF ESRI/USGS

LEGEND

SITE LOCATION

0 2,000 4,000

Feet

N

COLORADO

SITE LOCATION MAP
SCANDARD DRAW 3-14 (P14)
RIO BLANCO COUNTY, COLORADO

ENCANA OIL & GAS (USA) INC.

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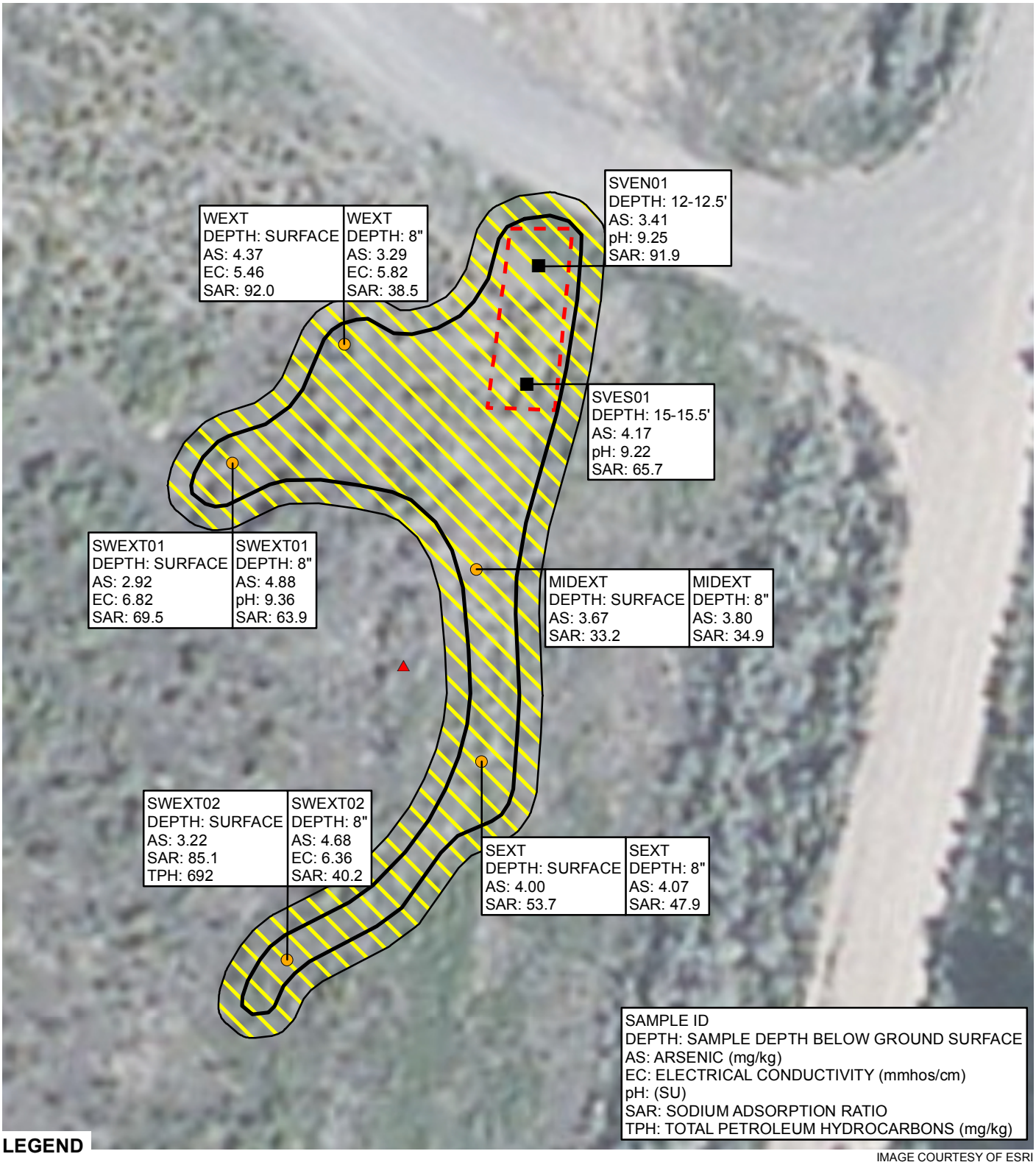

IMAGE COURTESY OF ESRI

LEGEND

- SAMPLE LOCATION
- SAMPLE LOCATION/SOIL VAPOR EXTRACTION WELL
- BACKGROUND SAMPLE
- EXCAVATION EXTENT
- RELEASE PATH
- AREA OF DISTURBANCE

0 30 60
Feet

N

SITE DIAGRAM
SCANDARD DRAW 3-14 (P14)
RIO BLANCO COUNTY, COLORADO

ENCANA OIL & GAS (USA) INC.

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encana natural gas

Laboratory Results Summary Table

10/30/2015

				Organic Compounds in Soil (mg/kg [ppm])																						Inorganics in Soil			Metals in Soil (mg/kg [ppm])										
			Allowable Concentration -->	500			0.17	85	100	175	1000	1000	0.22	0.22	2.2	0.022	22	0.022	1000	1000	0.22	23	1000		(<12)	(6-9)	0.39	15000	70	120000	23	3100	400	23	1600	390	390	23000
Location	Sample Date:	Sample Matrix	Matrix Notes	TPH (total volatile and extractable petroleum hydrocarbons)	TPH-GRO (C6-C10) Low Fraction	TPH-DRO (C10-C36) High Fraction	Benzene	Toluene	Ethylbenzene	Xylenes - total	Acenaphthene	Anthracene	Benzo(A)anthracene	Benzo(B)fluoranthene	Benzo(K)fluoranthene	Benzo(A)pyrene	Chrysene	Dibenzo(A,H)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3,C,D)pyrene	Napthalene	Pyrene	EC (<4 mmhos/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
P14 (Scandard Draw 3-14)	09/21/15	Spill	S	1530	710	820	U	U	U	U														13	65		4.1										
P14 (Scandard Draw 3-14)	09/21/15	Spill	W	276	96	180	0.078	5	0.3	34														10	59		4.1										
P14 (Scandard Draw 3-14)	09/21/15	Background																						1.1	0.3		4.7										
P14 (Scandard Draw 3-14)	09/30/15	Spill	(S) ROW 3	2900	1760	1140	0.326	ND	3.95	85	0.0384	0.015	ND	ND	ND	ND	ND	ND	ND	ND	0.0767	ND	2.6	ND	2.64	22.1	8.32	3.66	629	ND	34.1	ND	10.2	8.18	0.0432	16.6	ND	ND	40.3
P14 (Scandard Draw 3-14)	09/30/15	Spill	POR 6	435.4	11.4	424	ND	ND	0.0354	0.189	0.0188	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0338	ND	1.81	ND	3.23	33.7	8.85	2.93	767	ND	38.1	ND	10	8.86	ND	17.9	ND	ND	43.3
P14 (Scandard Draw 3-14)	09/30/15	Spill	(N) ROW 6	264	114	150	ND	ND	0.378	0.56	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0126	ND	0.547	ND	3.52	35.7	8.61	3.12	685	ND	34.7	ND	10.4	8.27	ND	17.3	ND	ND	41.1
P14 (Scandard Draw 3-14)	10/20/15	Spill	SVEN01 (12-12.5")	6.673	0.793	5.88	<0.0025	<0.0250	0.0046	0.0318	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	0.028	<0.0060	2.73	91.9	9.25	3.41	300	<0.500	28.7	8.2	9.6	11.3	<0.0200	17.4	<2.00	<1.00	40.4
P14 (Scandard Draw 3-14)	10/20/15	Spill	SVES01 (15-15.5")	4.64	<0.500	4.64	<0.0025	<0.0250	<0.0025	<0.0075	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0200	<0.0060	2.65	65.7	9.22	4.17	248	<0.500	42.9	<2.00	8.38	12	<0.0200	17	<2.00	<1.00	41.5
P14 (Scandard Draw 3-14)	10/20/15	Spill	WEXT	13.3	<0.500	13.3	<0.0025	<0.0250	<0.0025	<0.0075	<0.0060	0.00613	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	0.0148	<0.0060	0.031	<0.0060	5.46	92	8.59	4.37	490	<0.500	35.8	<2.00	11.2	11.9	<0.0200	17.6	<2.00	<1.00	42.6
P14 (Scandard Draw 3-14)	10/20/15	Spill	WEXT (8")	11	<0.500	11	<0.0025	<0.0250	<0.0025	<0.0075	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0200	<0.0060	5.82	38.5	8.49	3.29	455	<0.500	31	<2.00	9.53	10.5	<0.0200	15.6	<2.00	<1.00	36.8
P14 (Scandard Draw 3-14)	10/20/15	Spill	SWEXT01	9.18	<0.500	9.18	<0.0025	<0.0250	<0.0025	<0.0075	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0200	<0.0060	6.82	69.5	8.45	2.92	241	<0.500	28.1	<2.00	9.04	11.8	<0.0200	13.6	<2.00	<1.00	38.2
P14 (Scandard Draw 3-14)	10/20/15	Spill	SWEXT01 (8")	4.65	<0.500	4.65	<0.0025	<0.0250	<0.0025	<0.0075	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0200	<0.0060	2.4	63.9	9.36	4.88	195	<0.500	33.5	<2.00	10.5	12.5	<0.0200	16.6	<2.00	<1.00	41.9
P14 (Scandard Draw 3-14)	10/20/15	Spill	MIDEXT	38.7	<0.500	38.7	<0.0025	<0.0250	<0.0025	<0.0075	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0200	<0.0060	3.62	33.2	8.97	3.67	334	<0.500	34	<2.00	10.8	12.6	<0.0200	16.9	<2.00	<1.00	44.8
P14 (Scandard Draw 3-14)	10/20/15	Spill	MIDEXT (8")	10.9	<0.500	10.9	<0.0025	<0.0250	<0.0025	<0.0075	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0200	<0.0060	3.5	34.9	8.62	3.8	250	<0.500	35.1	<2.00	11.9	12.9	<0.0200	17.2	<2.00	<1.00	45.4
P14 (Scandard Draw 3-14)	10/20/15	Spill	SEXT	202	<0.500	202	<0.0025	<0.0250	<0.0025	<0.0075	0.0238	0.0308	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	0.121	<0.0060	0.024	0.0104	3.26	53.7	8.49	4	812	<0.500	26.9	3.44	10.1	10.6	<0.0200	14.6	<2.00	<1.00	35.9
P14 (Scandard Draw 3-14)	10/20/15	Spill	SEXT (8")	65.7	<0.500	65.7	<0.0025	<0.0250	<0.0025	<0.0075	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	0.007	<0.0060	<0.0200	<0.0060	3.3	47.9	8.79	4.07	976	<0.500	29.2	4.96	11.8	11.9	<0.0200	18.3	<2.00	<1.00	42.7
P14 (Scandard Draw 3-14)	10/20/15	Spill	SWEXT02	692	<0.500	692	<0.0025	<0.0250	<0.0025	<0.0075	0.03	0.0297	<0.0120	<0.0120	<0.0120	<0.0120	<0.0120	<0.0120	<0.0120	<0.0120	0.121	<0.0120	<0.0400	0.0124	2.86	85.1	7.43	3.22	799	<0.500	19	9.9	10.1	11.3	0.0665	14	<2.00	<1.00	41.2
P14 (Scandard Draw 3-14)	10/20/15	Spill	SWEXT02 (8")	50.5	<0.500	50.5	<0.0025	<0.0250	<0.0025	<0.0075	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0200	<0.0060	6.36	40.2	8.86	4.68	798	<0.500	31.6	4.28	10.8	14.3	<0.0200	17.4	<2.00	<1.00	44.5

Encana Oil and Gas (USA) Inc.
Environmental Compliance Group
Parachute Field Office
143 Diamond Avenue
Parachute, CO 81635

ANALYTICAL REPORT

October 27, 2015

EnCana Oil & Gas - Parachute, CO

Sample Delivery Group:	L796026
Samples Received:	10/22/2015
Project Number:	SD 3-14 (P14)
Description:	Scandard Draw 3-14 (P14) Pipeline Release
Site:	SD 3-14 (P14)
Report To:	Brett Middleton 143 Diamond Avenue Parachute, CO 81635

Entire Report Reviewed By:

Jarred Willis
Technical Service Representative

20151020-SCANDARD DRAW 3-14 P14 SVEN01 L796026-01 Solid

Collected by: Dustin Held
Collected date/time: 10/20/15 12:45
Received date/time: 10/22/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analysis Analyst
Calculated Results	WG824119	1	10/24/15 11:39	10/27/15 14:20	WBD
Calculated Results	WG824232	1	10/23/15 20:53	10/26/15 10:13	LTB
Mercury by Method 7471A	WG823982	1	10/23/15 10:58	10/23/15 17:01	TRB
Metals (ICP) by Method 6010B	WG824119	1	10/24/15 11:39	10/24/15 22:44	RDS
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG823973	1	10/23/15 13:24	10/24/15 03:20	KMP
Semi-Volatile Organic Compounds (GC) by Method 8015D/DRO	WG823972	1	10/23/15 14:58	10/24/15 14:36	CLG
Volatile Organic Compounds (GC) by Method 8015/8021	WG823913	5	10/22/15 15:25	10/23/15 19:13	SWG
Wet Chemistry by Method 2580 B-2011	WG824152	1	10/27/15 11:54	10/27/15 13:00	JER
Wet Chemistry by Method 3060A/7196A	WG823924	1	10/24/15 11:23	10/26/15 11:58	JEH
Wet Chemistry by Method 9045D	WG823927	1	10/26/15 13:02	10/26/15 13:02	AMC
Wet Chemistry by Method 9050AMod	WG824692	1	10/27/15 16:16	10/27/15 16:16	AS

20151020-SCANDARD DRAW 3-14 P14 SVES01 L796026-02 Solid

Collected by: Dustin Held
Collected date/time: 10/20/15 14:15
Received date/time: 10/22/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analysis Analyst
Calculated Results	WG824119	1	10/24/15 11:39	10/27/15 14:20	WBD
Calculated Results	WG824232	1	10/23/15 20:53	10/26/15 10:13	LTB
Mercury by Method 7471A	WG823982	1	10/23/15 10:58	10/23/15 17:04	TRB
Metals (ICP) by Method 6010B	WG824119	1	10/24/15 11:39	10/24/15 23:14	WBD
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG823973	1	10/23/15 13:24	10/24/15 03:42	KMP
Semi-Volatile Organic Compounds (GC) by Method 8015D/DRO	WG823972	1	10/23/15 14:58	10/24/15 14:47	CLG
Volatile Organic Compounds (GC) by Method 8015/8021	WG823913	5	10/22/15 15:25	10/23/15 19:34	SWG
Wet Chemistry by Method 2580 B-2011	WG824152	1	10/27/15 11:54	10/27/15 13:00	JER
Wet Chemistry by Method 3060A/7196A	WG823924	1	10/24/15 11:23	10/26/15 12:02	JEH
Wet Chemistry by Method 9045D	WG823927	1	10/26/15 13:02	10/26/15 13:02	AMC
Wet Chemistry by Method 9050AMod	WG824692	1	10/27/15 16:16	10/27/15 16:16	AS

20151020-SCANDARD DRAW 3-14 P14 WEXT L796026-03 Solid

Collected by: Dustin Held
Collected date/time: 10/20/15 15:15
Received date/time: 10/22/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analysis Analyst
Calculated Results	WG824119	1	10/24/15 11:39	10/27/15 14:20	WBD
Calculated Results	WG824232	1	10/23/15 20:53	10/26/15 12:45	LTB
Mercury by Method 7471A	WG823982	1	10/23/15 10:58	10/23/15 17:06	TRB
Metals (ICP) by Method 6010B	WG824119	1	10/24/15 11:39	10/24/15 23:17	WBD
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG823973	1	10/23/15 13:24	10/24/15 07:17	KMP
Semi-Volatile Organic Compounds (GC) by Method 8015D/DRO	WG823972	1	10/23/15 14:58	10/24/15 15:48	CLG
Volatile Organic Compounds (GC) by Method 8015/8021	WG823913	5	10/22/15 15:25	10/23/15 19:56	SWG
Wet Chemistry by Method 2580 B-2011	WG824152	1	10/27/15 11:54	10/27/15 13:00	JER
Wet Chemistry by Method 3060A/7196A	WG823924	1	10/24/15 11:23	10/26/15 12:06	JEH
Wet Chemistry by Method 9045D	WG823927	1	10/26/15 13:02	10/26/15 13:02	AMC
Wet Chemistry by Method 9050AMod	WG824692	1	10/27/15 16:16	10/27/15 16:16	AS

20151020-SCANDARD DRAW 3-14 P14 WEXT 8 L796026-04 Solid

Collected by: Dustin Held
Collected date/time: 10/20/15 15:20
Received date/time: 10/22/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analysis Analyst
Calculated Results	WG824119	1	10/24/15 11:39	10/27/15 14:20	WBD
Calculated Results	WG824232	1	10/23/15 20:53	10/26/15 10:13	LTB
Mercury by Method 7471A	WG823982	1	10/23/15 10:58	10/23/15 17:09	TRB
Metals (ICP) by Method 6010B	WG824119	1	10/24/15 11:39	10/24/15 23:20	WBD

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 GI
7 Al
8 Sc

20151020-SCANDARD DRAW 3-14 P14 WEXT 8 L796026-04 Solid

Collected by: Dustin Held | Collected date/time: 10/20/15 15:20 | Received date/time: 10/22/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analysis Analyst
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG823973	1	10/23/15 13:24	10/24/15 04:03	KMP
Semi-Volatile Organic Compounds (GC) by Method 8015D/DRO	WG823972	1	10/23/15 14:58	10/24/15 15:59	CLG
Volatile Organic Compounds (GC) by Method 8015/8021	WG824315	5	10/24/15 17:18	10/25/15 05:14	SWG
Wet Chemistry by Method 2580 B-2011	WG824152	1	10/27/15 11:54	10/27/15 13:00	JER
Wet Chemistry by Method 3060A/7196A	WG823924	1	10/24/15 11:23	10/26/15 12:11	JEH
Wet Chemistry by Method 9045D	WG823927	1	10/26/15 13:02	10/26/15 13:02	AMC
Wet Chemistry by Method 9050AMod	WG824692	1	10/27/15 16:16	10/27/15 16:16	AS

