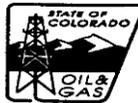


State of Colorado Oil and Gas Conservation Commission

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



FOR OGCC USE ONLY

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 Employee:
Spill, Complaint, Inspection, NOAV
Tracking No:

GENERAL INFORMATION

OGCC Operator Number: 10459
Name of Operator: Extraction Oil and Gas, LLC
Address: 1099 18th Street, Suite 1800
City: Denver State: CO Zip: 80202
Contact Name and Telephone: Name: Josh Carlisle No: 720-481-2372 Fax: 720-481-2372
API/Facility No: 335728 County: Weld
Facility Name: FCR MD Facility Number: 61S69W1NENE
Well Name: FCR MD Well Number: 1-1
Location (QtrQtr, Sec, Twp, Rng, Meridian): NENE S1 T1S R69W Latitude: 39.998412 Longitude: -105.056779

TECHNICAL CONDITIONS

Type of Waste Causing Impact (crude oil, condensate, produced water, etc.): Condensate
Site Conditions: Is location within a sensitive area (according to Rule 901e)? [X] Y [] N If yes, attach evaluation.
Adjacent land use (cultivated, irrigated, dry land farming, industrial, residential, etc.): Non-Crop Land
Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: Clay
Potential receptors (water wells within 1/4 mi, surface waters, etc.): The nearest surface water is located approximately 620' west of the release location. The nearest water well is located approximately 150' west of the release location.

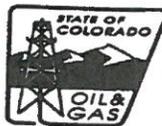
Description of Impact (if previously provided, refer to that form or document):
Impacted Media (check): [X] Soils, [] Vegetation, [] Groundwater, [] Surface water
Extent of Impact: See attached data
How Determined: Excavation, soil sampling, and laboratory analysis

REMEDIATION WORKPLAN

Describe initial action taken (if previously provided, refer to that form or document):
On December 9, 2015, historical hydrocarbon impacts to groundwater were discovered during routine flowline maintenance at the FCR MD 61S69W1NENE production facility. The volume of released material is unknown. Groundwater was not encountered in the excavation. An Initial Form 19 was submitted to the COGCC on December 10, 2015, and a Supplemental Form 19 was submitted on December 23, 2015. The COGCC has not yet issued a Spill Tracking Number for this release.

Describe how source is to be removed:
On December 10 and 11, 2015, soil samples were collected from the excavated soil pile, sidewalls and base of the open flowline repair excavation, and test pits surrounding the release location to confirm the presence of hydrocarbon impacts. Soil samples were collected between approximately 5 and 11 feet below ground surface (bgs) and submitted to Summit Scientific Laboratory in Golden, Colorado for analysis of benzene, toluene, ethylbenzene, total xylenes (BTEX), total petroleum hydrocarbons (TPH) - gasoline range organics (GRO) by USEPA Method 8260, TPH - diesel range organics (DRO) by USEPA Method 8015. Laboratory results for the confirmation soil samples indicated that BTEX and TPH concentrations were below applicable COGCC standards in the excavations and test pits. Soil analytical results are summarized in Table 1. Soil sample locations are illustrated on Figure 1 and laboratory analytical reports are included as Attachment A.
Based on the analytical data collected during assessment activities, Extraction has selected excavation and chemical treatment to address remaining petroleum hydrocarbon impacts in the soil within the source area. Impacted material will be excavated and chemically treated on-site using hydrogen peroxide. The proposed excavation extent is illustrated on Figure 2. Confirmation soil samples will be collected for every 100 cubic yards of treated material to confirm constituent concentrations decreased below regulatory standards and material may be used for backfilling. Soil samples will be collected from the sidewalls and base of the final excavation extent to confirm remaining soil impacts were successfully removed. A summary of remediation and sampling activities will be provided in a supplemental report.

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.:
Approximately 10 cubic yards of impacted soil were removed from the site and transported to the Buffalo Ridge Landfill in Keenesberg, Colorado for disposal. The waste manifest is included as Attachment B. All remaining impacted soil will be treated onsite and may be used to backfill the excavation.



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.): No groundwater was encountered in the site assessment activities.