20151020-SCANDARD DRAW 3-14 P14 SWEXT01 L796026-05 Solid

Collected by: Dustin Held | Collected date/time: 10/20/15 15:35 | Received date/time: 10/22/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analysis Analyst
Calculated Results	WG824119	1	10/24/15 11:39	10/27/15 14:20	WBD
Calculated Results	WG824232	1	10/23/15 20:53	10/26/15 12:45	LTB
Mercury by Method 7471A	WG823982	1	10/23/15 10:58	10/23/15 17:11	TRB
Metals (ICP) by Method 6010B	WG824119	1	10/24/15 11:39	10/24/15 23:23	WBD
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG823973	1	10/23/15 13:24	10/24/15 04:25	KMP
Semi-Volatile Organic Compounds (GC) by Method 8015D/DRO	WG823972	1	10/23/15 14:58	10/24/15 16:33	CLG
Volatile Organic Compounds (GC) by Method 8015/8021	WG824315	5	10/24/15 17:18	10/25/15 05:37	SWG
Wet Chemistry by Method 2580 B-2011	WG824152	1	10/27/15 11:54	10/27/15 13:00	JER
Wet Chemistry by Method 3060A/7196A	WG823924	1	10/24/15 11:23	10/26/15 12:12	JEH
Wet Chemistry by Method 9045D	WG823927	1	10/26/15 13:02	10/26/15 13:02	AMC
Wet Chemistry by Method 9050AMod	WG824692	1	10/27/15 16:16	10/27/15 16:16	AS

20151020-SCANDARD DRAW 3-14P14 SWEXT01 8 L796026-06 Solid

Collected by: Dustin Held | Collected date/time: 10/20/15 15:37 | Received date/time: 10/22/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analysis Analyst
Calculated Results	WG824119	1	10/24/15 11:39	10/27/15 14:20	WBD
Calculated Results	WG824232	1	10/23/15 20:53	10/26/15 06:30	LTB
Mercury by Method 7471A	WG823982	1	10/23/15 10:58	10/23/15 17:14	TRB
Metals (ICP) by Method 6010B	WG824119	1	10/24/15 11:39	10/24/15 23:26	WBD
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG823973	1	10/23/15 13:24	10/24/15 05:30	KMP
Semi-Volatile Organic Compounds (GC) by Method 8015D/DRO	WG823972	1	10/23/15 14:58	10/24/15 14:58	CLG
Volatile Organic Compounds (GC) by Method 8015/8021	WG824315	5	10/24/15 17:18	10/25/15 06:01	SWG
Wet Chemistry by Method 2580 B-2011	WG824152	1	10/27/15 11:54	10/27/15 13:00	JER
Wet Chemistry by Method 3060A/7196A	WG823924	1	10/24/15 11:23	10/26/15 12:17	JEH
Wet Chemistry by Method 9045D	WG823927	1	10/26/15 13:02	10/26/15 13:02	AMC
Wet Chemistry by Method 9050AMod	WG824692	1	10/27/15 16:16	10/27/15 16:16	AS

20151020-SCANDARD DRAW 3-14 P14 MIDEXT L796026-07 Solid

Collected by: Dustin Held | Collected date/time: 10/20/15 15:40 | Received date/time: 10/22/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analysis Analyst
Calculated Results	WG824119	1	10/24/15 11:39	10/27/15 14:20	WBD
Calculated Results	WG824232	1	10/23/15 20:53	10/26/15 10:18	LTB
Mercury by Method 7471A	WG823982	1	10/23/15 10:58	10/23/15 17:17	TRB
Metals (ICP) by Method 6010B	WG824119	1	10/24/15 11:39	10/24/15 23:29	WBD
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG823973	1	10/23/15 13:24	10/24/15 05:51	KMP
Semi-Volatile Organic Compounds (GC) by Method 8015D/DRO	WG823972	1	10/23/15 14:58	10/24/15 16:44	CLG
Volatile Organic Compounds (GC) by Method 8015/8021	WG824316	5	10/24/15 14:00	10/25/15 15:10	SWG
Wet Chemistry by Method 2580 B-2011	WG824152	1	10/27/15 11:54	10/27/15 13:00	JER

20151020-SCANDARD DRAW 3-14 P14 MIDEXT L796026-07 Solid

Collected by: Dustin Held
Collected date/time: 10/20/15 15:40
Received date/time: 10/22/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analysis Analyst
Wet Chemistry by Method 3060A/7196A	WG823924	1	10/24/15 11:23	10/26/15 12:23	JEH
Wet Chemistry by Method 9045D	WG823927	1	10/26/15 13:02	10/26/15 13:02	AMC
Wet Chemistry by Method 9050AMod	WG824692	1	10/27/15 16:16	10/27/15 16:16	AS

20151020-SCANDARD DRAW 3-14 P14 MIDEXT 8 L796026-08 Solid

Collected by: Dustin Held
Collected date/time: 10/20/15 15:42
Received date/time: 10/22/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analysis Analyst
Calculated Results	WG824119	1	10/24/15 11:39	10/27/15 14:20	WBD
Calculated Results	WG824232	1	10/23/15 20:53	10/26/15 10:18	LTB
Mercury by Method 7471A	WG823982	1	10/23/15 10:58	10/23/15 17:24	TRB
Metals (ICP) by Method 6010B	WG824119	1	10/24/15 11:39	10/24/15 23:32	WBD
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG823973	1	10/23/15 13:24	10/24/15 06:13	KMP
Semi-Volatile Organic Compounds (GC) by Method 8015D/DRO	WG823972	1	10/23/15 14:58	10/24/15 16:10	CLG
Volatile Organic Compounds (GC) by Method 8015/8021	WG824316	5	10/24/15 14:00	10/25/15 15:32	SWG
Wet Chemistry by Method 2580 B-2011	WG824152	1	10/27/15 11:54	10/27/15 13:00	JER
Wet Chemistry by Method 3060A/7196A	WG823924	1	10/24/15 11:23	10/26/15 12:24	JEH
Wet Chemistry by Method 9045D	WG823927	1	10/26/15 13:02	10/26/15 13:02	AMC
Wet Chemistry by Method 9050AMod	WG824692	1	10/27/15 16:16	10/27/15 16:16	AS

20151020-SCANDARD DRAW 3-14 P14 SEXT L796026-09 Solid

Collected by: Dustin Held
Collected date/time: 10/20/15 15:50
Received date/time: 10/22/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analysis Analyst
Calculated Results	WG824119	1	10/24/15 11:39	10/25/15 09:11	WBD
Calculated Results	WG824232	1	10/23/15 20:53	10/26/15 06:30	LTB
Mercury by Method 7471A	WG823982	1	10/23/15 10:58	10/23/15 17:27	TRB
Metals (ICP) by Method 6010B	WG824119	1	10/24/15 11:39	10/24/15 23:35	WBD
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG823973	1	10/23/15 13:24	10/24/15 07:39	KMP
Semi-Volatile Organic Compounds (GC) by Method 8015D/DRO	WG823972	1	10/23/15 14:58	10/24/15 17:07	CLG
Volatile Organic Compounds (GC) by Method 8015/8021	WG824316	5	10/24/15 14:00	10/25/15 15:53	SWG
Wet Chemistry by Method 2580 B-2011	WG824152	1	10/27/15 11:54	10/27/15 13:00	JER
Wet Chemistry by Method 3060A/7196A	WG823925	1	10/23/15 13:50	10/24/15 16:09	JM
Wet Chemistry by Method 9045D	WG823927	1	10/26/15 13:02	10/26/15 13:02	AMC
Wet Chemistry by Method 9050AMod	WG824692	1	10/27/15 16:16	10/27/15 16:16	AS

20151020-SCANDARD DRAW 3-14 P14 SEXT 8IN L796026-10 Solid

Collected by: Dustin Held
Collected date/time: 10/20/15 15:52
Received date/time: 10/22/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analysis Analyst
Calculated Results	WG824119	1	10/24/15 11:39	10/25/15 09:11	WBD
Calculated Results	WG824232	1	10/23/15 20:53	10/26/15 10:13	LTB
Mercury by Method 7471A	WG823982	1	10/23/15 10:58	10/23/15 17:29	TRB
Metals (ICP) by Method 6010B	WG824119	1	10/24/15 11:39	10/24/15 23:38	WBD
Metals (ICP) by Method 6010B	WG824119	5	10/24/15 11:39	10/25/15 12:57	WBD
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG823973	1	10/23/15 13:24	10/24/15 06:34	KMP
Semi-Volatile Organic Compounds (GC) by Method 8015D/DRO	WG823972	1	10/23/15 14:58	10/24/15 16:22	CLG
Volatile Organic Compounds (GC) by Method 8015/8021	WG824316	5	10/24/15 14:00	10/25/15 17:26	SWG
Wet Chemistry by Method 2580 B-2011	WG824152	1	10/27/15 11:54	10/27/15 13:00	JER
Wet Chemistry by Method 3060A/7196A	WG823925	1	10/23/15 13:50	10/24/15 16:10	JM
Wet Chemistry by Method 9045D	WG823927	1	10/26/15 13:02	10/26/15 13:02	AMC
Wet Chemistry by Method 9050AMod	WG824692	1	10/27/15 16:16	10/27/15 16:16	AS

20151020-SCANDARD DRAW 3-14 P14 SWEXT02 L796026-11 Solid

Collected by: Dustin Held
Collected date/time: 10/20/15 16:00
Received date/time: 10/22/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analysis Analyst
Calculated Results	WG824119	1	10/24/15 11:39	10/25/15 09:11	WBD
Calculated Results	WG824232	1	10/23/15 20:53	10/26/15 10:18	LTB
Mercury by Method 7471A	WG823982	1	10/23/15 10:58	10/23/15 17:32	TRB
Metals (ICP) by Method 6010B	WG824119	1	10/24/15 11:39	10/24/15 23:47	WBD
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG823973	2	10/23/15 13:24	10/24/15 08:22	KMP
Semi-Volatile Organic Compounds (GC) by Method 8015D/DRO	WG823972	10	10/23/15 14:58	10/24/15 17:29	CLG
Volatile Organic Compounds (GC) by Method 8015/8021	WG824316	5	10/24/15 14:00	10/25/15 17:47	SWG
Wet Chemistry by Method 2580 B-2011	WG824152	1	10/27/15 11:54	10/27/15 13:00	JER
Wet Chemistry by Method 3060A/7196A	WG823925	1	10/23/15 13:50	10/24/15 16:13	JM
Wet Chemistry by Method 9045D	WG823927	1	10/26/15 13:02	10/26/15 13:02	AMC
Wet Chemistry by Method 9050AMod	WG824692	1	10/27/15 16:16	10/27/15 16:16	AS

20151020-SCANDARD DRAW 3-14P14 SWEXT02 8 L796026-12 Solid

Collected by: Dustin Held
Collected date/time: 10/20/15 16:02
Received date/time: 10/22/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analysis Analyst
Calculated Results	WG824119	1	10/24/15 11:39	10/25/15 09:11	WBD
Calculated Results	WG824232	1	10/23/15 20:53	10/26/15 06:30	LTB
Mercury by Method 7471A	WG823982	1	10/23/15 10:58	10/23/15 17:34	TRB
Metals (ICP) by Method 6010B	WG824119	1	10/24/15 11:39	10/24/15 23:50	WBD
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG823973	1	10/23/15 13:24	10/24/15 06:56	KMP
Semi-Volatile Organic Compounds (GC) by Method 8015D/DRO	WG823972	1	10/23/15 14:58	10/24/15 17:18	CLG
Volatile Organic Compounds (GC) by Method 8015/8021	WG824512	5	10/26/15 10:10	10/26/15 12:19	SWG
Wet Chemistry by Method 2580 B-2011	WG824152	1	10/27/15 11:54	10/27/15 13:00	JER
Wet Chemistry by Method 3060A/7196A	WG823925	1	10/23/15 13:50	10/24/15 16:16	JM
Wet Chemistry by Method 9045D	WG823927	1	10/26/15 13:02	10/26/15 13:02	AMC
Wet Chemistry by Method 9050AMod	WG824692	1	10/27/15 16:16	10/27/15 16:16	AS

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Jarred Willis
Technical Service Representative

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	91.9		1	10/26/2015 10:13	WG824232

Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	28.7		2.00	1	10/27/2015 14:20	WG824119

Wet Chemistry by Method 2580 B-2011

Analyte	Result mV	Qualifier	Dilution	Analysis date / time	Batch
ORP	21		1	10/27/2015 13:00	WG824152

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	8.20		2.00	1	10/26/2015 11:58	WG823924

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	9.25		1	10/26/2015 13:02	WG823927

Sample Narrative:

9045D L796026-01 WG823927: 9.25 at 22.9c

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	Dilution	Analysis date / time	Batch
Specific Conductance	2730		1	10/27/2015 16:16	WG824692

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0200	1	10/23/2015 17:01	WG823982

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.41		2.00	1	10/24/2015 22:44	WG824119
Barium	300	J3 J5 J6	0.500	1	10/24/2015 22:44	WG824119
Cadmium	ND		0.500	1	10/24/2015 22:44	WG824119
Chromium	36.9		1.00	1	10/24/2015 22:44	WG824119
Copper	9.60		2.00	1	10/24/2015 22:44	WG824119
Lead	11.3		0.500	1	10/24/2015 22:44	WG824119
Nickel	17.4		2.00	1	10/24/2015 22:44	WG824119
Selenium	ND		2.00	1	10/24/2015 22:44	WG824119
Silver	ND		1.00	1	10/24/2015 22:44	WG824119
Zinc	40.4		5.00	1	10/24/2015 22:44	WG824119

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00250	5	10/23/2015 19:13	WG823913
Toluene	ND		0.0250	5	10/23/2015 19:13	WG823913
Ethylbenzene	0.00458		0.00250	5	10/23/2015 19:13	WG823913
Total Xylene	0.0318		0.00750	5	10/23/2015 19:13	WG823913
TPH (GC/FID) Low Fraction	0.793		0.500	5	10/23/2015 19:13	WG823913
(S) a,a,a-Trifluorotoluene(FID)	*99.2*		*59.0-128*		*10/23/2015 19:13*	WG823913
(S) a,a,a-Trifluorotoluene(PID)	*104*		*54.0-144*		*10/23/2015 19:13*	WG823913

Semi-Volatile Organic Compounds (GC) by Method 8015D/DRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	5.88		4.00	1	10/24/2015 14:36	WG823972
(S) o-Terphenyl	*80.4*		*50.0-150*		*10/24/2015 14:36*	WG823972

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00600	1	10/24/2015 03:20	WG823973
Acenaphthene	ND		0.00600	1	10/24/2015 03:20	WG823973
Acenaphthylene	ND		0.00600	1	10/24/2015 03:20	WG823973
Benzo(a)anthracene	ND		0.00600	1	10/24/2015 03:20	WG823973
Benzo(a)pyrene	ND	J3	0.00600	1	10/24/2015 03:20	WG823973
Benzo(b)fluoranthene	ND	J3	0.00600	1	10/24/2015 03:20	WG823973
Benzo(g,h,i)perylene	ND	J3	0.00600	1	10/24/2015 03:20	WG823973
Benzo(k)fluoranthene	ND	J3	0.00600	1	10/24/2015 03:20	WG823973
Chrysene	ND		0.00600	1	10/24/2015 03:20	WG823973
Dibenz(a,h)anthracene	ND	J3	0.00600	1	10/24/2015 03:20	WG823973
Fluoranthene	ND		0.00600	1	10/24/2015 03:20	WG823973
Fluorene	ND		0.00600	1	10/24/2015 03:20	WG823973
Indeno(1,2,3-cd)pyrene	ND	J3	0.00600	1	10/24/2015 03:20	WG823973
Naphthalene	0.0277		0.0200	1	10/24/2015 03:20	WG823973
Phenanthrene	ND		0.00600	1	10/24/2015 03:20	WG823973
Pyrene	ND		0.00600	1	10/24/2015 03:20	WG823973
1-Methylnaphthalene	0.0267		0.0200	1	10/24/2015 03:20	WG823973
2-Methylnaphthalene	0.0678		0.0200	1	10/24/2015 03:20	WG823973
2-Chloronaphthalene	ND		0.0200	1	10/24/2015 03:20	WG823973
(S) p-Terphenyl-d14	*62.9*		*32.2-131*		*10/24/2015 03:20*	WG823973
(S) Nitrobenzene-d5	*77.9*		*22.1-146*		*10/24/2015 03:20*	WG823973
(S) 2-Fluorobiphenyl	*72.8*		*40.6-122*		*10/24/2015 03:20*	WG823973

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	65.7		1	10/26/2015 10:13	WG824232

Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	42.9		2.00	1	10/27/2015 14:20	WG824119

Wet Chemistry by Method 2580 B-2011

Analyte	Result mV	Qualifier	Dilution	Analysis date / time	Batch
ORP	18		1	10/27/2015 13:00	WG824152

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	ND		2.00	1	10/26/2015 12:02	WG823924

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	9.22		1	10/26/2015 13:02	WG823927

Sample Narrative:

9045D L796026-02 WG823927: 9.22 at 22.8c

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	Dilution	Analysis date / time	Batch
Specific Conductance	2650		1	10/27/2015 16:16	WG824692

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0200	1	10/23/2015 17:04	WG823982

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	4.17		2.00	1	10/24/2015 23:14	WG824119
Barium	248		0.500	1	10/24/2015 23:14	WG824119
Cadmium	ND		0.500	1	10/24/2015 23:14	WG824119
Chromium	42.9		1.00	1	10/24/2015 23:14	WG824119
Copper	8.38		2.00	1	10/24/2015 23:14	WG824119
Lead	12.0		0.500	1	10/24/2015 23:14	WG824119
Nickel	17.0		2.00	1	10/24/2015 23:14	WG824119
Selenium	ND		2.00	1	10/24/2015 23:14	WG824119
Silver	ND		1.00	1	10/24/2015 23:14	WG824119
Zinc	41.5		5.00	1	10/24/2015 23:14	WG824119