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. The excavation will be backfilled and compacted with clean material and the ground surface will be re-contoured to match pre-existing conditions. Extraction's tank battery remains at the site. Reclamation activities at the site will be compliant with COGCC regulations.

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? [X] Y [] N If yes, describe: Impacted soil will remain onsite for treatment and may be used for backfilling the excavation when the soil meets COGCC Table 910-1 standards. Soil results are summarized in Table 1. The analytical laboratory reports are included as Attachment A.

Final disposition of E&P waste (land treated and disposed onsite, name of licensed disposal facility, recycling, reuse, etc.): At this time no E&P waste is anticipated to be removed from the site.

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: 12/10/2015 Date Site Investigation Completed: 12/11/2015 Remediation Plan Submitted: Remediation Start Date: 1/16/2016 Anticipated Completion Date: 1/16/2016 Actual Completion Date:

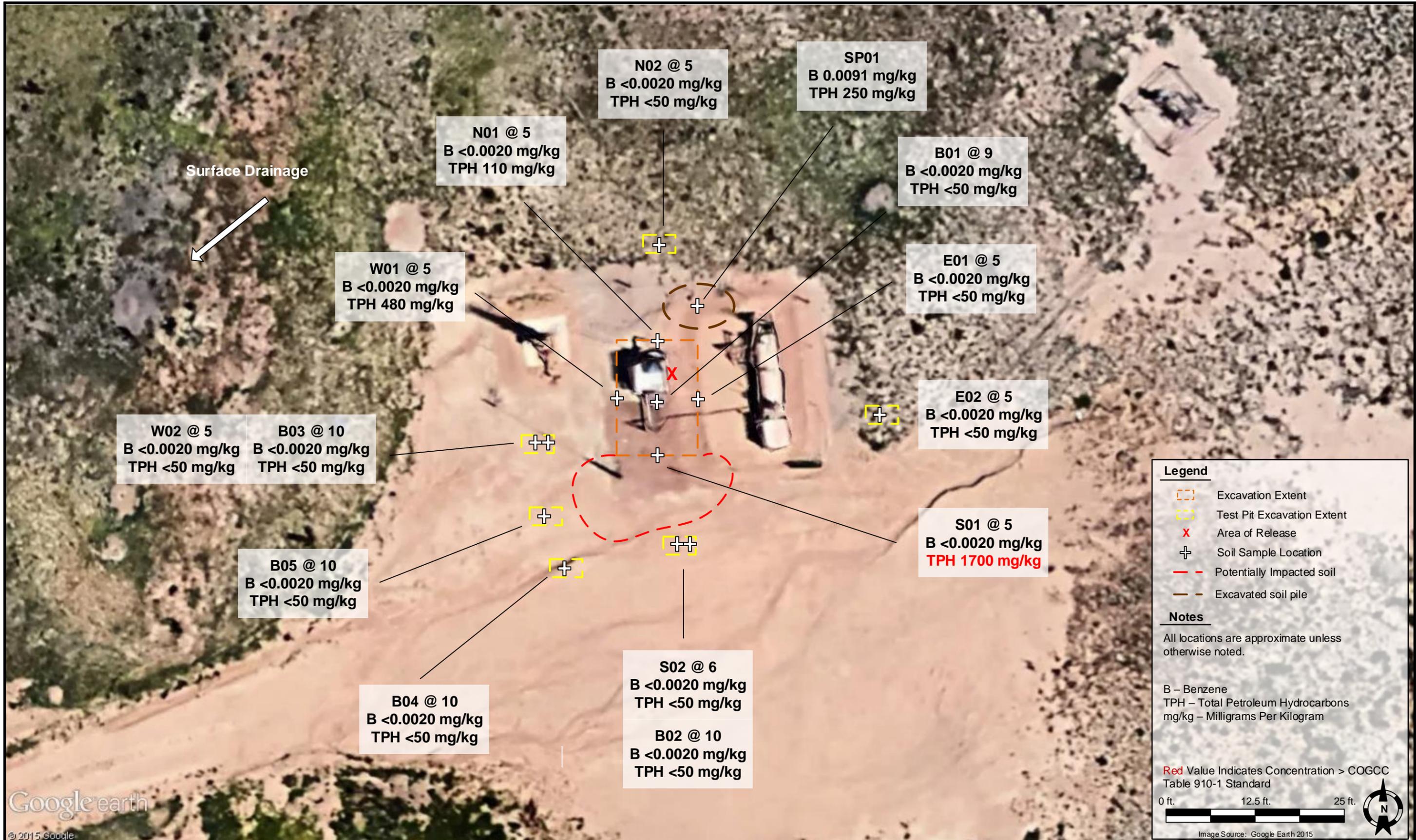
I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct, and complete.