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00250	5	10/23/2015 19:34	WG823913
Toluene	ND		0.0250	5	10/23/2015 19:34	WG823913
Ethylbenzene	ND		0.00250	5	10/23/2015 19:34	WG823913
Total Xylene	ND		0.00750	5	10/23/2015 19:34	WG823913
TPH (GC/FID) Low Fraction	ND		0.500	5	10/23/2015 19:34	WG823913
(S) a,a,a-Trifluorotoluene(FID)	*98.4*		*59.0-128*		*10/23/2015 19:34*	WG823913
(S) a,a,a-Trifluorotoluene(PID)	*103*		*54.0-144*		*10/23/2015 19:34*	WG823913

Semi-Volatile Organic Compounds (GC) by Method 8015D/DRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	4.64		4.00	1	10/24/2015 14:47	WG823972
(S) o-Terphenyl	*82.5*		*50.0-150*		*10/24/2015 14:47*	WG823972

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00600	1	10/24/2015 03:42	WG823973
Acenaphthene	ND		0.00600	1	10/24/2015 03:42	WG823973
Acenaphthylene	ND		0.00600	1	10/24/2015 03:42	WG823973
Benzo(a)anthracene	ND		0.00600	1	10/24/2015 03:42	WG823973
Benzo(a)pyrene	ND	J3	0.00600	1	10/24/2015 03:42	WG823973
Benzo(b)fluoranthene	ND	J3	0.00600	1	10/24/2015 03:42	WG823973
Benzo(g,h,i)perylene	ND	J3	0.00600	1	10/24/2015 03:42	WG823973
Benzo(k)fluoranthene	ND	J3	0.00600	1	10/24/2015 03:42	WG823973
Chrysene	ND		0.00600	1	10/24/2015 03:42	WG823973
Dibenz(a,h)anthracene	ND	J3	0.00600	1	10/24/2015 03:42	WG823973
Fluoranthene	ND		0.00600	1	10/24/2015 03:42	WG823973
Fluorene	ND		0.00600	1	10/24/2015 03:42	WG823973
Indeno(1,2,3-cd)pyrene	ND	J3	0.00600	1	10/24/2015 03:42	WG823973
Naphthalene	ND		0.0200	1	10/24/2015 03:42	WG823973
Phenanthrene	ND		0.00600	1	10/24/2015 03:42	WG823973
Pyrene	ND		0.00600	1	10/24/2015 03:42	WG823973
1-Methylnaphthalene	ND		0.0200	1	10/24/2015 03:42	WG823973
2-Methylnaphthalene	ND		0.0200	1	10/24/2015 03:42	WG823973
2-Chloronaphthalene	ND		0.0200	1	10/24/2015 03:42	WG823973
(S) p-Terphenyl-d14	*72.4*		*32.2-131*		*10/24/2015 03:42*	WG823973
(S) Nitrobenzene-d5	*86.4*		*22.1-146*		*10/24/2015 03:42*	WG823973
(S) 2-Fluorobiphenyl	*85.1*		*40.6-122*		*10/24/2015 03:42*	WG823973

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	92.0		1	10/26/2015 12:45	WG824232

Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	35.8		2.00	1	10/27/2015 14:20	WG824119

Wet Chemistry by Method 2580 B-2011

Analyte	Result mV	Qualifier	Dilution	Analysis date / time	Batch
ORP	34		1	10/27/2015 13:00	WG824152

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	ND		2.00	1	10/26/2015 12:06	WG823924

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.59		1	10/26/2015 13:02	WG823927

Sample Narrative:

9045D L796026-03 WG823927: 8.59 at 22.9c

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	Dilution	Analysis date / time	Batch
Specific Conductance	5460		1	10/27/2015 16:16	WG824692

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0200	1	10/23/2015 17:06	WG823982

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	4.37		2.00	1	10/24/2015 23:17	WG824119
Barium	490		0.500	1	10/24/2015 23:17	WG824119
Cadmium	ND		0.500	1	10/24/2015 23:17	WG824119
Chromium	35.8		1.00	1	10/24/2015 23:17	WG824119
Copper	11.2		2.00	1	10/24/2015 23:17	WG824119
Lead	11.9		0.500	1	10/24/2015 23:17	WG824119
Nickel	17.6		2.00	1	10/24/2015 23:17	WG824119
Selenium	ND		2.00	1	10/24/2015 23:17	WG824119
Silver	ND		1.00	1	10/24/2015 23:17	WG824119
Zinc	42.6		5.00	1	10/24/2015 23:17	WG824119

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00250	5	10/23/2015 19:56	WG823913
Toluene	ND		0.0250	5	10/23/2015 19:56	WG823913
Ethylbenzene	ND		0.00250	5	10/23/2015 19:56	WG823913
Total Xylene	ND		0.00750	5	10/23/2015 19:56	WG823913
TPH (GC/FID) Low Fraction	ND		0.500	5	10/23/2015 19:56	WG823913
(S) a,a,a-Trifluorotoluene(FID)	*98.3*		*59.0-128*		*10/23/2015 19:56*	WG823913
(S) a,a,a-Trifluorotoluene(PID)	*104*		*54.0-144*		*10/23/2015 19:56*	WG823913

Semi-Volatile Organic Compounds (GC) by Method 8015D/DRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	13.3		4.00	1	10/24/2015 15:48	WG823972
(S) o-Terphenyl	*65.6*		*50.0-150*		*10/24/2015 15:48*	WG823972

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	0.00613		0.00600	1	10/24/2015 07:17	WG823973
Acenaphthene	ND		0.00600	1	10/24/2015 07:17	WG823973
Acenaphthylene	ND		0.00600	1	10/24/2015 07:17	WG823973
Benzo(a)anthracene	ND		0.00600	1	10/24/2015 07:17	WG823973
Benzo(a)pyrene	ND	J3	0.00600	1	10/24/2015 07:17	WG823973
Benzo(b)fluoranthene	ND	J3	0.00600	1	10/24/2015 07:17	WG823973
Benzo(g,h,i)perylene	ND	J3	0.00600	1	10/24/2015 07:17	WG823973
Benzo(k)fluoranthene	ND	J3	0.00600	1	10/24/2015 07:17	WG823973
Chrysene	ND		0.00600	1	10/24/2015 07:17	WG823973
Dibenz(a,h)anthracene	ND	J3	0.00600	1	10/24/2015 07:17	WG823973
Fluoranthene	ND		0.00600	1	10/24/2015 07:17	WG823973
Fluorene	0.0148		0.00600	1	10/24/2015 07:17	WG823973
Indeno(1,2,3-cd)pyrene	ND	J3	0.00600	1	10/24/2015 07:17	WG823973
Naphthalene	0.0309		0.0200	1	10/24/2015 07:17	WG823973
Phenanthrene	0.0184		0.00600	1	10/24/2015 07:17	WG823973
Pyrene	ND		0.00600	1	10/24/2015 07:17	WG823973
1-Methylnaphthalene	ND		0.0200	1	10/24/2015 07:17	WG823973
2-Methylnaphthalene	ND		0.0200	1	10/24/2015 07:17	WG823973
2-Chloronaphthalene	ND		0.0200	1	10/24/2015 07:17	WG823973
(S) p-Terphenyl-d14	*67.5*		*32.2-131*		*10/24/2015 07:17*	WG823973
(S) Nitrobenzene-d5	*81.1*		*22.1-146*		*10/24/2015 07:17*	WG823973
(S) 2-Fluorobiphenyl	*75.3*		*40.6-122*		*10/24/2015 07:17*	WG823973

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	38.5		1	10/26/2015 10:13	WG824232

Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	31.0		2.00	1	10/27/2015 14:20	WG824119

Wet Chemistry by Method 2580 B-2011

Analyte	Result mV	Qualifier	Dilution	Analysis date / time	Batch
ORP	30		1	10/27/2015 13:00	WG824152

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	ND		2.00	1	10/26/2015 12:11	WG823924

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.49		1	10/26/2015 13:02	WG823927

Sample Narrative:

9045D L796026-04 WG823927: 8.49 at 22.7c

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	Dilution	Analysis date / time	Batch
Specific Conductance	5820		1	10/27/2015 16:16	WG824692

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0200	1	10/23/2015 17:09	WG823982

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.29		2.00	1	10/24/2015 23:20	WG824119
Barium	455		0.500	1	10/24/2015 23:20	WG824119
Cadmium	ND		0.500	1	10/24/2015 23:20	WG824119
Chromium	31.0		1.00	1	10/24/2015 23:20	WG824119
Copper	9.53		2.00	1	10/24/2015 23:20	WG824119
Lead	10.5		0.500	1	10/24/2015 23:20	WG824119
Nickel	15.6		2.00	1	10/24/2015 23:20	WG824119
Selenium	ND		2.00	1	10/24/2015 23:20	WG824119
Silver	ND		1.00	1	10/24/2015 23:20	WG824119
Zinc	36.8		5.00	1	10/24/2015 23:20	WG824119

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00250	5	10/25/2015 05:14	WG824315
Toluene	ND		0.0250	5	10/25/2015 05:14	WG824315
Ethylbenzene	ND		0.00250	5	10/25/2015 05:14	WG824315
Total Xylene	ND		0.00750	5	10/25/2015 05:14	WG824315
TPH (GC/FID) Low Fraction	ND		0.500	5	10/25/2015 05:14	WG824315
(S) a,a,a-Trifluorotoluene(FID)	*104*		*59.0-128*		*10/25/2015 05:14*	WG824315
(S) a,a,a-Trifluorotoluene(PID)	*106*		*54.0-144*		*10/25/2015 05:14*	WG824315

Semi-Volatile Organic Compounds (GC) by Method 8015D/DRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	11.0		4.00	1	10/24/2015 15:59	WG823972
(S) o-Terphenyl	*67.9*		*50.0-150*		*10/24/2015 15:59*	WG823972

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00600	1	10/24/2015 04:03	WG823973
Acenaphthene	ND		0.00600	1	10/24/2015 04:03	WG823973
Acenaphthylene	ND		0.00600	1	10/24/2015 04:03	WG823973
Benzo(a)anthracene	ND		0.00600	1	10/24/2015 04:03	WG823973
Benzo(a)pyrene	ND	J3	0.00600	1	10/24/2015 04:03	WG823973
Benzo(b)fluoranthene	ND	J3	0.00600	1	10/24/2015 04:03	WG823973
Benzo(g,h,i)perylene	ND	J3	0.00600	1	10/24/2015 04:03	WG823973
Benzo(k)fluoranthene	ND	J3	0.00600	1	10/24/2015 04:03	WG823973
Chrysene	ND		0.00600	1	10/24/2015 04:03	WG823973
Dibenz(a,h)anthracene	ND	J3	0.00600	1	10/24/2015 04:03	WG823973
Fluoranthene	ND		0.00600	1	10/24/2015 04:03	WG823973
Fluorene	ND		0.00600	1	10/24/2015 04:03	WG823973
Indeno(1,2,3-cd)pyrene	ND	J3	0.00600	1	10/24/2015 04:03	WG823973
Naphthalene	ND		0.0200	1	10/24/2015 04:03	WG823973
Phenanthrene	ND		0.00600	1	10/24/2015 04:03	WG823973
Pyrene	ND		0.00600	1	10/24/2015 04:03	WG823973
1-Methylnaphthalene	ND		0.0200	1	10/24/2015 04:03	WG823973
2-Methylnaphthalene	ND		0.0200	1	10/24/2015 04:03	WG823973
2-Chloronaphthalene	ND		0.0200	1	10/24/2015 04:03	WG823973
(S) p-Terphenyl-d14	*67.3*		*32.2-131*		*10/24/2015 04:03*	WG823973
(S) Nitrobenzene-d5	*82.4*		*22.1-146*		*10/24/2015 04:03*	WG823973
(S) 2-Fluorobiphenyl	*78.7*		*40.6-122*		*10/24/2015 04:03*	WG823973

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	69.5		1	10/26/2015 12:45	WG824232

Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	28.1		2.00	1	10/27/2015 14:20	WG824119

Wet Chemistry by Method 2580 B-2011

Analyte	Result mV	Qualifier	Dilution	Analysis date / time	Batch
ORP	36		1	10/27/2015 13:00	WG824152

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	ND		2.00	1	10/26/2015 12:12	WG823924

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.45		1	10/26/2015 13:02	WG823927

Sample Narrative:

9045D L796026-05 WG823927: 8.45 at 22.8c

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	Dilution	Analysis date / time	Batch
Specific Conductance	6820		1	10/27/2015 16:16	WG824692

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0200	1	10/23/2015 17:11	WG823982

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.92		2.00	1	10/24/2015 23:23	WG824119
Barium	241		0.500	1	10/24/2015 23:23	WG824119
Cadmium	ND		0.500	1	10/24/2015 23:23	WG824119
Chromium	28.1		1.00	1	10/24/2015 23:23	WG824119
Copper	9.04		2.00	1	10/24/2015 23:23	WG824119
Lead	11.8		0.500	1	10/24/2015 23:23	WG824119
Nickel	13.6		2.00	1	10/24/2015 23:23	WG824119
Selenium	ND		2.00	1	10/24/2015 23:23	WG824119
Silver	ND		1.00	1	10/24/2015 23:23	WG824119
Zinc	38.2		5.00	1	10/24/2015 23:23	WG824119

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00250	5	10/25/2015 05:37	WG824315
Toluene	ND		0.0250	5	10/25/2015 05:37	WG824315
Ethylbenzene	ND		0.00250	5	10/25/2015 05:37	WG824315
Total Xylene	ND		0.00750	5	10/25/2015 05:37	WG824315
TPH (GC/FID) Low Fraction	ND		0.500	5	10/25/2015 05:37	WG824315
(S) a,a,a-Trifluorotoluene(FID)	*104*		*59.0-128*		*10/25/2015 05:37*	WG824315
(S) a,a,a-Trifluorotoluene(PID)	*106*		*54.0-144*		*10/25/2015 05:37*	WG824315

Semi-Volatile Organic Compounds (GC) by Method 8015D/DRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	9.18		4.00	1	10/24/2015 16:33	WG823972
(S) o-Terphenyl	*60.4*		*50.0-150*		*10/24/2015 16:33*	WG823972

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00600	1	10/24/2015 04:25	WG823973
Acenaphthene	ND		0.00600	1	10/24/2015 04:25	WG823973
Acenaphthylene	ND		0.00600	1	10/24/2015 04:25	WG823973
Benzo(a)anthracene	ND		0.00600	1	10/24/2015 04:25	WG823973
Benzo(a)pyrene	ND	J3	0.00600	1	10/24/2015 04:25	WG823973
Benzo(b)fluoranthene	ND	J3	0.00600	1	10/24/2015 04:25	WG823973
Benzo(g,h,i)perylene	ND	J3	0.00600	1	10/24/2015 04:25	WG823973
Benzo(k)fluoranthene	ND	J3	0.00600	1	10/24/2015 04:25	WG823973
Chrysene	ND		0.00600	1	10/24/2015 04:25	WG823973
Dibenz(a,h)anthracene	ND	J3	0.00600	1	10/24/2015 04:25	WG823973
Fluoranthene	ND		0.00600	1	10/24/2015 04:25	WG823973
Fluorene	ND		0.00600	1	10/24/2015 04:25	WG823973
Indeno(1,2,3-cd)pyrene	ND	J3	0.00600	1	10/24/2015 04:25	WG823973
Naphthalene	ND		0.0200	1	10/24/2015 04:25	WG823973
Phenanthrene	ND		0.00600	1	10/24/2015 04:25	WG823973
Pyrene	ND		0.00600	1	10/24/2015 04:25	WG823973
1-Methylnaphthalene	ND		0.0200	1	10/24/2015 04:25	WG823973
2-Methylnaphthalene	ND		0.0200	1	10/24/2015 04:25	WG823973
2-Chloronaphthalene	ND		0.0200	1	10/24/2015 04:25	WG823973
(S) p-Terphenyl-d14	*37.4*		*32.2-131*		*10/24/2015 04:25*	WG823973
(S) Nitrobenzene-d5	*58.8*		*22.1-146*		*10/24/2015 04:25*	WG823973
(S) 2-Fluorobiphenyl	*52.4*		*40.6-122*		*10/24/2015 04:25*	WG823973

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	63.9		1	10/26/2015 06:30	WG824232

Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	33.5		2.00	1	10/27/2015 14:20	WG824119

Wet Chemistry by Method 2580 B-2011

Analyte	Result mV	Qualifier	Dilution	Analysis date / time	Batch
ORP	10		1	10/27/2015 13:00	WG824152

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	ND		2.00	1	10/26/2015 12:17	WG823924

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	9.36		1	10/26/2015 13:02	WG823927

Sample Narrative:

9045D L796026-06 WG823927: 9.36 at 22.6c

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	Dilution	Analysis date / time	Batch
Specific Conductance	2400		1	10/27/2015 16:16	WG824692

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0200	1	10/23/2015 17:14	WG823982

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	4.88		2.00	1	10/24/2015 23:26	WG824119
Barium	195		0.500	1	10/24/2015 23:26	WG824119
Cadmium	ND		0.500	1	10/24/2015 23:26	WG824119
Chromium	33.5		1.00	1	10/24/2015 23:26	WG824119
Copper	10.5		2.00	1	10/24/2015 23:26	WG824119
Lead	12.5		0.500	1	10/24/2015 23:26	WG824119
Nickel	16.6		2.00	1	10/24/2015 23:26	WG824119
Selenium	ND		2.00	1	10/24/2015 23:26	WG824119
Silver	ND		1.00	1	10/24/2015 23:26	WG824119
Zinc	41.9		5.00	1	10/24/2015 23:26	WG824119

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00250	5	10/25/2015 06:01	WG824315
Toluene	ND		0.0250	5	10/25/2015 06:01	WG824315
Ethylbenzene	ND		0.00250	5	10/25/2015 06:01	WG824315
Total Xylene	ND		0.00750	5	10/25/2015 06:01	WG824315
TPH (GC/FID) Low Fraction	ND		0.500	5	10/25/2015 06:01	WG824315
(S) a,a,a-Trifluorotoluene(FID)	*104*		*59.0-128*		*10/25/2015 06:01*	WG824315
(S) a,a,a-Trifluorotoluene(PID)	*106*		*54.0-144*		*10/25/2015 06:01*	WG824315

Semi-Volatile Organic Compounds (GC) by Method 8015D/DRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	4.65		4.00	1	10/24/2015 14:58	WG823972
(S) o-Terphenyl	*63.2*		*50.0-150*		*10/24/2015 14:58*	WG823972

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00600	1	10/24/2015 05:30	WG823973
Acenaphthene	ND		0.00600	1	10/24/2015 05:30	WG823973
Acenaphthylene	ND		0.00600	1	10/24/2015 05:30	WG823973
Benzo(a)anthracene	ND		0.00600	1	10/24/2015 05:30	WG823973
Benzo(a)pyrene	ND	J3	0.00600	1	10/24/2015 05:30	WG823973
Benzo(b)fluoranthene	ND	J3	0.00600	1	10/24/2015 05:30	WG823973
Benzo(g,h,i)perylene	ND	J3	0.00600	1	10/24/2015 05:30	WG823973
Benzo(k)fluoranthene	ND	J3	0.00600	1	10/24/2015 05:30	WG823973
Chrysene	ND		0.00600	1	10/24/2015 05:30	WG823973
Dibenz(a,h)anthracene	ND	J3	0.00600	1	10/24/2015 05:30	WG823973
Fluoranthene	ND		0.00600	1	10/24/2015 05:30	WG823973
Fluorene	ND		0.00600	1	10/24/2015 05:30	WG823973
Indeno(1,2,3-cd)pyrene	ND	J3	0.00600	1	10/24/2015 05:30	WG823973
Naphthalene	ND		0.0200	1	10/24/2015 05:30	WG823973
Phenanthrene	ND		0.00600	1	10/24/2015 05:30	WG823973
Pyrene	ND		0.00600	1	10/24/2015 05:30	WG823973
1-Methylnaphthalene	ND		0.0200	1	10/24/2015 05:30	WG823973
2-Methylnaphthalene	ND		0.0200	1	10/24/2015 05:30	WG823973
2-Chloronaphthalene	ND		0.0200	1	10/24/2015 05:30	WG823973
(S) p-Terphenyl-d14	*64.3*		*32.2-131*		*10/24/2015 05:30*	WG823973
(S) Nitrobenzene-d5	*76.5*		*22.1-146*		*10/24/2015 05:30*	WG823973
(S) 2-Fluorobiphenyl	*75.6*		*40.6-122*		*10/24/2015 05:30*	WG823973

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	33.2		1	10/26/2015 10:18	WG824232

Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	34.0		2.00	1	10/27/2015 14:20	WG824119

Wet Chemistry by Method 2580 B-2011

Analyte	Result mV	Qualifier	Dilution	Analysis date / time	Batch
ORP	15		1	10/27/2015 13:00	WG824152

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	ND		2.00	1	10/26/2015 12:23	WG823924

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.97		1	10/26/2015 13:02	WG823927

Sample Narrative:

9045D L796026-07 WG823927: 8.97 at 22.5c

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	Dilution	Analysis date / time	Batch
Specific Conductance	3620		1	10/27/2015 16:16	WG824692

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0200	1	10/23/2015 17:17	WG823982

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.67		2.00	1	10/24/2015 23:29	WG824119
Barium	334		0.500	1	10/24/2015 23:29	WG824119
Cadmium	ND		0.500	1	10/24/2015 23:29	WG824119
Chromium	34.0		1.00	1	10/24/2015 23:29	WG824119
Copper	10.8		2.00	1	10/24/2015 23:29	WG824119
Lead	12.6		0.500	1	10/24/2015 23:29	WG824119
Nickel	16.9		2.00	1	10/24/2015 23:29	WG824119
Selenium	ND		2.00	1	10/24/2015 23:29	WG824119
Silver	ND		1.00	1	10/24/2015 23:29	WG824119
Zinc	44.8		5.00	1	10/24/2015 23:29	WG824119

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00250	5	10/25/2015 15:10	WG824316
Toluene	ND		0.0250	5	10/25/2015 15:10	WG824316
Ethylbenzene	ND		0.00250	5	10/25/2015 15:10	WG824316
Total Xylene	ND		0.00750	5	10/25/2015 15:10	WG824316
TPH (GC/FID) Low Fraction	ND		0.500	5	10/25/2015 15:10	WG824316
(S) α,α,α-Trifluorotoluene(FID)	*94.0*		*59.0-128*		*10/25/2015 15:10*	WG824316
(S) α,α,α-Trifluorotoluene(PID)	*87.6*		*54.0-144*		*10/25/2015 15:10*	WG824316

Semi-Volatile Organic Compounds (GC) by Method 8015D/DRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	38.7		4.00	1	10/24/2015 16:44	WG823972
(S) o-Terphenyl	*73.6*		*50.0-150*		*10/24/2015 16:44*	WG823972

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00600	1	10/24/2015 05:51	WG823973
Acenaphthene	ND		0.00600	1	10/24/2015 05:51	WG823973
Acenaphthylene	ND		0.00600	1	10/24/2015 05:51	WG823973
Benzo(a)anthracene	ND		0.00600	1	10/24/2015 05:51	WG823973
Benzo(a)pyrene	ND	J3	0.00600	1	10/24/2015 05:51	WG823973
Benzo(b)fluoranthene	ND	J3	0.00600	1	10/24/2015 05:51	WG823973
Benzo(g,h,i)perylene	ND	J3	0.00600	1	10/24/2015 05:51	WG823973
Benzo(k)fluoranthene	ND	J3	0.00600	1	10/24/2015 05:51	WG823973
Chrysene	ND		0.00600	1	10/24/2015 05:51	WG823973
Dibenz(a,h)anthracene	ND	J3	0.00600	1	10/24/2015 05:51	WG823973
Fluoranthene	ND		0.00600	1	10/24/2015 05:51	WG823973
Fluorene	ND		0.00600	1	10/24/2015 05:51	WG823973
Indeno(1,2,3-cd)pyrene	ND	J3	0.00600	1	10/24/2015 05:51	WG823973
Naphthalene	ND		0.0200	1	10/24/2015 05:51	WG823973
Phenanthrene	ND		0.00600	1	10/24/2015 05:51	WG823973
Pyrene	ND		0.00600	1	10/24/2015 05:51	WG823973
1-Methylnaphthalene	ND		0.0200	1	10/24/2015 05:51	WG823973
2-Methylnaphthalene	ND		0.0200	1	10/24/2015 05:51	WG823973
2-Chloronaphthalene	ND		0.0200	1	10/24/2015 05:51	WG823973
(S) p-Terphenyl-d14	*45.8*		*32.2-131*		*10/24/2015 05:51*	WG823973
(S) Nitrobenzene-d5	*63.9*		*22.1-146*		*10/24/2015 05:51*	WG823973
(S) 2-Fluorobiphenyl	*61.3*		*40.6-122*		*10/24/2015 05:51*	WG823973

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	34.9		1	10/26/2015 10:18	WG824232

Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	35.1		2.00	1	10/27/2015 14:20	WG824119

Wet Chemistry by Method 2580 B-2011

Analyte	Result mV	Qualifier	Dilution	Analysis date / time	Batch
ORP	24		1	10/27/2015 13:00	WG824152

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	ND		2.00	1	10/26/2015 12:24	WG823924

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.62		1	10/26/2015 13:02	WG823927

Sample Narrative:

9045D L796026-08 WG823927: 8.62 at 22.7c

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	Dilution	Analysis date / time	Batch
Specific Conductance	3500		1	10/27/2015 16:16	WG824692

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0200	1	10/23/2015 17:24	WG823982

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.80		2.00	1	10/24/2015 23:32	WG824119
Barium	250		0.500	1	10/24/2015 23:32	WG824119
Cadmium	ND		0.500	1	10/24/2015 23:32	WG824119
Chromium	35.1		1.00	1	10/24/2015 23:32	WG824119
Copper	11.9		2.00	1	10/24/2015 23:32	WG824119
Lead	12.9		0.500	1	10/24/2015 23:32	WG824119
Nickel	17.2		2.00	1	10/24/2015 23:32	WG824119
Selenium	ND		2.00	1	10/24/2015 23:32	WG824119
Silver	ND		1.00	1	10/24/2015 23:32	WG824119
Zinc	45.4		5.00	1	10/24/2015 23:32	WG824119

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00250	5	10/25/2015 15:32	WG824316
Toluene	ND		0.0250	5	10/25/2015 15:32	WG824316
Ethylbenzene	ND		0.00250	5	10/25/2015 15:32	WG824316
Total Xylene	ND		0.00750	5	10/25/2015 15:32	WG824316
TPH (GC/FID) Low Fraction	ND		0.500	5	10/25/2015 15:32	WG824316
(S) a,a,a-Trifluorotoluene(FID)	*92.9*		*59.0-128*		*10/25/2015 15:32*	WG824316
(S) a,a,a-Trifluorotoluene(PID)	*86.7*		*54.0-144*		*10/25/2015 15:32*	WG824316

Semi-Volatile Organic Compounds (GC) by Method 8015D/DRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	10.9		4.00	1	10/24/2015 16:10	WG823972
(S) o-Terphenyl	*56.4*		*50.0-150*		*10/24/2015 16:10*	WG823972

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00600	1	10/24/2015 06:13	WG823973
Acenaphthene	ND		0.00600	1	10/24/2015 06:13	WG823973
Acenaphthylene	ND		0.00600	1	10/24/2015 06:13	WG823973
Benzo(a)anthracene	ND		0.00600	1	10/24/2015 06:13	WG823973
Benzo(a)pyrene	ND	J3	0.00600	1	10/24/2015 06:13	WG823973
Benzo(b)fluoranthene	ND	J3	0.00600	1	10/24/2015 06:13	WG823973
Benzo(g,h,i)perylene	ND	J3	0.00600	1	10/24/2015 06:13	WG823973
Benzo(k)fluoranthene	ND	J3	0.00600	1	10/24/2015 06:13	WG823973
Chrysene	ND		0.00600	1	10/24/2015 06:13	WG823973
Dibenz(a,h)anthracene	ND	J3	0.00600	1	10/24/2015 06:13	WG823973
Fluoranthene	ND		0.00600	1	10/24/2015 06:13	WG823973
Fluorene	ND		0.00600	1	10/24/2015 06:13	WG823973
Indeno(1,2,3-cd)pyrene	ND	J3	0.00600	1	10/24/2015 06:13	WG823973
Naphthalene	ND		0.0200	1	10/24/2015 06:13	WG823973
Phenanthrene	ND		0.00600	1	10/24/2015 06:13	WG823973
Pyrene	ND		0.00600	1	10/24/2015 06:13	WG823973
1-Methylnaphthalene	ND		0.0200	1	10/24/2015 06:13	WG823973
2-Methylnaphthalene	ND		0.0200	1	10/24/2015 06:13	WG823973
2-Chloronaphthalene	ND		0.0200	1	10/24/2015 06:13	WG823973
(S) p-Terphenyl-d14	*63.7*		*32.2-131*		*10/24/2015 06:13*	WG823973
(S) Nitrobenzene-d5	*72.5*		*22.1-146*		*10/24/2015 06:13*	WG823973
(S) 2-Fluorobiphenyl	*72.6*		*40.6-122*		*10/24/2015 06:13*	WG823973

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	53.7		1	10/26/2015 06:30	WG824232

Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	26.9		2.00	1	10/25/2015 09:11	WG824119

Wet Chemistry by Method 2580 B-2011

Analyte	Result mV	Qualifier	Dilution	Analysis date / time	Batch
ORP	3		1	10/27/2015 13:00	WG824152

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	3.44		2.00	1	10/24/2015 16:09	WG823925

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.49		1	10/26/2015 13:02	WG823927

Sample Narrative:

9045D L796026-09 WG823927: 8.49 at 22.4c

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	Dilution	Analysis date / time	Batch
Specific Conductance	3260		1	10/27/2015 16:16	WG824692

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0200	1	10/23/2015 17:27	WG823982

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	4.00		2.00	1	10/24/2015 23:35	WG824119
Barium	812		0.500	1	10/24/2015 23:35	WG824119
Cadmium	ND		0.500	1	10/24/2015 23:35	WG824119
Chromium	30.3		1.00	1	10/24/2015 23:35	WG824119
Copper	10.1		2.00	1	10/24/2015 23:35	WG824119
Lead	10.6		0.500	1	10/24/2015 23:35	WG824119
Nickel	14.6		2.00	1	10/24/2015 23:35	WG824119
Selenium	ND		2.00	1	10/24/2015 23:35	WG824119
Silver	ND		1.00	1	10/24/2015 23:35	WG824119
Zinc	35.9		5.00	1	10/24/2015 23:35	WG824119

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00250	5	10/25/2015 15:53	WG824316
Toluene	ND		0.0250	5	10/25/2015 15:53	WG824316
Ethylbenzene	ND		0.00250	5	10/25/2015 15:53	WG824316
Total Xylene	ND		0.00750	5	10/25/2015 15:53	WG824316
TPH (GC/FID) Low Fraction	ND		0.500	5	10/25/2015 15:53	WG824316
(S) a,a,a-Trifluorotoluene(FID)	*94.5*		*59.0-128*		*10/25/2015 15:53*	WG824316
(S) a,a,a-Trifluorotoluene(PID)	*87.5*		*54.0-144*		*10/25/2015 15:53*	WG824316

Semi-Volatile Organic Compounds (GC) by Method 8015D/DRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	202		4.00	1	10/24/2015 17:07	WG823972
(S) o-Terphenyl	*44.5*	J2	*50.0-150*		*10/24/2015 17:07*	WG823972

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	0.0308		0.00600	1	10/24/2015 07:39	WG823973
Acenaphthene	0.0238		0.00600	1	10/24/2015 07:39	WG823973
Acenaphthylene	ND		0.00600	1	10/24/2015 07:39	WG823973
Benzo(a)anthracene	ND		0.00600	1	10/24/2015 07:39	WG823973
Benzo(a)pyrene	ND	J3	0.00600	1	10/24/2015 07:39	WG823973
Benzo(b)fluoranthene	ND	J3	0.00600	1	10/24/2015 07:39	WG823973
Benzo(g,h,i)perylene	ND	J3	0.00600	1	10/24/2015 07:39	WG823973
Benzo(k)fluoranthene	ND	J3	0.00600	1	10/24/2015 07:39	WG823973
Chrysene	ND		0.00600	1	10/24/2015 07:39	WG823973
Dibenz(a,h)anthracene	ND	J3	0.00600	1	10/24/2015 07:39	WG823973
Fluoranthene	ND		0.00600	1	10/24/2015 07:39	WG823973
Fluorene	0.121		0.00600	1	10/24/2015 07:39	WG823973
Indeno(1,2,3-cd)pyrene	ND	J3	0.00600	1	10/24/2015 07:39	WG823973
Naphthalene	0.0236		0.0200	1	10/24/2015 07:39	WG823973
Phenanthrene	0.118		0.00600	1	10/24/2015 07:39	WG823973
Pyrene	0.0104		0.00600	1	10/24/2015 07:39	WG823973
1-Methylnaphthalene	0.0733		0.0200	1	10/24/2015 07:39	WG823973
2-Methylnaphthalene	0.0221		0.0200	1	10/24/2015 07:39	WG823973
2-Chloronaphthalene	ND		0.0200	1	10/24/2015 07:39	WG823973
(S) p-Terphenyl-d14	*63.1*		*32.2-131*		*10/24/2015 07:39*	WG823973
(S) Nitrobenzene-d5	*90.2*		*22.1-146*		*10/24/2015 07:39*	WG823973
(S) 2-Fluorobiphenyl	*78.0*		*40.6-122*		*10/24/2015 07:39*	WG823973

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	47.9		1	10/26/2015 10:13	WG824232

Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	29.2		2.00	1	10/25/2015 09:11	WG824119

Wet Chemistry by Method 2580 B-2011

Analyte	Result mV	Qualifier	Dilution	Analysis date / time	Batch
ORP	7		1	10/27/2015 13:00	WG824152

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	4.96		2.00	1	10/24/2015 16:10	WG823925

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.79		1	10/26/2015 13:02	WG823927

Sample Narrative:

9045D L796026-10 WG823927: 8.79 at 22.5c

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	Dilution	Analysis date / time	Batch
Specific Conductance	3300		1	10/27/2015 16:16	WG824692

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0200	1	10/23/2015 17:29	WG823982

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	4.07		2.00	1	10/24/2015 23:38	WG824119
Barium	976		2.50	5	10/25/2015 12:57	WG824119
Cadmium	ND		0.500	1	10/24/2015 23:38	WG824119
Chromium	34.2		1.00	1	10/24/2015 23:38	WG824119
Copper	11.8		2.00	1	10/24/2015 23:38	WG824119
Lead	11.9		0.500	1	10/24/2015 23:38	WG824119
Nickel	18.3		2.00	1	10/24/2015 23:38	WG824119
Selenium	ND		2.00	1	10/24/2015 23:38	WG824119
Silver	ND		1.00	1	10/24/2015 23:38	WG824119
Zinc	42.7		5.00	1	10/24/2015 23:38	WG824119

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00250	5	10/25/2015 17:26	WG824316
Toluene	ND		0.0250	5	10/25/2015 17:26	WG824316
Ethylbenzene	ND		0.00250	5	10/25/2015 17:26	WG824316
Total Xylene	ND		0.00750	5	10/25/2015 17:26	WG824316
TPH (GC/FID) Low Fraction	ND		0.500	5	10/25/2015 17:26	WG824316
(S) a,a,a-Trifluorotoluene(FID)	*96.2*		*59.0-128*		*10/25/2015 17:26*	WG824316
(S) a,a,a-Trifluorotoluene(PID)	*89.4*		*54.0-144*		*10/25/2015 17:26*	WG824316