Print Name: Josh Carlisle

Signed: [Signature] Title: Environmental Supervisor Date: 1/7/16

OGCC Approved: Title: Date:

FIGURES



DATE: December 9, 2015

DESIGNED BY: R. Bruner

DRAWN BY: R. Bruner



Extraction Oil & Gas LLC
FCR MD 61S69W
 NENE, Section 1, Township 1 South, Range 69 West
 Weld County, Colorado

Sample Location
 Map

FIGURE
 1



DATE: January 7, 2015

DESIGNED BY: R. Bruner

DRAWN BY: R. Bruner



Extraction Oil & Gas LLC
FCR MD 61S69W
 NENE, Section 1, Township 1 South, Range 69 West
 Weld County, Colorado

Proposed Excavation Area

FIGURE 2

**ANALYTICAL
TABLES**

TABLE 1
FCR MD 61S69W1NENE
SOIL SAMPLE RESULTS SUMMARY TABLE
EXTRACTION OIL AND GAS LLC

Sample ID	Date	Depth (ft. bgs)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	TEPH-DRO (mg/kg)
COGCC standards for soil (mg/kg) ⁽¹⁾			0.17	85	100	175	
N01@5	12/10/15	5	<0.0020	<0.0050	<0.0050	<0.0050	110
S01@5	12/10/15	5	<0.0020	<0.0050	<0.0050	<0.0050	1700
E01@5	12/10/15	5	<0.0020	<0.0050	<0.0050	0.041	<50
W01@5	12/10/15	5	<0.0020	<0.0050	0.024	<0.0050	480
SP01	12/10/15	-	0.0091	0.13	0.020	0.69	250
N02@5	12/10/15	5	<0.0020	<0.0050	<0.0050	<0.0050	<50
E02@5	12/10/15	5	<0.0020	<0.0050	<0.0050	<0.0050	63
W02@5	12/10/15	5	<0.0020	<0.0050	<0.0050	<0.0050	<50
S02@6	12/10/15	6	<0.0020	<0.0050	<0.0050	<0.0050	<50
B02@10	12/10/15	10	<0.0020	<0.0050	<0.0050	<0.0050	<50
B03@10	12/10/15	10	<0.0020	<0.0050	<0.0050	<0.0050	<50
B01@9	12/10/15	9	<0.0020	<0.0050	<0.0050	<0.0050	<50
B04@10	12/11/15	10	<0.0020	<0.0050	<0.0050	<0.0050	<50
B05@11	12/11/15	11	<0.0020	<0.0050	<0.0050	<0.0050	<50

Notes:

1. Standards for soil are taken from 2 CCR 404-1, Table 910-1, effective February 1, 2014.

COGCC = Colorado Oil and Gas Conservation Commission

(<) = Analytical result is less than the indicated laboratory reporting limit.

TEPH - DRO = Total extractable petroleum hydrocarbons - diesel range organics

mg/kg = Milligrams per kilogram.

ft. bgs = Feet below ground surface.

BOLD = Analytical result is in exceedance of COGCC Table 910-1 soil standards.

**ATTACHMENT A
LABORATORY
ANALYTICAL REPORTS**

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

December 17, 2015

Josh Carlisle
Extraction Oil & Gas
570 17th St. Suite 550
Denver, CO 80202
RE: FCR MD 1-1

Enclosed are the results of analyses for samples received by Summit Scientific on 12/10/15 18:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in blue ink, appearing to read "Michelle Clements", with a stylized flourish at the end.