Semi-Volatile Organic Compounds (GC) by Method 8015D/DRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	65.7		4.00	1	10/24/2015 16:22	WG823972
(S) o-Terphenyl	*57.0*		*50.0-150*		*10/24/2015 16:22*	WG823972

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00600	1	10/24/2015 06:34	WG823973
Acenaphthene	ND		0.00600	1	10/24/2015 06:34	WG823973
Acenaphthylene	ND		0.00600	1	10/24/2015 06:34	WG823973
Benzo(a)anthracene	ND		0.00600	1	10/24/2015 06:34	WG823973
Benzo(a)pyrene	ND	J3	0.00600	1	10/24/2015 06:34	WG823973
Benzo(b)fluoranthene	ND	J3	0.00600	1	10/24/2015 06:34	WG823973
Benzo(g,h,i)perylene	ND	J3	0.00600	1	10/24/2015 06:34	WG823973
Benzo(k)fluoranthene	ND	J3	0.00600	1	10/24/2015 06:34	WG823973
Chrysene	ND		0.00600	1	10/24/2015 06:34	WG823973
Dibenz(a,h)anthracene	ND	J3	0.00600	1	10/24/2015 06:34	WG823973
Fluoranthene	ND		0.00600	1	10/24/2015 06:34	WG823973
Fluorene	0.00698		0.00600	1	10/24/2015 06:34	WG823973
Indeno(1,2,3-cd)pyrene	ND	J3	0.00600	1	10/24/2015 06:34	WG823973
Naphthalene	ND		0.0200	1	10/24/2015 06:34	WG823973
Phenanthrene	0.00695		0.00600	1	10/24/2015 06:34	WG823973
Pyrene	ND		0.00600	1	10/24/2015 06:34	WG823973
1-Methylnaphthalene	ND		0.0200	1	10/24/2015 06:34	WG823973
2-Methylnaphthalene	ND		0.0200	1	10/24/2015 06:34	WG823973
2-Chloronaphthalene	ND		0.0200	1	10/24/2015 06:34	WG823973
(S) p-Terphenyl-d14	*61.9*		*32.2-131*		*10/24/2015 06:34*	WG823973
(S) Nitrobenzene-d5	*78.5*		*22.1-146*		*10/24/2015 06:34*	WG823973
(S) 2-Fluorobiphenyl	*70.2*		*40.6-122*		*10/24/2015 06:34*	WG823973

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	85.1		1	10/26/2015 10:18	WG824232

Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	19.0		2.00	1	10/25/2015 09:11	WG824119

Wet Chemistry by Method 2580 B-2011

Analyte	Result mV	Qualifier	Dilution	Analysis date / time	Batch
ORP	-28		1	10/27/2015 13:00	WG824152

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	9.90		2.00	1	10/24/2015 16:13	WG823925

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.43		1	10/26/2015 13:02	WG823927

Sample Narrative:

9045D L796026-11 WG823927: 7.43 at 22.5c

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	Dilution	Analysis date / time	Batch
Specific Conductance	2860		1	10/27/2015 16:16	WG824692

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.0665		0.0200	1	10/23/2015 17:32	WG823982

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.22		2.00	1	10/24/2015 23:47	WG824119
Barium	799		0.500	1	10/24/2015 23:47	WG824119
Cadmium	ND		0.500	1	10/24/2015 23:47	WG824119
Chromium	28.9		1.00	1	10/24/2015 23:47	WG824119
Copper	10.1		2.00	1	10/24/2015 23:47	WG824119
Lead	11.3		0.500	1	10/24/2015 23:47	WG824119
Nickel	14.0		2.00	1	10/24/2015 23:47	WG824119
Selenium	ND		2.00	1	10/24/2015 23:47	WG824119
Silver	ND		1.00	1	10/24/2015 23:47	WG824119
Zinc	41.2		5.00	1	10/24/2015 23:47	WG824119

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00250	5	10/25/2015 17:47	WG824316
Toluene	ND		0.0250	5	10/25/2015 17:47	WG824316
Ethylbenzene	ND		0.00250	5	10/25/2015 17:47	WG824316
Total Xylene	ND		0.00750	5	10/25/2015 17:47	WG824316
TPH (GC/FID) Low Fraction	ND		0.500	5	10/25/2015 17:47	WG824316
(S) a,a,a-Trifluorotoluene(FID)	*99.3*		*59.0-128*		*10/25/2015 17:47*	WG824316
(S) a,a,a-Trifluorotoluene(PID)	*90.4*		*54.0-144*		*10/25/2015 17:47*	WG824316

Semi-Volatile Organic Compounds (GC) by Method 8015D/DRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	692		40.0	10	10/24/2015 17:29	WG823972
(S) o-Terphenyl	*61.3*		*50.0-150*		*10/24/2015 17:29*	WG823972

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	0.0297		0.0120	2	10/24/2015 08:22	WG823973
Acenaphthene	0.0300		0.0120	2	10/24/2015 08:22	WG823973
Acenaphthylene	ND		0.0120	2	10/24/2015 08:22	WG823973
Benzo(a)anthracene	ND		0.0120	2	10/24/2015 08:22	WG823973
Benzo(a)pyrene	ND	J3	0.0120	2	10/24/2015 08:22	WG823973
Benzo(b)fluoranthene	ND	J3	0.0120	2	10/24/2015 08:22	WG823973
Benzo(g,h,i)perylene	ND	J3	0.0120	2	10/24/2015 08:22	WG823973
Benzo(k)fluoranthene	ND	J3	0.0120	2	10/24/2015 08:22	WG823973
Chrysene	ND		0.0120	2	10/24/2015 08:22	WG823973
Dibenz(a,h)anthracene	ND	J3	0.0120	2	10/24/2015 08:22	WG823973
Fluoranthene	ND		0.0120	2	10/24/2015 08:22	WG823973
Fluorene	0.121		0.0120	2	10/24/2015 08:22	WG823973
Indeno(1,2,3-cd)pyrene	ND	J3	0.0120	2	10/24/2015 08:22	WG823973
Naphthalene	ND		0.0400	2	10/24/2015 08:22	WG823973
Phenanthrene	0.124		0.0120	2	10/24/2015 08:22	WG823973
Pyrene	0.0124		0.0120	2	10/24/2015 08:22	WG823973
1-Methylnaphthalene	ND		0.0400	2	10/24/2015 08:22	WG823973
2-Methylnaphthalene	ND		0.0400	2	10/24/2015 08:22	WG823973
2-Chloronaphthalene	ND		0.0400	2	10/24/2015 08:22	WG823973
(S) p-Terphenyl-d14	*53.6*		*32.2-131*		*10/24/2015 08:22*	WG823973
(S) Nitrobenzene-d5	*79.0*		*22.1-146*		*10/24/2015 08:22*	WG823973
(S) 2-Fluorobiphenyl	*68.7*		*40.6-122*		*10/24/2015 08:22*	WG823973

Sample Narrative:

8270C-SIM L796026-11 WG823973: Dilution due to matrix

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	40.2		1	10/26/2015 06:30	WG824232

Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	31.6		2.00	1	10/25/2015 09:11	WG824119

Wet Chemistry by Method 2580 B-2011

Analyte	Result mV	Qualifier	Dilution	Analysis date / time	Batch
ORP	-15		1	10/27/2015 13:00	WG824152

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	4.28		2.00	1	10/24/2015 16:16	WG823925

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.86		1	10/26/2015 13:02	WG823927

Sample Narrative:

9045D L796026-12 WG823927: 8.86 at 22.5c

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	Dilution	Analysis date / time	Batch
Specific Conductance	6360		1	10/27/2015 16:16	WG824692

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0200	1	10/23/2015 17:34	WG823982

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	4.68		2.00	1	10/24/2015 23:50	WG824119
Barium	798		0.500	1	10/24/2015 23:50	WG824119
Cadmium	ND		0.500	1	10/24/2015 23:50	WG824119
Chromium	35.9		1.00	1	10/24/2015 23:50	WG824119
Copper	10.8		2.00	1	10/24/2015 23:50	WG824119
Lead	14.3		0.500	1	10/24/2015 23:50	WG824119
Nickel	17.4		2.00	1	10/24/2015 23:50	WG824119
Selenium	ND		2.00	1	10/24/2015 23:50	WG824119
Silver	ND		1.00	1	10/24/2015 23:50	WG824119
Zinc	44.5		5.00	1	10/24/2015 23:50	WG824119

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00250	5	10/26/2015 12:19	WG824512
Toluene	ND		0.0250	5	10/26/2015 12:19	WG824512
Ethylbenzene	ND		0.00250	5	10/26/2015 12:19	WG824512
Total Xylene	ND		0.00750	5	10/26/2015 12:19	WG824512
TPH (GC/FID) Low Fraction	ND		0.500	5	10/26/2015 12:19	WG824512
(S) a,a,a-Trifluorotoluene(FID)	*97.5*		*59.0-128*		*10/26/2015 12:19*	WG824512
(S) a,a,a-Trifluorotoluene(PID)	*99.9*		*54.0-144*		*10/26/2015 12:19*	WG824512

Semi-Volatile Organic Compounds (GC) by Method 8015D/DRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	50.5		4.00	1	10/24/2015 17:18	WG823972
(S) o-Terphenyl	*58.0*		*50.0-150*		*10/24/2015 17:18*	WG823972

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00600	1	10/24/2015 06:56	WG823973
Acenaphthene	ND		0.00600	1	10/24/2015 06:56	WG823973
Acenaphthylene	ND		0.00600	1	10/24/2015 06:56	WG823973
Benzo(a)anthracene	ND		0.00600	1	10/24/2015 06:56	WG823973
Benzo(a)pyrene	ND	J3	0.00600	1	10/24/2015 06:56	WG823973
Benzo(b)fluoranthene	ND	J3	0.00600	1	10/24/2015 06:56	WG823973
Benzo(g,h,i)perylene	ND	J3	0.00600	1	10/24/2015 06:56	WG823973
Benzo(k)fluoranthene	ND	J3	0.00600	1	10/24/2015 06:56	WG823973
Chrysene	ND		0.00600	1	10/24/2015 06:56	WG823973
Dibenz(a,h)anthracene	ND	J3	0.00600	1	10/24/2015 06:56	WG823973
Fluoranthene	ND		0.00600	1	10/24/2015 06:56	WG823973
Fluorene	ND		0.00600	1	10/24/2015 06:56	WG823973
Indeno(1,2,3-cd)pyrene	ND	J3	0.00600	1	10/24/2015 06:56	WG823973
Naphthalene	ND		0.0200	1	10/24/2015 06:56	WG823973
Phenanthrene	ND		0.00600	1	10/24/2015 06:56	WG823973
Pyrene	ND		0.00600	1	10/24/2015 06:56	WG823973
1-Methylnaphthalene	ND		0.0200	1	10/24/2015 06:56	WG823973
2-Methylnaphthalene	ND		0.0200	1	10/24/2015 06:56	WG823973
2-Chloronaphthalene	ND		0.0200	1	10/24/2015 06:56	WG823973
(S) p-Terphenyl-d14	*50.4*		*32.2-131*		*10/24/2015 06:56*	WG823973
(S) Nitrobenzene-d5	*71.5*		*22.1-146*		*10/24/2015 06:56*	WG823973
(S) 2-Fluorobiphenyl	*63.7*		*40.6-122*		*10/24/2015 06:56*	WG823973

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND,U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.
SDL	Sample Detection Limit.
MQL	Method Quantitation Limit.
Unadj. MQL	Unadjusted Method Quantitation Limit.

Qualifier	Description
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits.
J3	The associated batch QC was outside the established quality control range for precision.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.

ACCREDITATIONS & LOCATIONS

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE.**

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Conneticut	PH-0197	North Carolina [1]	DW21704
Florida	E87487	North Carolina [2]	41
Georgia	NELAP	North Dakota	R-140
Georgia [1]	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky [1]	90010	South Dakota	n/a
Kentucky [2]	16	Tennessee [1 4]	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

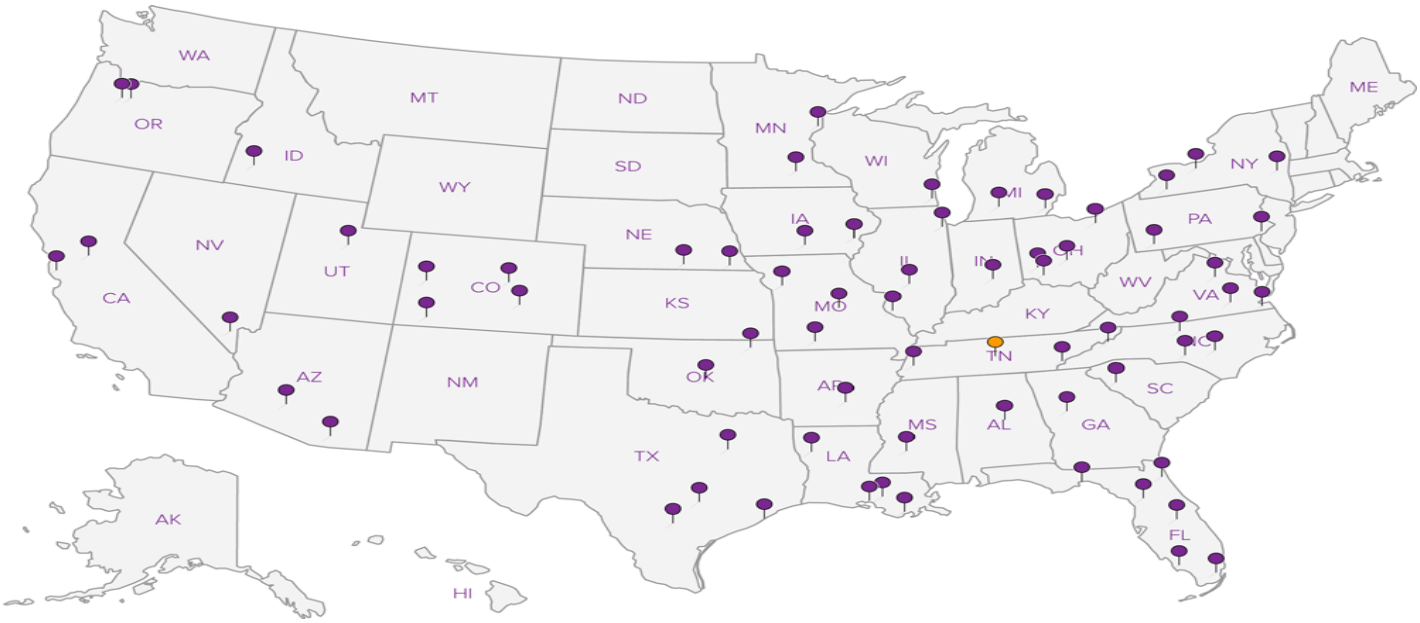
[1.] Drinking Water [2.] Underground Storage Tanks [3.] Aquatic Toxicity [4.] Chemical/Microbiological [5.] Mold [n/a] Accreditation not applicable

Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA	100789
Canada	1461.01	DOD	1461.01
EPA–Crypto	TN00003	USDA	S-67674

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



Encana Oil & Gas (USA)
143 Diamond Avenue
Parachute, CO 81635
ENCANACO-LTENV

Billing Information:
Brett Middleton
143 Diamond Avenue
Parachute, CO 81635
970-285-2653

Report to: Brett Middleton
Email to: Brett.Middleton@encana.com

Project Description: Scandard Draw 3-14 (P14) Pipeline Release
City/Sate Collected: Rifle, CO
Phone: 970-285-2653
FAX:
Client Project #: SD 3-14 (P14)
ESC Key: ENCANACO-LTENV
Collected by: Dustin Held
Site/Facility ID#: SD 3-14 (P14)
P.O.#: Middleton
Collected by (signature):
Immediately Packed on Ice N (Y)

Rush? (Lab MUST Be Notified)
Same Day 200%
Next Day 100%
Two Day 50%
3DAY TAT

Date Results Needed:
Email? __No ✓Yes
FAX? ✓No __Yes

Chain of Custody
Page 1 of 1

ESC LABSCIENCES
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E117

CoCode ENCANACO (lab use only)
Template/Prelogin
Shipped Via:

Analysis/Container/Preservative

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	BTEX	TPH (GRO + DRO)	Table 910-1 PAHs 8270 SIM	pH, EC, SAR	As, Ba, Cd, Cr III, Cr VI, Cu, Pb, Hg, Ni, Se, Ag, Zn			Remarks/Contaminant	Sample # (lab only)
20151020 - Scandard Draw 3-14 (P14) (SVEN01)	Grab	SS	12-12.5	10/20/15	1245	3	X	X	X	X	X				7960601
20151020 - Scandard Draw 3-14 (P14) (SVES01)	Grab	SS	15-15.5	10/20/15	1415	3	X	X	X	X	X				02
20151020 - Scandard Draw 3-14 (P14) (WEXT)	Grab	SS	Surface NA DA	10/20/15	1515	3	X	X	X	X	X				03
20151020 - Scandard Draw 3-14 (P14) (WEXT)	Grab	SS	8"	10/20/15	1520	3	X	X	X	X	X				04
20151020 - Scandard Draw 3-14 (P14) (SWEXT01)	Grab	SS	Surface NA DA	10/20/15	1535	3	X	X	X	X	X				05
20151020 - Scandard Draw 3-14 (P14) (SWEXT01)	Grab	SS	8"	10/20/15	1537	3	X	X	X	X	X				06
20151020 - Scandard Draw 3-14 (P14) (MIDEXT)	Grab	SS	Surface NA DA	10/20/15	1540	3	X	X	X	X	X				07
20151020 - Scandard Draw 3-14 (P14) (MIDEXT)	Grab	SS	8"	10/20/15	1542	3	X	X	X	X	X				08
20151020 - Scandard Draw 3-14 (P14) (SEXT)	Grab	SS	Surface NA DA	10/20/15	1550	3	X	X	X	X	X				09

3 DAY TAT

*Matrix: **SS** - Soil/Solid **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other_____

pH _____ Temp _____

Remarks:

Flow _____ Other _____

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
	10/21/15	1100	
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
	10/21/15	1730	6436 7136 0079
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☑ FedEx ☐ Courier ☐ _____
Temp: 5.1
Bottles Received: 36 = 4oz
Date: 10-22-15
Time: 0700

Condition: 7P 4 (lab use only)
CoC Seals Intact: ___ Y ___ N ___ NA
pH Checked:
NCF:

Encana Oil & Gas (USA)
143 Diamond Avenue
Parachute, CO 81635
ENCANACO-LTENV

Billing Information:
Brett Middleton
143 Diamond Avenue
Parachute, CO 81635
970-285-2653

Report to: Brett Middleton
Email to: Brett.Middleton@encana.com

Project Description: Scandard Draw 3-14 (P14) Pipeline Release
City/Sate Collected: Rifle, CO
Phone: 970-285-2653
FAX:
Client Project #: SD 3-14 (P14)
ESC Key: ENCANACO-LTENV
Collected by: Dustin Held
Site/Facility ID#: SD 3-14 (P14)
P.O.#: Middleton
Collected by (signature):
Immediately Packed on Ice N ___ Y ___

Rush? (Lab MUST Be Notified)
Same Day 200%
Next Day 100%
Two Day 50%
3 DAY TAT

Date Results Needed:
Email? __No ✓Yes
FAX? ✓No __Yes

Chain of Custody Page 1 of 1

ESC LABORATORIES
12065 Lebanon Road
Mt. Juliet, TN 37122
Phone: (800) 767-5859
Phone: (615) 758-5858
Fax: (615) 758-5859

CoCode ENCANACO (lab use only)
Template/Prelogin
Shipped Via:

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	BTEX	TPH (GRO + DRO)	Table 910-1 PAHs 8270 SIM	pH, EC, SAR	As, Ba, Cd, Cr III, Cr VI, Cu, Pb, Hg, Ni, Se, Ag, Zn	Remarks/Contaminant	Sample # (lab only)
20151020 - Scandard Draw 3-14 (P14) (SEXT)	Grab	SS	8"	10/20/15	1552	3	X	X	X	X	X		746026-10
20151020 - Scandard Draw 3-14 (P14) (SWEXT02)	Grab	SS	Surface soil	10/20/15	1600	3	X	X	X	X	X		11
20151020 - Scandard Draw 3-14 (P14) (SWEXT02)	Grab	SS	8"	10/20/15	1602	3	X	X	X	X	X		12
												3 DAY TAT	

*Matrix: **SS** - Soil/Solid **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other_____

pH _____ Temp _____
Flow _____ Other _____

Remarks:

	Date:	Time:		
Relinquished by: (Signature)	10/21/15	1100	Received by: (Signature)	Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____
Relinquished by: (Signature)	10.21.15	1730	Received by: (Signature)	Temp: 3.1 Bottles Received: 36
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 10-22-15 Time: 0746

Condition: (lab use only)
CoC Seals Intact: ___Y ___N ___NA
pH Checked: NCF:

ANALYTICAL REPORT

October 12, 2015

EnCana Oil & Gas - Parachute, CO

Sample Delivery Group:	L792183
Samples Received:	10/02/2015
Project Number:	SCANDARD 3-14
Description:	Scandard Draw 3-14 Spill
Site:	SCANDARD 3-14
Report To:	Brett Middleton 143 Diamond Avenue Parachute, CO 81635

Entire Report Reviewed By:

Jason Romer
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

20150930-P14 (5) ROW 03 L792183-01 Solid

Collected by: Matt Kasten
Collected date/time: 09/30/15 11:55
Received date/time: 10/02/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analysis Analyst
Calculated Results	WG819500	1	10/05/15 08:56	10/12/15 11:04	LTB
Calculated Results	WG819688	1	10/06/15 13:56	10/07/15 11:45	LTB
Mercury by Method 7471A	WG819431	1	10/02/15 20:03	10/05/15 10:00	BRJ
Metals (ICP) by Method 6010B	WG819500	1	10/05/15 08:56	10/05/15 13:02	LTB
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG819403	1	10/03/15 09:49	10/04/15 05:11	KMP
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG819403	20	10/03/15 09:49	10/06/15 12:35	KMP
Semi-Volatile Organic Compounds (GC) by Method 8015D/DRO	WG819851	20	10/05/15 22:54	10/06/15 20:36	CLG
Volatile Organic Compounds (GC) by Method 8015/8021	WG820347	500	10/07/15 14:10	10/08/15 00:17	MCB
Volatile Organic Compounds (GC) by Method 8021	WG819653	100	10/04/15 10:24	10/05/15 22:27	MCB
Wet Chemistry by Method 2580 B-2011	WG819829	1	10/06/15 14:52	10/06/15 16:45	AS
Wet Chemistry by Method 3060A/7196A	WG819354	1	10/03/15 08:20	10/05/15 16:08	JEH
Wet Chemistry by Method 9045D	WG819946	1	10/07/15 11:10	10/07/15 11:10	AMC
Wet Chemistry by Method 9050AMod	WG819839	1	10/07/15 10:30	10/07/15 10:30	KBC

20150930-P14 (POR) 06 L792183-02 Solid

Collected by: Matt Kasten
Collected date/time: 09/30/15 12:00
Received date/time: 10/02/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analysis Analyst
Calculated Results	WG819500	1	10/05/15 08:56	10/12/15 11:04	LTB
Calculated Results	WG819688	1	10/06/15 13:56	10/07/15 11:45	LTB
Mercury by Method 7471A	WG819431	1	10/02/15 20:03	10/05/15 10:03	BRJ
Metals (ICP) by Method 6010B	WG819500	1	10/05/15 08:56	10/05/15 13:04	LTB
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG819403	1	10/03/15 09:49	10/04/15 05:33	KMP
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG819403	20	10/03/15 09:49	10/06/15 12:57	KMP
Semi-Volatile Organic Compounds (GC) by Method 8015D/DRO	WG819851	20	10/05/15 22:54	10/07/15 14:24	CLG
Volatile Organic Compounds (GC) by Method 8015/8021	WG819653	5	10/04/15 10:24	10/05/15 19:52	MCB
Wet Chemistry by Method 2580 B-2011	WG819829	1	10/06/15 14:52	10/06/15 16:45	AS
Wet Chemistry by Method 3060A/7196A	WG819354	1	10/03/15 08:20	10/05/15 16:09	JEH
Wet Chemistry by Method 9045D	WG819946	1	10/07/15 11:10	10/07/15 11:10	AMC
Wet Chemistry by Method 9050AMod	WG820093	1	10/07/15 12:31	10/07/15 12:31	JER

20150930-P14 (N) ROW 06 L792183-03 Solid

Collected by: Matt Kasten
Collected date/time: 09/30/15 12:00
Received date/time: 10/02/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analysis Analyst
Calculated Results	WG819500	1	10/05/15 08:56	10/12/15 11:04	LTB
Calculated Results	WG819688	1	10/06/15 13:56	10/07/15 11:45	LTB
Mercury by Method 7471A	WG819431	1	10/02/15 20:03	10/05/15 10:06	BRJ
Metals (ICP) by Method 6010B	WG819500	1	10/05/15 08:56	10/05/15 13:13	LTB
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG819403	1	10/03/15 09:49	10/04/15 05:55	KMP
Semi-Volatile Organic Compounds (GC) by Method 8015D/DRO	WG819851	1	10/05/15 22:54	10/06/15 19:17	CLG
Volatile Organic Compounds (GC) by Method 8015/8021	WG819653	50	10/04/15 10:24	10/05/15 22:49	MCB
Wet Chemistry by Method 2580 B-2011	WG819829	1	10/06/15 14:52	10/06/15 16:45	AS
Wet Chemistry by Method 3060A/7196A	WG819354	1	10/03/15 08:20	10/05/15 16:09	JEH
Wet Chemistry by Method 9045D	WG819946	1	10/07/15 11:10	10/07/15 11:10	AMC
Wet Chemistry by Method 9050AMod	WG820093	1	10/07/15 12:31	10/07/15 12:31	JER

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Jason Romer
Technical Service Representative

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	22.1		1	10/07/2015 11:45	WG819688

Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	34.1		2.00	1	10/12/2015 11:04	WG819500

Wet Chemistry by Method 2580 B-2011

Analyte	Result mV	Qualifier	Dilution	Analysis date / time	Batch
ORP	309		1	10/06/2015 16:45	WG819829

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	ND		2.00	1	10/05/2015 16:08	WG819354

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.32		1	10/07/2015 11:10	WG819946

Sample Narrative:

9045D L792183-01 WG819946: 8.32 at 22.3c

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	Dilution	Analysis date / time	Batch
Specific Conductance	2640		1	10/07/2015 10:30	WG819839

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.0432		0.0200	1	10/05/2015 10:00	WG819431

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.66		2.00	1	10/05/2015 13:02	WG819500
Barium	629		0.500	1	10/05/2015 13:02	WG819500
Cadmium	ND		0.500	1	10/05/2015 13:02	WG819500
Chromium	34.1		1.00	1	10/05/2015 13:02	WG819500
Copper	10.2		2.00	1	10/05/2015 13:02	WG819500
Lead	8.18		0.500	1	10/05/2015 13:02	WG819500
Nickel	16.6		2.00	1	10/05/2015 13:02	WG819500
Selenium	ND		2.00	1	10/05/2015 13:02	WG819500
Silver	ND		1.00	1	10/05/2015 13:02	WG819500
Zinc	40.3		5.00	1	10/05/2015 13:02	WG819500

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.326		0.0500	100	10/05/2015 22:27	WG819653
Toluene	ND		0.500	100	10/05/2015 22:27	WG819653
Ethylbenzene	3.95		0.0500	100	10/05/2015 22:27	WG819653
Total Xylene	85.0		0.750	500	10/08/2015 00:17	WG820347
TPH (GC/FID) Low Fraction	1760		50.0	500	10/08/2015 00:17	WG820347
(S) a,a,a-Trifluorotoluene(FID)	*93.1*		*59.0-128*		*10/08/2015 00:17*	WG820347
(S) a,a,a-Trifluorotoluene(PID)	*103*		*54.0-144*		*10/05/2015 22:27*	WG819653

Semi-Volatile Organic Compounds (GC) by Method 8015D/DRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	1140		80.0	20	10/06/2015 20:36	WG819851
(S) o-Terphenyl	*59.2*	J7	*50.0-150*		*10/06/2015 20:36*	WG819851

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	0.0150		0.00600	1	10/04/2015 05:11	WG819403
Acenaphthene	0.0384		0.00600	1	10/04/2015 05:11	WG819403
Acenaphthylene	ND		0.00600	1	10/04/2015 05:11	WG819403
Benzo(a)anthracene	ND		0.00600	1	10/04/2015 05:11	WG819403
Benzo(a)pyrene	ND		0.00600	1	10/04/2015 05:11	WG819403
Benzo(b)fluoranthene	ND		0.00600	1	10/04/2015 05:11	WG819403
Benzo(g,h,i)perylene	ND	J3	0.00600	1	10/04/2015 05:11	WG819403
Benzo(k)fluoranthene	ND		0.00600	1	10/04/2015 05:11	WG819403
Chrysene	ND		0.00600	1	10/04/2015 05:11	WG819403
Dibenz(a,h)anthracene	ND		0.00600	1	10/04/2015 05:11	WG819403
Fluoranthene	ND	J3	0.00600	1	10/04/2015 05:11	WG819403
Fluorene	0.0767		0.00600	1	10/04/2015 05:11	WG819403
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	10/04/2015 05:11	WG819403
Naphthalene	2.60		0.400	20	10/06/2015 12:35	WG819403
Phenanthrene	0.0529		0.00600	1	10/04/2015 05:11	WG819403
Pyrene	ND	J3	0.00600	1	10/04/2015 05:11	WG819403
1-Methylnaphthalene	1.11		0.400	20	10/06/2015 12:35	WG819403
2-Methylnaphthalene	3.31		0.400	20	10/06/2015 12:35	WG819403
2-Chloronaphthalene	ND		0.0200	1	10/04/2015 05:11	WG819403
(S) p-Terphenyl-d14	*66.2*		*32.2-131*		*10/04/2015 05:11*	WG819403
(S) Nitrobenzene-d5	*554*	J7	*22.1-146*		*10/06/2015 12:35*	WG819403
(S) 2-Fluorobiphenyl	*72.2*		*40.6-122*		*10/04/2015 05:11*	WG819403

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	33.7		1	10/07/2015 11:45	WG819688

Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	38.1		2.00	1	10/12/2015 11:04	WG819500

Wet Chemistry by Method 2580 B-2011

Analyte	Result mV	Qualifier	Dilution	Analysis date / time	Batch
ORP	288		1	10/06/2015 16:45	WG819829

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	ND		2.00	1	10/05/2015 16:09	WG819354

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.85		1	10/07/2015 11:10	WG819946

Sample Narrative:

9045D L792183-02 WG819946: 8.85 at 22.0c

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	Dilution	Analysis date / time	Batch
Specific Conductance	3230		1	10/07/2015 12:31	WG820093

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0200	1	10/05/2015 10:03	WG819431

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.93		2.00	1	10/05/2015 13:04	WG819500
Barium	767		0.500	1	10/05/2015 13:04	WG819500
Cadmium	ND		0.500	1	10/05/2015 13:04	WG819500
Chromium	38.1		1.00	1	10/05/2015 13:04	WG819500
Copper	10.0		2.00	1	10/05/2015 13:04	WG819500
Lead	8.86		0.500	1	10/05/2015 13:04	WG819500
Nickel	17.9		2.00	1	10/05/2015 13:04	WG819500
Selenium	ND		2.00	1	10/05/2015 13:04	WG819500
Silver	ND		1.00	1	10/05/2015 13:04	WG819500
Zinc	43.3		5.00	1	10/05/2015 13:04	WG819500

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00250	5	10/05/2015 19:52	WG819653
Toluene	ND		0.0250	5	10/05/2015 19:52	WG819653
Ethylbenzene	0.0354		0.00250	5	10/05/2015 19:52	WG819653
Total Xylene	0.189		0.00750	5	10/05/2015 19:52	WG819653
TPH (GC/FID) Low Fraction	11.4		0.500	5	10/05/2015 19:52	WG819653
(S) a,a,a-Trifluorotoluene(FID)	*98.6*		*59.0-128*		*10/05/2015 19:52*	WG819653
(S) a,a,a-Trifluorotoluene(PID)	*106*		*54.0-144*		*10/05/2015 19:52*	WG819653

Semi-Volatile Organic Compounds (GC) by Method 8015D/DRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	424		80.0	20	10/07/2015 14:24	WG819851
(S) o-Terphenyl	*60.1*	J7	*50.0-150*		*10/07/2015 14:24*	WG819851

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00600	1	10/04/2015 05:33	WG819403
Acenaphthene	0.0188		0.00600	1	10/04/2015 05:33	WG819403
Acenaphthylene	ND		0.00600	1	10/04/2015 05:33	WG819403
Benzo(a)anthracene	ND		0.00600	1	10/04/2015 05:33	WG819403
Benzo(a)pyrene	ND		0.00600	1	10/04/2015 05:33	WG819403
Benzo(b)fluoranthene	ND		0.00600	1	10/04/2015 05:33	WG819403
Benzo(g,h,i)perylene	ND	J3	0.00600	1	10/04/2015 05:33	WG819403
Benzo(k)fluoranthene	ND		0.00600	1	10/04/2015 05:33	WG819403
Chrysene	ND		0.00600	1	10/04/2015 05:33	WG819403
Dibenz(a,h)anthracene	ND		0.00600	1	10/04/2015 05:33	WG819403
Fluoranthene	ND	J3	0.00600	1	10/04/2015 05:33	WG819403
Fluorene	0.0338		0.00600	1	10/04/2015 05:33	WG819403
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	10/04/2015 05:33	WG819403
Naphthalene	1.81		0.400	20	10/06/2015 12:57	WG819403
Phenanthrene	0.0250		0.00600	1	10/04/2015 05:33	WG819403
Pyrene	ND	J3	0.00600	1	10/04/2015 05:33	WG819403
1-Methylnaphthalene	0.713		0.400	20	10/06/2015 12:57	WG819403
2-Methylnaphthalene	2.04		0.400	20	10/06/2015 12:57	WG819403
2-Chloronaphthalene	ND		0.0200	1	10/04/2015 05:33	WG819403
(S) p-Terphenyl-d14	*69.1*		*32.2-131*		*10/04/2015 05:33*	WG819403
(S) Nitrobenzene-d5	*270*	J7	*22.1-146*		*10/06/2015 12:57*	WG819403
(S) 2-Fluorobiphenyl	*74.8*		*40.6-122*		*10/04/2015 05:33*	WG819403

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	35.7		1	10/07/2015 11:45	WG819688

Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	34.7		2.00	1	10/12/2015 11:04	WG819500

Wet Chemistry by Method 2580 B-2011

Analyte	Result mV	Qualifier	Dilution	Analysis date / time	Batch
ORP	280		1	10/06/2015 16:45	WG819829

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	ND		2.00	1	10/05/2015 16:09	WG819354

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.61		1	10/07/2015 11:10	WG819946

Sample Narrative:

9045D L792183-03 WG819946: 8.61 at 22.1c

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	Dilution	Analysis date / time	Batch
Specific Conductance	3520		1	10/07/2015 12:31	WG820093

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0200	1	10/05/2015 10:06	WG819431

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.12		2.00	1	10/05/2015 13:13	WG819500
Barium	685		0.500	1	10/05/2015 13:13	WG819500
Cadmium	ND		0.500	1	10/05/2015 13:13	WG819500
Chromium	34.7		1.00	1	10/05/2015 13:13	WG819500
Copper	10.4		2.00	1	10/05/2015 13:13	WG819500
Lead	8.27		0.500	1	10/05/2015 13:13	WG819500
Nickel	17.3		2.00	1	10/05/2015 13:13	WG819500
Selenium	ND		2.00	1	10/05/2015 13:13	WG819500
Silver	ND		1.00	1	10/05/2015 13:13	WG819500
Zinc	41.1		5.00	1	10/05/2015 13:13	WG819500

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.0250	50	10/05/2015 22:49	WG819653
Toluene	ND		0.250	50	10/05/2015 22:49	WG819653
Ethylbenzene	0.378		0.0250	50	10/05/2015 22:49	WG819653
Total Xylene	0.560		0.0750	50	10/05/2015 22:49	WG819653
TPH (GC/FID) Low Fraction	114		5.00	50	10/05/2015 22:49	WG819653
(S) a,a,a-Trifluorotoluene(FID)	*96.7*		*59.0-128*		*10/05/2015 22:49*	WG819653
(S) a,a,a-Trifluorotoluene(PID)	*107*		*54.0-144*		*10/05/2015 22:49*	WG819653

Semi-Volatile Organic Compounds (GC) by Method 8015D/DRO

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	150		4.00	1	10/06/2015 19:17	WG819851
(S) o-Terphenyl	*73.5*		*50.0-150*		*10/06/2015 19:17*	WG819851

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00600	1	10/04/2015 05:55	WG819403
Acenaphthene	ND		0.00600	1	10/04/2015 05:55	WG819403
Acenaphthylene	ND		0.00600	1	10/04/2015 05:55	WG819403
Benzo(a)anthracene	ND		0.00600	1	10/04/2015 05:55	WG819403
Benzo(a)pyrene	ND		0.00600	1	10/04/2015 05:55	WG819403
Benzo(b)fluoranthene	ND		0.00600	1	10/04/2015 05:55	WG819403
Benzo(g,h,i)perylene	ND	J3	0.00600	1	10/04/2015 05:55	WG819403
Benzo(k)fluoranthene	ND		0.00600	1	10/04/2015 05:55	WG819403
Chrysene	ND		0.00600	1	10/04/2015 05:55	WG819403
Dibenz(a,h)anthracene	ND		0.00600	1	10/04/2015 05:55	WG819403
Fluoranthene	ND	J3	0.00600	1	10/04/2015 05:55	WG819403
Fluorene	0.0126		0.00600	1	10/04/2015 05:55	WG819403
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	10/04/2015 05:55	WG819403
Naphthalene	0.547		0.0200	1	10/04/2015 05:55	WG819403
Phenanthrene	0.00638		0.00600	1	10/04/2015 05:55	WG819403
Pyrene	ND	J3	0.00600	1	10/04/2015 05:55	WG819403
1-Methylnaphthalene	0.183		0.0200	1	10/04/2015 05:55	WG819403
2-Methylnaphthalene	0.492		0.0200	1	10/04/2015 05:55	WG819403
2-Chloronaphthalene	ND		0.0200	1	10/04/2015 05:55	WG819403
(S) p-Terphenyl-d14	*54.5*		*32.2-131*		*10/04/2015 05:55*	WG819403
(S) Nitrobenzene-d5	*102*		*22.1-146*		*10/04/2015 05:55*	WG819403
(S) 2-Fluorobiphenyl	*62.2*		*40.6-122*		*10/04/2015 05:55*	WG819403

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND,U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.
SDL	Sample Detection Limit.
MQL	Method Quantitation Limit.
Unadj. MQL	Unadjusted Method Quantitation Limit.

Qualifier	Description
J3	The associated batch QC was outside the established quality control range for precision.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE.**

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Conneticut	PH-0197	North Carolina [1]	DW21704
Florida	E87487	North Carolina [2]	41
Georgia	NELAP	North Dakota	R-140
Georgia [1]	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky [1]	90010	South Dakota	n/a
Kentucky [2]	16	Tennessee [1 4]	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

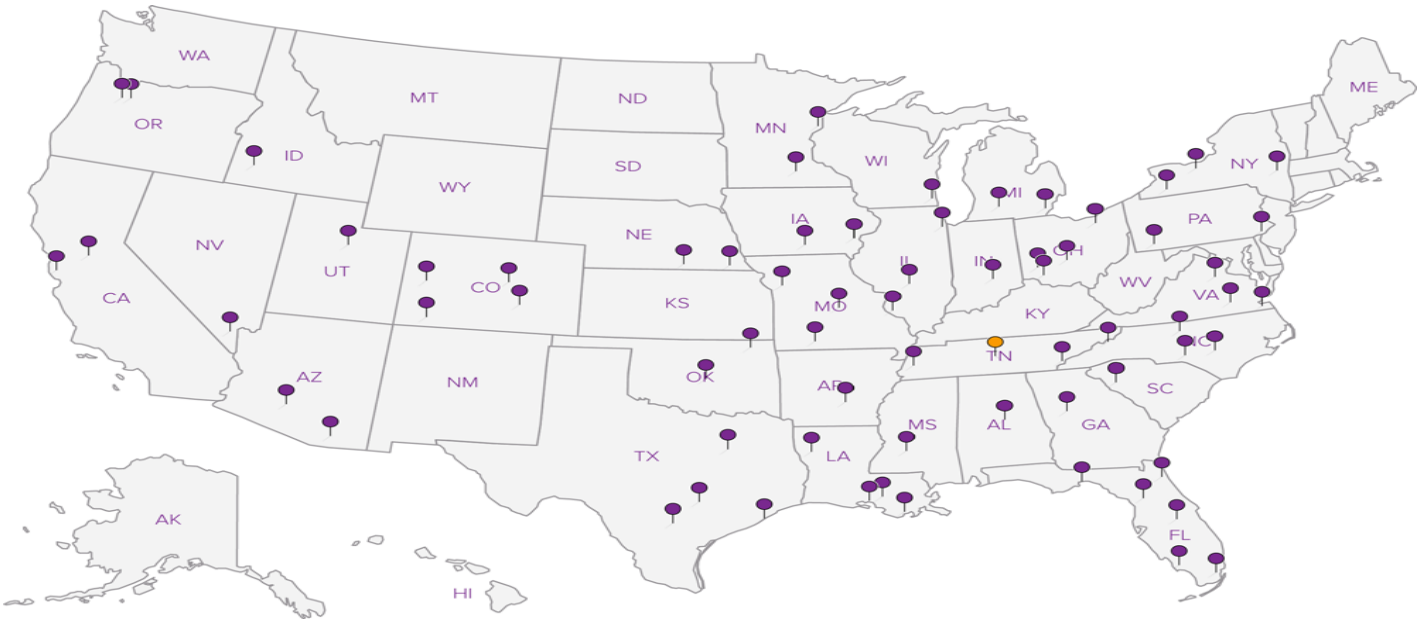
[1.] Drinking Water [2.] Underground Storage Tanks [3.] Aquatic Toxicity [4.] Chemical/Microbiological [5.] Mold [n/a] Accreditation not applicable

Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA	100789
Canada	1461.01	DOD	1461.01
EPA–Crypto	TN00003	USDA	S-67674

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



Company Name/Address:
Encana Oil & Gas (USA)
143 Diamond Avenue
Parachute, CO 81635
ENCANACO

Billing Information:
Brett Middleton
143 Diamond Avenue
Parachute, CO 81635
970-285-2653

Report to: **Brett Middleton**

Email To: **Brett.middleton@encana.com**

Project Description: ~~SCANDARD~~ DRAW 3-14 SPILL

City/State Collected: Parachute CO

Phone: **970-285-2739**

Fax:

Client Project # ~~Scandard~~ 3-14

Lab Project #

Collected by (print): Matt Kostka

Site/Facility ID # ~~Scandard~~ 3-14

P.O. # Blank

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed

Email? ___No ✓Yes
FAX? ✓No ___Yes

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	TPH Cocc Mod 910-1 Soil	Btex	RCA							Rem./Contaminant	Sample # (lab only)
20150930-PI4(S)ROW 03	Grab	SS	3'	9/30/15	1155	3	X										01
20150930-PI4(POR) 06	↓	↓	6'		1200	3	X										02
20150930-PI4(N)ROW 06	↓	↓	6'		1200	3	X										03

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

ESC LABORATORIES
YOUR LAB OF CHOICE
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# 792183
H128

Acctnum:
Template:
Prelogin:
TSR:
PB:
Shipped Via:

* Matrix: **SS** - Soil **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other_____

pH _____ Temp _____

Flow _____ Other _____

6436 7135 9914

Remarks:

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	10/1/15	1800	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	10.1.15	1800	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☑ FedEx ☐ Courier ☐ _____

Temp: 3.4 °C Bottles Received: 9.402

Date: 10/2/15 Time: 0900

Condition: (lab use only) JW7

COC Seal Intact: ___Y ___N ___NA

pH Checked: NCF:

28-Sep-2015

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

Re: **P14 Spill** Work Order: **15091414**

Dear Brett,

ALS Environmental received 3 samples on 24-Sep-2015 09:00 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 17.

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

Sincerely,

Electronically approved by: Les Arnold

Les Arnold
Senior Project Manager

Certificate No: MN 532786

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

ALS Group USA, Corp

Date: 28-Sep-15

Client: Encana Oil and Gas (USA) Inc.
Project: P14 Spill
Work Order: **15091414**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
15091414-01	20150921-P14Spill(S)	Soil		9/21/2015 14:55	9/24/2015 09:00	☐
15091414-02	20150921-P14Spill(W)	Soil		9/21/2015 15:00	9/24/2015 09:00	☐
15091414-03	20150921-P14 (BGS)	Soil		9/21/2015 15:05	9/24/2015 09:00	☐

Client: Encana Oil and Gas (USA) Inc.
Project: P14 Spill
Work Order: 15091414

Case Narrative

Samples for the above noted Work Order were received on 09/28/2015. The attached "Sample Receipt Checklist" documents the status of custody seals, container integrity, preservation, and temperature compliance.

Samples were analyzed according to the analytical methodology previously transmitted in the "Work Order Acknowledgement". Methodologies are also documented in the "Analytical Result" section for each sample. Quality control results are listed in the "QC Report" section. Sample association for the reported quality control is located at the end of each batch summary. If applicable, results are appropriately qualified in the Analytical Result and QC Report sections. The "Qualifiers" section documents the various qualifiers, units, and acronyms utilized in reporting.

With the following exceptions, all sample analyses achieved analytical criteria.

Sample Receiving:
No deviations or anomalies were noted.

Volatile Organics:
No deviations or anomalies were noted.

Extractable Organics:
Batch 76535, Method 8015 for DRO; Sample 15091414-01A: The surrogate recovery was high due to matrix interference.

Batch 76535, Method 8015 for DRO; Sample 15091414-01A: The MS recovery was outside of the control limit; however, the result in the parent sample is greater than 4x the spike amount. No qualification is required for this analyte:

Batch 76535, Method 8015 for DRO; Sample 15091414-01A MS and MSD: The surrogate recovery was high due to matrix interference.

No other deviations or anomalies were noted.

Metals:
No deviations or anomalies were noted.

Wet Chemistry:
No deviations or anomalies were noted.

ALS Group USA, Corp

Date: *28-Sep-15*

Client: Encana Oil and Gas (USA) Inc.
Project: P14 Spill
Sample ID: 20150921-P14Spill(S)
Collection Date: 9/21/2015 02:55 PM

Work Order: 15091414
Lab ID: 15091414-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID		Method: **SW8015M**			Prep: SW3550 / 9/24/15		Analyst: **IT**
DRO (C10-C28)	**820**		**1.4**	**4.1**	**mg/Kg**	1	9/25/2015 02:53
Surr: 4-Terphenyl-d14	*617*	S		*39-133*	*%REC*	1	9/25/2015 02:53
GASOLINE RANGE ORGANICS BY GC-FID		Method: **SW8015D**			Prep: SW5035 / 9/24/15		Analyst: **IT**
GRO (C6-C10)	**710**		**1.2**	**2.5**	**mg/Kg**	1	9/24/2015 17:58
Surr: Toluene-d8	*99.9*			*50-150*	*%REC*	1	9/24/2015 17:58
METALS ANALYSIS BY ICP		Method: **SW846 6010C**			Prep: SW3050B / 9/24/15		Analyst: **JEC**
Arsenic	**4.1**		**0.091**	**0.37**	**mg/Kg**	1	9/24/2015 18:14
SOLUBLE CATIONS FOR SAR		Method: **SW846 6010C**			Prep: USDA Method 20B / 9/28/15		Analyst: **JEC**
Calcium	**76**		**0.22**	**5.0**	**mg/L**	10	9/28/2015 11:48
Magnesium	**6.8**		**0.22**	**2.0**	**mg/L**	10	9/28/2015 11:48
Sodium	**2,200**		**0.24**	**2.0**	**mg/L**	10	9/28/2015 11:48
SODIUM ADSORPTION RATIO		Method: **USDA H60 METHOD 2**			Prep: USDA Method 20B / 9/28/15		Analyst: **JEC**
Sodium Adsorption Ratio	**65**		**0.010**	**0.010**	**none**	1	9/28/2015
VOLATILE ORGANIC COMPOUNDS		Method: **SW8260B**			Prep: SW5035 / 9/24/15		Analyst: **AK**
Benzene	U		0.012	0.030	mg/Kg	1	9/24/2015 19:17
Ethylbenzene	U		0.011	0.030	mg/Kg	1	9/24/2015 19:17
m,p-Xylene	U		0.023	0.060	mg/Kg	1	9/24/2015 19:17
o-Xylene	U		0.013	0.030	mg/Kg	1	9/24/2015 19:17
Toluene	U		0.011	0.030	mg/Kg	1	9/24/2015 19:17
Xylenes, Total	U		0.035	0.090	mg/Kg	1	9/24/2015 19:17
Surr: 1,2-Dichloroethane-d4	*103*			*70-130*	*%REC*	1	9/24/2015 19:17
Surr: 4-Bromofluorobenzene	*98.3*			*70-130*	*%REC*	1	9/24/2015 19:17
Surr: Dibromofluoromethane	*99.8*			*70-130*	*%REC*	1	9/24/2015 19:17
Surr: Toluene-d8	*98.9*			*70-130*	*%REC*	1	9/24/2015 19:17
ELECTRICAL CONDUCTIVITY (SAR)		Method: **USDA H60 METHOD 2**			Prep: USDA Method 20B / 9/28/15		Analyst: **JB**
Electrical Conductivity @ Saturation	**13**		**0.0055**	**0.050**	**mmhos/cm @25°**	10	9/28/2015 11:40
MOISTURE		Method: **E160.3M**					Analyst: **EVB**
Moisture	**17**		**0.025**	**0.050**	**% of sample**	1	9/24/2015 17:46

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

ALS Group USA, Corp

Date: *28-Sep-15*

Client: Encana Oil and Gas (USA) Inc.
Project: P14 Spill
Sample ID: 20150921-P14Spill(W)
Collection Date: 9/21/2015 03:00 PM

Work Order: 15091414
Lab ID: 15091414-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID		Method: **SW8015M**			Prep: SW3550 / 9/24/15		Analyst: **IT**
DRO (C10-C28)	**180**		**1.3**	**4.1**	**mg/Kg**	1	9/25/2015 03:23
Surr: 4-Terphenyl-d14	*105*			*39-133*	*%REC*	1	9/25/2015 03:23
GASOLINE RANGE ORGANICS BY GC-FID		Method: **SW8015D**			Prep: SW5035 / 9/24/15		Analyst: **IT**
GRO (C6-C10)	**96**		**1.2**	**2.5**	**mg/Kg**	1	9/24/2015 18:23
Surr: Toluene-d8	*103*			*50-150*	*%REC*	1	9/24/2015 18:23
METALS ANALYSIS BY ICP		Method: **SW846 6010C**			Prep: SW3050B / 9/24/15		Analyst: **JEC**
Arsenic	**4.1**		**0.098**	**0.40**	**mg/Kg**	1	9/24/2015 18:20
SOLUBLE CATIONS FOR SAR		Method: **SW846 6010C**			Prep: USDA Method 20B / 9/28/15		Analyst: **JEC**
Calcium	**50**		**0.22**	**5.0**	**mg/L**	10	9/28/2015 11:53
Magnesium	**6.2**		**0.22**	**2.0**	**mg/L**	10	9/28/2015 11:53
Sodium	**1,700**		**0.24**	**2.0**	**mg/L**	10	9/28/2015 11:53
SODIUM ADSORPTION RATIO		Method: **USDA H60 METHOD 2**			Prep: USDA Method 20B / 9/28/15		Analyst: **JEC**
Sodium Adsorption Ratio	**59**		**0.010**	**0.010**	**none**	1	9/28/2015
VOLATILE ORGANIC COMPOUNDS		Method: **SW8260B**			Prep: SW5035 / 9/24/15		Analyst: **AK**
Benzene	**0.078**		**0.012**	**0.030**	**mg/Kg**	1	9/24/2015 19:42
Ethylbenzene	**0.30**		**0.011**	**0.030**	**mg/Kg**	1	9/24/2015 19:42
m,p-Xylene	**26**		**2.3**	**6.0**	**mg/Kg**	100	9/25/2015 10:24
o-Xylene	**8.3**		**1.3**	**3.0**	**mg/Kg**	100	9/25/2015 10:24
Toluene	**5.0**		**0.011**	**0.030**	**mg/Kg**	1	9/24/2015 19:42
Xylenes, Total	**34**		**3.5**	**9.0**	**mg/Kg**	100	9/25/2015 10:24
Surr: 1,2-Dichloroethane-d4	*105*			*70-130*	*%REC*	1	9/24/2015 19:42
Surr: 1,2-Dichloroethane-d4	*106*			*70-130*	*%REC*	100	9/25/2015 10:24
Surr: 4-Bromofluorobenzene	*94.0*			*70-130*	*%REC*	1	9/24/2015 19:42
Surr: 4-Bromofluorobenzene	*98.1*			*70-130*	*%REC*	100	9/25/2015 10:24
Surr: Dibromofluoromethane	*99.8*			*70-130*	*%REC*	1	9/24/2015 19:42
Surr: Dibromofluoromethane	*102*			*70-130*	*%REC*	100	9/25/2015 10:24
Surr: Toluene-d8	*130*			*70-130*	*%REC*	1	9/24/2015 19:42
Surr: Toluene-d8	*98.6*			*70-130*	*%REC*	100	9/25/2015 10:24
ELECTRICAL CONDUCTIVITY (SAR)		Method: **USDA H60 METHOD 2**			Prep: USDA Method 20B / 9/28/15		Analyst: **JB**
Electrical Conductivity @ Saturation	**10**		**0.0055**	**0.050**	**mmhos/cm @25°**	10	9/28/2015 11:40
MOISTURE		Method: **E160.3M**					Analyst: **EVB**
Moisture	**20**		**0.025**	**0.050**	**% of sample**	1	9/24/2015 17:46

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

ALS Group USA, Corp

Date: *28-Sep-15*

Client: Encana Oil and Gas (USA) Inc.
Project: P14 Spill
Sample ID: 20150921-P14 (BGS)
Collection Date: 9/21/2015 03:05 PM

Work Order: 15091414
Lab ID: 15091414-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS ANALYSIS BY ICP		Method: **SW846 6010C**			Prep: SW3050B / 9/24/15		Analyst: **JEC**
Arsenic	**4.7**		**0.088**	**0.36**	**mg/Kg**	1	9/24/2015 18:26
SOLUBLE CATIONS FOR SAR		Method: **SW846 6010C**			Prep: USDA Method 20B / 9/28/15		Analyst: **JEC**
Calcium	**160**		**0.22**	**5.0**	**mg/L**	10	9/28/2015 11:59
Magnesium	**21**		**0.22**	**2.0**	**mg/L**	10	9/28/2015 11:59
Sodium	**16**		**0.24**	**2.0**	**mg/L**	10	9/28/2015 11:59
SODIUM ADSORPTION RATIO		Method: **USDA H60 METHOD 2**			Prep: USDA Method 20B / 9/28/15		Analyst: **JEC**
Sodium Adsorption Ratio	**0.30**		**0.010**	**0.010**	**none**	1	9/28/2015
ELECTRICAL CONDUCTIVITY (SAR)		Method: **USDA H60 METHOD 2**			Prep: USDA Method 20B / 9/28/15		Analyst: **JB**
Electrical Conductivity @ Saturation	**1.1**		**0.0055**	**0.050**	**mmhos/cm @25°**	10	9/28/2015 11:40
MOISTURE		Method: **E160.3M**					Analyst: **EVB**
Moisture	**6.9**		**0.025**	**0.050**	**% of sample**	1	9/24/2015 17:46

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

ALS Group USA, Corp

Date: 28-Sep-15

Qualifier	Description
*	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.