Michelle Clements For Paul Shrewsbury
President



Extraction Oil & Gas
570 17th St. Suite 550
Denver CO, 80202

Project: FCR MD 1-1

Project Number: [none]
Project Manager: Josh Carlisle

Reported:
12/17/15 14:55

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
N01@5'	1512095-01	Soil	12/10/15 10:28	12/10/15 18:00
S01@5'	1512095-02	Soil	12/10/15 10:32	12/10/15 18:00
E01@5'	1512095-03	Soil	12/10/15 10:29	12/10/15 18:00
W01@5'	1512095-04	Soil	12/10/15 10:31	12/10/15 18:00
SP01	1512095-05	Soil	12/10/15 10:33	12/10/15 18:00
N02@5'	1512095-06	Soil	12/10/15 11:03	12/10/15 18:00
E02@5'	1512095-07	Soil	12/10/15 11:22	12/10/15 18:00
W02@5'	1512095-08	Soil	12/10/15 11:34	12/10/15 18:00
S02@6'	1512095-09	Soil	12/10/15 11:50	12/10/15 18:00
B02@10'	1512095-10	Soil	12/10/15 12:18	12/10/15 18:00
B03@10'	1512095-11	Soil	12/10/15 12:52	12/10/15 18:00
B01@9'	1512095-12	Soil	12/10/15 13:15	12/10/15 18:00

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil & Gas
570 17th St. Suite 550
Denver CO, 80202

Project: FCR MD 1-1

Project Number: [none]
Project Manager: Josh Carlisle

Reported:
12/17/15 14:55

Summit Scientific

1512095.1

741 Corporate Circle Suite 1 • Golden, Colorado 80401
303-277-9310 • 303-374-5933 Fax

Page 1 of 2

Client: Extraction Oil & Gas	Project Manager: Ryan Bruner
Address:	E-Mail: rbruner@tasman-geo.com
City/State/Zip:	Project Name: FCR MD 1-1
Phone: Fax:	Project Number:
Sampler Name: Kate Forsmark	

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative				Matrix		Analyze For:				Special Instructions			
				HCl	HNO ₃	None	Other (Specify)	Groundwater	Soil	Air - Canister Serial #	Other (Specify)	BTEX 8260	DRO 8015				
NO10'S	12/10/15	1028	1			X											
SO10'S		1032										X	X				
EO10'S		1029															
WO10'S		1031															
SP01		1033															
NO20'S		1103															
EO20'S		1122															
WO20'S		1134															
SO20'S		1150															
BO20'S		1218															
Relinquished by: <i>[Signature]</i>		Date/Time: 12/10/15 1530	Received by: <i>[Signature]</i>		Date/Time: 12-10-15 18:00	Turn Around Time (Check)			Notes:								
Relinquished by: <i>[Signature]</i>		Date/Time: 12-10-15 18:15	Received by:		Date/Time:	Same Day	24 Hours	48 Hours	72 Hours	Standard							
Relinquished by:		Date/Time:	Received in Lab by:		Date/Time:	Sample Integrity:											
						Temperature Upon Receipt:											
						Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>											

www.s2scientific.com

Summit Scientific

[Signature]

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil & Gas
 570 17th St. Suite 550
 Denver CO, 80202

Project: FCR MD 1-1

Project Number: [none]
 Project Manager: Josh Carlisle

Reported:
 12/17/15 14:55

Summit Scientific

1512095.2

741 Corporate Circle Suite 1 • Golden, Colorado 80401
 303-277-9310 • 303-374-5933 Fax

Page 2 of 2

Client: Extraction Oil & Gas
 Address: _____
 City/State/Zip: _____
 Phone: _____ Fax: _____
 Sampler Name: Kate Forsmark

Project Manager: Ryan Bruner
 E-Mail: rbruner@tasman-geo.com
 Project Name: FCR MD 1-1
 Project Number: _____

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative				Matrix			Analyze For:				Special Instructions		
				HCl	HNO ₃	None	Other (Specify)	Groundwater	Soil	Air - Canister Serial #	Other (Specify)	BTEX 8280	DRO 8015				
Bo3@10'	12/10/15	1252	1			X											
Bo1@9'	↓	1315	1			X											
Relinquished by: <i>[Signature]</i>		Date/Time: 12/10/15 1530		Received by: <i>[Signature]</i>		Date/Time: 12-10-15 14:00		Turn Around Time (Check)				Notes:					
Relinquished by: <i>[Signature]</i>		Date/Time: 12-10-15 18:15		Received by:		Date/Time:		Same Day <input type="checkbox"/> 72 Hours <input type="checkbox"/>				Standard <input checked="" type="checkbox"/>					
Relinquished by:		Date/Time:		Received in Lab by:		Date/Time:		Sample Integrity:				Temperature Upon Receipt:					
								Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>									

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Summit Scientific

[Signature]

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil & Gas
570 17th St. Suite 550
Denver CO, 80202

Project: FCR MD 1-1

Project Number: [none]
Project Manager: Josh Carlisle

Reported:
12/17/15 14:55

N01@5'
1512095-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 12/10/15 10:28

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	110	50	mg/kg	1	1512132	12/14/15	12/14/15	8015M	

Date Sampled: 12/10/15 10:28

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		120 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 12/10/15 10:28

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1512140	12/15/15	12/17/15	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	

Date Sampled: 12/10/15 10:28

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		91.9 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		106 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.4 %	21-167		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil & Gas
570 17th St. Suite 550
Denver CO, 80202

Project: FCR MD 1-1

Project Number: [none]
Project Manager: Josh Carlisle

Reported:
12/17/15 14:55

S01@5'
1512095-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 12/10/15 10:32

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	1700	50	mg/kg	1	1512132	12/14/15	12/14/15	8015M	

Date Sampled: 12/10/15 10:32

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		189 %	30-150		"	"	"	"	S-02

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 12/10/15 10:32

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1512140	12/15/15	12/17/15	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	12/17/15	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	12/17/15	"	

Date Sampled: 12/10/15 10:32

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		86.5 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		202 %	21-167		"	"	"	"	S-02

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil & Gas
570 17th St. Suite 550
Denver CO, 80202

Project: FCR MD 1-1

Project Number: [none]
Project Manager: Josh Carlisle

Reported:
12/17/15 14:55

E01@5'
1512095-03 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/10/15 10:29**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1512132	12/14/15	12/14/15	8015M	

Date Sampled: **12/10/15 10:29**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		112 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/10/15 10:29**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1512140	12/15/15	12/17/15	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.041	0.0050	"	"	"	"	"	"	

Date Sampled: **12/10/15 10:29**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		84.5 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		112 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		147 %	21-167		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil & Gas
570 17th St. Suite 550
Denver CO, 80202

Project: FCR MD 1-1

Project Number: [none]
Project Manager: Josh Carlisle

Reported:
12/17/15 14:55

W01@5'
1512095-04 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/10/15 10:31**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	480	50	mg/kg	1	1512132	12/14/15	12/14/15	8015M	

Date Sampled: **12/10/15 10:31**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>		118 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/10/15 10:31**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1512140	12/15/15	12/17/15	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.024	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	

Date Sampled: **12/10/15 10:31**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		92.3 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		96.5 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		113 %	21-167		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil & Gas
570 17th St. Suite 550
Denver CO, 80202

Project: FCR MD 1-1

Project Number: [none]
Project Manager: Josh Carlisle

Reported:
12/17/15 14:55

SP01

1512095-05 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/10/15 10:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	250	50	mg/kg	1	1512132	12/14/15	12/14/15	8015M	

Date Sampled: **12/10/15 10:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>		118 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/10/15 10:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.0091	0.0018	mg/kg	1	1512140	12/15/15	12/17/15	EPA 8260B	
Toluene	0.13	0.0045	"	"	"	"	"	"	
Ethylbenzene	0.020	0.0045	"	"	"	"	"	"	
Xylenes (total)	0.69	0.0045	"	"	"	"	"	"	

Date Sampled: **12/10/15 10:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		75.2 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		144 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		215 %	21-167		"	"	"	"	S-02

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil & Gas
570 17th St. Suite 550
Denver CO, 80202

Project: FCR MD 1-1

Project Number: [none]
Project Manager: Josh Carlisle

Reported:
12/17/15 14:55

N02@5'
1512095-06 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 12/10/15 11:03

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1512132	12/14/15	12/14/15	8015M	

Date Sampled: 12/10/15 11:03

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		112 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 12/10/15 11:03

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1512140	12/15/15	12/16/15	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	

Date Sampled: 12/10/15 11:03

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		90.8 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		90.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		91.7 %	21-167		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil & Gas
570 17th St. Suite 550
Denver CO, 80202

Project: FCR MD 1-1

Project Number: [none]
Project Manager: Josh Carlisle

Reported:
12/17/15 14:55

E02@5'
1512095-07 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 12/10/15 11:22

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	63	50	mg/kg	1	1512132	12/14/15	12/14/15	8015M	

Date Sampled: 12/10/15 11:22

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		107 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 12/10/15 11:22

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1512140	12/15/15	12/16/15	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	

Date Sampled: 12/10/15 11:22

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		92.6 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		92.5 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		89.8 %	21-167		"	"	"	"	

Summit Scientific

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Extraction Oil & Gas
570 17th St. Suite 550
Denver CO, 80202

Project: FCR MD 1-1

Project Number: [none]
Project Manager: Josh Carlisle

Reported:
12/17/15 14:55

W02@5'
1512095-08 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 12/10/15 11:34

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1512132	12/14/15	12/15/15	8015M	

Date Sampled: 12/10/15 11:34

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		108 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 12/10/15 11:34

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1512140	12/15/15	12/16/15	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	

Date Sampled: 12/10/15 11:34

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		102 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		91.4 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.2 %	21-167		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil & Gas
570 17th St. Suite 550
Denver CO, 80202

Project: FCR MD 1-1

Project Number: [none]
Project Manager: Josh Carlisle

Reported:
12/17/15 14:55

S02@6'
1512095-09 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 12/10/15 11:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1512132	12/14/15	12/15/15	8015M	

Date Sampled: 12/10/15 11:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		111 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 12/10/15 11:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1512140	12/15/15	12/17/15	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	

Date Sampled: 12/10/15 11:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		96.0 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.6 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.3 %	21-167		"	"	"	"	

Summit Scientific

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Extraction Oil & Gas
570 17th St. Suite 550
Denver CO, 80202

Project: FCR MD 1-1

Project Number: [none]
Project Manager: Josh Carlisle

Reported:
12/17/15 14:55

B02@10'
1512095-10 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 12/10/15 12:18

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1512132	12/14/15	12/15/15	8015M	

Date Sampled: 12/10/15 12:18

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		116 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 12/10/15 12:18

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1512140	12/15/15	12/16/15	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	

Date Sampled: 12/10/15 12:18

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		95.1 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		88.7 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.0 %	21-167		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil & Gas
570 17th St. Suite 550
Denver CO, 80202

Project: FCR MD 1-1

Project Number: [none]
Project Manager: Josh Carlisle

Reported:
12/17/15 14:55

B03@10'
1512095-11 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 12/10/15 12:52

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1512132	12/14/15	12/15/15	8015M	

Date Sampled: 12/10/15 12:52

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		117 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 12/10/15 12:52

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1512140	12/15/15	12/16/15	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	

Date Sampled: 12/10/15 12:52

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		93.9 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		93.0 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.5 %	21-167		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil & Gas
570 17th St. Suite 550
Denver CO, 80202

Project: FCR MD 1-1

Project Number: [none]
Project Manager: Josh Carlisle

Reported:
12/17/15 14:55

B01@9'
1512095-12 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 12/10/15 13:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1512132	12/14/15	12/15/15	8015M	

Date Sampled: 12/10/15 13:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		109 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 12/10/15 13:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1512140	12/15/15	12/16/15	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	

Date Sampled: 12/10/15 13:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		95.1 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		90.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.8 %	21-167		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil & Gas
570 17th St. Suite 550
Denver CO, 80202

Project: FCR MD 1-1

Project Number: [none]
Project Manager: Josh Carlisle

Reported:
12/17/15 14:55

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD		Notes
		Limit	Units		Result	%REC	Limits	RPD	Limit		

Batch 1512132 - EPA 3550A

Blank (1512132-BLK1)				Prepared & Analyzed: 12/14/15							
C10-C28 (DRO)	ND	50	mg/kg								
Surrogate: <i>o</i> -Terphenyl	14.0		"	12.5		112	30-150				
LCS (1512132-BS1)				Prepared & Analyzed: 12/14/15							
C10-C28 (DRO)	517	50	mg/kg	499		104	73-134				
Surrogate: <i>o</i> -Terphenyl	14.3		"	12.5		114	30-150				
Matrix Spike (1512132-MS1)				Source: 1512095-01		Prepared & Analyzed: 12/14/15					
C10-C28 (DRO)	607	50	mg/kg	463	107	108	50-148				
Surrogate: <i>o</i> -Terphenyl	17.1		"	11.6		147	30-150				
Matrix Spike Dup (1512132-MSD1)				Source: 1512095-01		Prepared & Analyzed: 12/14/15					
C10-C28 (DRO)	608	50	mg/kg	474	107	106	50-148	0.0792		13	
Surrogate: <i>o</i> -Terphenyl	13.9		"	11.9		117	30-150				

Summit Scientific

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Extraction Oil & Gas
570 17th St. Suite 550
Denver CO, 80202

Project: FCR MD 1-1

Project Number: [none]
Project Manager: Josh Carlisle

Reported:
12/17/15 14:55

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

Batch 1512140 - EPA 5030 Soil MS

Blank (1512140-BLK1)

Prepared: 12/15/15 Analyzed: 12/16/15

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.0050	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0337</i>		<i>"</i>	<i>0.0400</i>		<i>84.2</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0380</i>		<i>"</i>	<i>0.0400</i>		<i>94.9</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0366</i>		<i>"</i>	<i>0.0400</i>		<i>91.6</i>	<i>21-167</i>			

LCS (1512140-BS1)

Prepared: 12/15/15 Analyzed: 12/16/15

Benzene	0.0880	0.0020	mg/kg	0.100		88.0	58-130			
Toluene	0.0887	0.0050	"	0.100		88.7	61-134			
Ethylbenzene	0.0989	0.0050	"	0.0992		99.7	74-139			
m,p-Xylene	0.195	0.010	"	0.200		97.8	73-137			
o-Xylene	0.0939	0.0050	"	0.0984		95.4	73-141			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0320</i>		<i>"</i>	<i>0.0400</i>		<i>80.0</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0382</i>		<i>"</i>	<i>0.0400</i>		<i>95.5</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0369</i>		<i>"</i>	<i>0.0400</i>		<i>92.2</i>	<i>21-167</i>			

Matrix Spike (1512140-MS1)

Source: 1512095-06

Prepared: 12/15/15 Analyzed: 12/16/15

Benzene	0.0897	0.0020	mg/kg	0.0943	ND	95.1	30-131			
Toluene	0.0893	0.0050	"	0.0943	ND	94.7	30-134			
Ethylbenzene	0.0993	0.0050	"	0.0936	ND	106	22-153			
m,p-Xylene	0.195	0.010	"	0.188	ND	104	10-159			
o-Xylene	0.0950	0.0050	"	0.0928	ND	102	31-151			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0361</i>		<i>"</i>	<i>0.0377</i>		<i>95.8</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0362</i>		<i>"</i>	<i>0.0377</i>		<i>96.0</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0351</i>		<i>"</i>	<i>0.0377</i>		<i>93.1</i>	<i>21-167</i>			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil & Gas
570 17th St. Suite 550
Denver CO, 80202

Project: FCR MD 1-1

Project Number: [none]
Project Manager: Josh Carlisle

Reported:
12/17/15 14:55

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source	%REC			RPD	Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

Batch 1512140 - EPA 5030 Soil MS

Matrix Spike Dup (1512140-MSD1)	Source: 1512095-06			Prepared: 12/15/15		Analyzed: 12/16/15				
Benzene	0.0921	0.0020	mg/kg	0.0990	ND	93.0	30-131	2.66	34	
Toluene	0.0929	0.0050	"	0.0990	ND	93.8	30-134	3.91	30	
Ethylbenzene	0.106	0.0050	"	0.0982	ND	108	22-153	6.61	24	
m,p-Xylene	0.208	0.010	"	0.198	ND	105	10-159	6.34	68	
o-Xylene	0.0992	0.0050	"	0.0974	ND	102	31-151	4.38	38	
Surrogate: 1,2-Dichloroethane-d4	0.0358		"	0.0396		90.4	23-173			
Surrogate: Toluene-d8	0.0363		"	0.0396		91.6	20-170			
Surrogate: 4-Bromofluorobenzene	0.0367		"	0.0396		92.5	21-167			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil & Gas
570 17th St. Suite 550
Denver CO, 80202

Project: FCR MD 1-1

Project Number: [none]
Project Manager: Josh Carlisle

Reported:
12/17/15 14:55

Notes and Definitions

- S-02 The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

December 17, 2015

Ryan Bruner
Extraction Oil & Gas
570 17th St. Suite 550
Denver, CO 80202
RE: FCR MD 1-1

Enclosed are the results of analyses for samples received by Summit Scientific on 12/11/15 16:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in blue ink, appearing to read "Michelle Clements". The signature is fluid and cursive, with a prominent initial "M" and a stylized "C".

Michelle Clements For Paul Shrewsbury
President



Extraction Oil & Gas
570 17th St. Suite 550
Denver CO, 80202

Project: FCR MD 1-1

Project Number: [none]
Project Manager: Ryan Bruner

Reported:
12/17/15 14:58

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B04@10'	1512104-01	Soil	12/11/15 10:28	12/11/15 16:00
B05@11'	1512104-02	Soil	12/11/15 10:42	12/11/15 16:00

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil & Gas
 570 17th St. Suite 550
 Denver CO, 80202

Project: FCR MD 1-1

Project Number: [none]
 Project Manager: Ryan Bruner

Reported:
 12/17/15 14:58

Summit Scientific

1572104

741 Corporate Circle Suite 1 • Golden, Colorado 80401
 303-277-9310 • 303-374-5933 Fax

Client: Extraction Oil & Gas Page 1 of 1
 Address: _____
 City/State/Zip: _____ Project Manager: Ryan Bruner
 Phone: _____ Fax: _____ E-Mail: rbruner@tasman-geo.com
 Sampler Name: Kate Forsmark Project Name: FCR MD 1-1
 Project Number: _____

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative				Matrix			Analyze For:				Special Instructions	
				HCl	HNO ₃	None	Other (Specify)	Groundwater	Soil	Air - Canister Serial #	Other (Specify)	BTX 8260	DRO 8015			
Bos 2/10	12/11/15	1028	1			X										
Bos 2/11	↓	1042	1			X										
Relinquished by: <u>[Signature]</u>	Date/Time: <u>12/11/15 13:50</u>	Received by: <u>[Signature]</u>	Date/Time: <u>12/11/15 16:00</u>	Turn Around Time (Check)				Notes:								
Relinquished by: <u>[Signature]</u>	Date/Time: <u>12/11/15 16:00</u>	Received by: <u>[Signature]</u>	Date/Time: _____	Same Day	<input type="checkbox"/>	72 Hours	<input type="checkbox"/>	Standard	<input checked="" type="checkbox"/>	M ice						
Relinquished by: _____	Date/Time: _____	Received in Lab by: _____	Date/Time: _____	24 Hours	<input type="checkbox"/>	48 Hours	<input type="checkbox"/>	Sample Integrity:								
				Temperature Upon Receipt: <u>8.20C</u>												
				Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>												

www.s2scientific.com

Summit Scientific

[Signature]

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Extraction Oil & Gas
570 17th St. Suite 550
Denver CO, 80202

Project: FCR MD 1-1

Project Number: [none]
Project Manager: Ryan Bruner

Reported:
12/17/15 14:58

B04@10'
1512104-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 12/11/15 10:28

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1512132	12/14/15	12/15/15	8015M	

Date Sampled: 12/11/15 10:28