Acronym	Description
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

Units Reported	Description
% of sample	Percent of Sample
mg/Kg	Milligrams per Kilogram
mg/L	Milligrams per Liter
mmhos/cm @25°C	Millimhos-Centimeter at 25 Degrees Celcius
none	

Batch ID: **76535** Instrument ID **GC8** Method: **SW8015M**

MBLK Sample ID: **DBLKS1-76535-76535** Units: **mg/Kg** Analysis Date: **9/25/2015 12:54 PM**

Client ID: Run ID: **GC8_150924A** SeqNo: **3475138** Prep Date: **9/24/2015** 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	*1.382*	0	*2*	0	*69.1*	*39-133*	0			

LCS Sample ID: **DLCSS1-76535-76535** Units: **mg/Kg** Analysis Date: **9/25/2015 01:24 AM**

Client ID: Run ID: **GC8_150924A** SeqNo: **3475133** Prep Date: **9/24/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	164.2	5.0	200	0	82.1	61-109	0			
Surr: 4-Terphenyl-d14	*1.079*	0	*2*	0	*53.9*	*39-133*	0			

MS Sample ID: **15091414-01A MS** Units: **mg/Kg** Analysis Date: **9/25/2015 01:53 AM**

Client ID: **20150921-P14Spill(S)** Run ID: **GC8_150924A** SeqNo: **3475134** Prep Date: **9/24/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	1132	4.1	165.8	820.4	188	48-110	0			SO
Surr: 4-Terphenyl-d14	*8.892*	0	*1.658*	0	*536*	*39-133*	0			*S*

MSD Sample ID: **15091414-01A MSD** Units: **mg/Kg** Analysis Date: **9/25/2015 02:23 AM**

Client ID: **20150921-P14Spill(S)** Run ID: **GC8_150924A** SeqNo: **3475135** Prep Date: **9/24/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	936.1	4.1	165.4	820.4	69.9	48-110	1132	18.9	30	O
Surr: 4-Terphenyl-d14	*10.12*	0	*1.654*	0	*612*	*39-133*	8.892	*12.9*	*30*	*S*

The following samples were analyzed in this batch: 15091414-01A 15091414-02A

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

Client: Encana Oil and Gas (USA) Inc.
Work Order: 15091414
Project: P14 Spill

QC BATCH REPORT

Batch ID: **76525** Instrument ID **GC9** Method: **SW8015D**

MBLK Sample ID: **MBLK-76525-76525** Units: **µg/Kg** Analysis Date: **9/24/2015 04:43 PM**
Client ID: Run ID: **GC9_150924B** SeqNo: **3475219** Prep Date: **9/24/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	U	2,500								
Surr: Toluene-d8	*4798*	0	*5000*	0	*96*	*50-150*	0			

LCS Sample ID: **LCS-76525-76525** Units: **µg/Kg** Analysis Date: **9/24/2015 04:18 PM**
Client ID: Run ID: **GC9_150924B** SeqNo: **3475217** Prep Date: **9/24/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	490900	2,500	500000	0	98.2	70-130	0			
Surr: Toluene-d8	*5151*	0	*5000*	0	*103*	*50-150*	0			

MS Sample ID: **15091414-02A MS** Units: **µg/Kg** Analysis Date: **9/24/2015 06:48 PM**
Client ID: **20150921-P14Spill(W)** Run ID: **GC9_150924B** SeqNo: **3475227** Prep Date: **9/24/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	734400	2,500	500000	96210	128	70-130	0			
Surr: Toluene-d8	*5219*	0	*5000*	0	*104*	*50-150*	0			

MSD Sample ID: **15091414-02A MSD** Units: **µg/Kg** Analysis Date: **9/24/2015 07:13 PM**
Client ID: **20150921-P14Spill(W)** Run ID: **GC9_150924B** SeqNo: **3475284** Prep Date: **9/24/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	714200	2,500	500000	96210	124	70-130	734400	2.8	30	
Surr: Toluene-d8	*5228*	0	*5000*	0	*105*	*50-150*	5219	*0.182*	*30*	

The following samples were analyzed in this batch:

15091414-01A	15091414-02A

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

Client: Encana Oil and Gas (USA) Inc.
Work Order: 15091414
Project: P14 Spill

QC BATCH REPORT

Batch ID: **76503** Instrument ID **ICP2** Method: **SW846 6010C**

MBLK Sample ID: **MBLK-76503-76503** Units: **mg/Kg** Analysis Date: **9/24/2015 06:03 PM**
Client ID: Run ID: **ICP2_150924A** SeqNo: **3474587** Prep Date: **9/24/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.25								

MBLK Sample ID: **MBLK-76503-76503** Units: **mg/L** Analysis Date: **9/25/2015 02:49 PM**
Client ID: Run ID: **ICP2_150925B** SeqNo: **3478095** Prep Date: **9/24/2015** 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-76503-76503** Units: **mg/Kg** Analysis Date: **9/24/2015 06:09 PM**
Client ID: Run ID: **ICP2_150924A** SeqNo: **3474588** Prep Date: **9/24/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.921	0.25	5	0	98.4	80-120	0			

LCS Sample ID: **LCS-76503-76503** Units: **mg/L** Analysis Date: **9/25/2015 02:55 PM**
Client ID: Run ID: **ICP2_150925B** SeqNo: **3478096** Prep Date: **9/24/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.634	0.25	5	0	92.7	80-120	0			

MS Sample ID: **15091268-01AMS** Units: **mg/Kg** Analysis Date: **9/24/2015 06:37 PM**
Client ID: Run ID: **ICP2_150924A** SeqNo: **3474593** Prep Date: **9/24/2015** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	64.56	3.8	7.576	57.06	99	75-125	0			O

MSD Sample ID: **15091268-01AMSD** Units: **mg/Kg** Analysis Date: **9/24/2015 06:42 PM**
Client ID: Run ID: **ICP2_150924A** SeqNo: **3474594** Prep Date: **9/24/2015** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	65.87	3.8	7.564	57.06	116	75-125	64.56	2.01	20	O

The following samples were analyzed in this batch:

15091414-01A	15091414-02A	15091414-03A

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

Client: Encana Oil and Gas (USA) Inc.
Work Order: 15091414
Project: P14 Spill

QC BATCH REPORT

Batch ID: **76530** Instrument ID **ICP2** Method: **SW846 6010C**

DUP Sample ID: **15091205-01ADUP** Units: **mg/L** Analysis Date: **9/28/2015 11:36 AM**
Client ID: Run ID: **ICP2_150928A** SeqNo: **3479394** Prep Date: **9/28/2015** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	236.9	5.0	0	0	0	0-0	230.3	2.85		
Magnesium	60.29	2.0	0	0	0	0-0	58.89	2.34		
Sodium	37.33	2.0	0	0	0	0-0	36.45	2.37		

DUP Sample ID: **15091205-01ADUP** Units: **none** Analysis Date: **9/28/2015**
Client ID: Run ID: **SAR_150928A** SeqNo: **3479486** Prep Date: **9/28/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	0.5605	0.010	0	0	0		0.5548	1.02	50	

The following samples were analyzed in this batch:

15091414-01B	15091414-02B	15091414-03A

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

Client: Encana Oil and Gas (USA) Inc.
Work Order: 15091414
Project: P14 Spill

QC BATCH REPORT

Batch ID: **76496** Instrument ID **VMS9** Method: **SW8260B**

MBLK Sample ID: **MBLK-76496-76496** Units: **µg/Kg** Analysis Date: **9/24/2015 10:59 PM**
Client ID: Run ID: **VMS9_150924B** SeqNo: **3475426** Prep Date: **9/24/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	U	30								
Ethylbenzene	U	30								
m,p-Xylene	U	60								
o-Xylene	U	30								
Toluene	U	30								
Xylenes, Total	U	90								
Surr: 1,2-Dichloroethane-d4	*961*	0	*1000*	0	*96.1*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*943.5*	0	*1000*	0	*94.4*	*70-130*	0			
Surr: Dibromofluoromethane	*983*	0	*1000*	0	*98.3*	*70-130*	0			
Surr: Toluene-d8	*986*	0	*1000*	0	*98.6*	*70-130*	0			

LCS Sample ID: **LCS-76496-76496** Units: **µg/Kg** Analysis Date: **9/24/2015 09:17 PM**
Client ID: Run ID: **VMS9_150924B** SeqNo: **3475423** Prep Date: **9/24/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	986.5	30	1000	0	98.6	75-125	0			
Ethylbenzene	951.5	30	1000	0	95.2	75-125	0			
m,p-Xylene	1901	60	2000	0	95	80-125	0			
o-Xylene	912.5	30	1000	0	91.2	75-125	0			
Toluene	1011	30	1000	0	101	70-125	0			
Xylenes, Total	2814	90	3000	0	93.8	75-125	0			
Surr: 1,2-Dichloroethane-d4	*936.5*	0	*1000*	0	*93.6*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*1004*	0	*1000*	0	*100*	*70-130*	0			
Surr: Dibromofluoromethane	*970*	0	*1000*	0	*97*	*70-130*	0			
Surr: Toluene-d8	*1006*	0	*1000*	0	*101*	*70-130*	0			

The following samples were analyzed in this batch:

15091414-01A	15091414-02A

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

Client: Encana Oil and Gas (USA) Inc.
Work Order: 15091414
Project: P14 Spill

QC BATCH REPORT

Batch ID: **76530** Instrument ID **WETCHEM** Method: **USDA H60 Metho**

DUP Sample ID: **15091205-01A DUP** Units: **mmhos/cm @25°** Analysis Date: **9/28/2015 11:40 AM**
Client ID: Run ID: **WETCHEM_150928D** SeqNo: **3479273** Prep Date: **9/28/2015** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	1.866	0.050	0	0	0		1.872	0.321	50	

The following samples were analyzed in this batch:

15091414-01B	15091414-02B	15091414-03A

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

Client: Encana Oil and Gas (USA) Inc.
Work Order: 15091414
Project: P14 Spill

QC BATCH REPORT

Batch ID: **R172377** Instrument ID **MOIST** Method: **E160.3M**

MBLK	Sample ID: **WBLKS-R172377**				Units: **% of sample**			Analysis Date: **9/24/2015 05:46 PM**		
Client ID:	Run ID: **MOIST_150924B**				SeqNo: **3475397**		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-R172377**				Units: **% of sample**			Analysis Date: **9/24/2015 05:46 PM**		
Client ID:	Run ID: **MOIST_150924B**				SeqNo: **3475396**		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: **15091130-02A DUP**				Units: **% of sample**			Analysis Date: **9/24/2015 05:46 PM**		
Client ID:	Run ID: **MOIST_150924B**				SeqNo: **3475377**		Prep Date:		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	18.68	0.050	0	0	0		18.76	0.427	20	

DUP	Sample ID: **15091414-01A DUP**				Units: **% of sample**			Analysis Date: **9/24/2015 05:46 PM**		
Client ID: **20150921-P14Spill(S)**	Run ID: **MOIST_150924B**				SeqNo: **3475393**		Prep Date:		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	16.58	0.050	0	0	0		17.07	2.91	20	

The following samples were analyzed in this batch:

15091414-01A	15091414-02A	15091414-03A

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

Cincinnati, OH +1 513 733 5336
Fort Collins, CO +1 970 490 1511
Everett, WA +1 425 356 2600
Holland, MI +1 616 399 6070
Houston, TX +1 281 530 5656
Spring City, PA +1 610 948 4903
Middletown, PA +1 717 944 5541
Salt Lake City, UT +1 801 266 7700
South Charleston, WV +1 304 356 3168
York, PA +1 717 505 5280

ALS Environmental

Chain of Custody Form

Page 1 of 1

COC ID: 24927

ALS Project Manager: | ALS Work Order #: 1509141

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	PIH Spill	A	TPH GRO/DRO
Work Order		Project Number	PIH	B	BTEX
Company Name	ENCANA	Bill To Company	ENCANA OIL & GAS	C	EC, SAR, Arsenic
Send Report To		Invoice Attn	Brian Middleton	D	
Address	PARACHUTE	Address		E	
				F	
City/State/Zip		City/State/Zip		G	
Phone		Phone		H	
Fax		Fax		I	
e-Mail Address		e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	20150921 - PIH Spill (S)	9/21/15	1455	S	—	2	X	X	X								
2	20150921 - PIH Spill (W)	↓	1500	S	—	2	X	X	X								
3	20150921 - PIH ~~Spill~~ (BGS)	↓	1505	S	—	1			X								
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign | Shipment Method | Required Turnaround Time: (Check Box) ☐ Other ☐ STD 10 Wk Days ☒ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour | Results Due Date: COB 9/25/15

Relinquished by:	Date: 9/21/15	Time: 1800	Received by:	Notes:	
Relinquished by:	Date: 9-22-15	Time: 1800	Received by (Laboratory):	Cooler ID	Cooler Temp: 4.4°C
Logged by (Laboratory):	Date: 9-23-15	Time: 1430	Checked by (Laboratory):		

QC Package: (Check One Box Below)
☐ Level II Std QC ☐ TRRP Checklist
☐ Level III Std QC/Raw Data ☐ TRRP Level IV
☐ Level IV SW846/CLP
☐ Other

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_4$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

ORIGIN D:RLA (616) 298-1033
NICK MARTINEZ
ALS ENVIRONMENTAL PARACHUTE
PARACHUTE SERVICE CENTER
127 EAST 1ST ST
PARACHUTE, CO 81635
UNITED STATES US

SHIP DATE: 23SEP15
ACTWGT: 42.00 LB
CAD: 2284840/INET3870
DIMS: 24x15x15 IN

BILL SENDER

TO **SAMPLE RECEIVING**
ALS ENVIRONMENTAL HOLLAND LAB
3352 128TH AVE
HOLLAND MI 49424
(616) 399-6070
INV:
PO: PARACHUTE
REF: 092315-1
DEPT:

539J2/CB69/31D0

FedEx Express

REL# 3785346

TRK# 0201 **7745 8209 9033**

XX HLMA

THU - 24 SEP 10:30A
PRIORITY OVERNIGHT

49424
MI-US **GRR**

After printing this label:
1: Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

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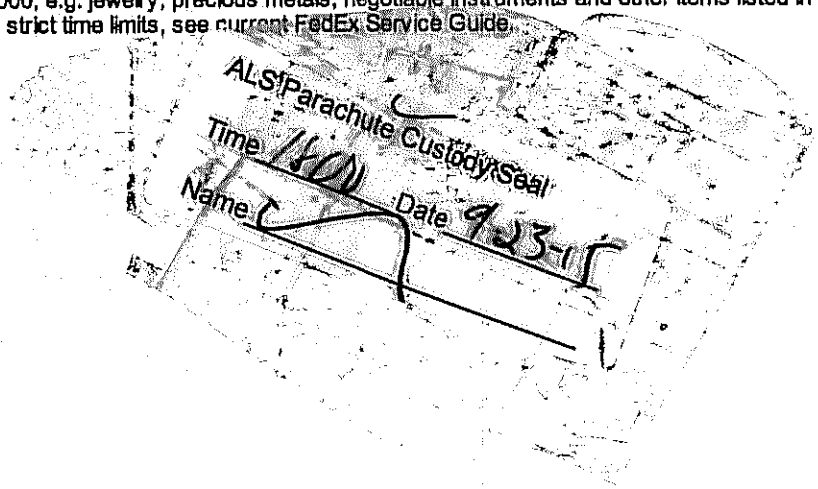

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **ENCANA2** Date/Time Received: **24-Sep-15 09:00**

Work Order: **15091414** Received by: **LA**

Checklist completed by Lee Arnold (eSignature) 24-Sep-15 (Date) Reviewed by: Lee Arnold (eSignature) 24-Sep-15 (Date)

Matrices: SOIL

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☑	Not Present ☐
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	4.4/4.4		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	09/24/15 15:45		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction: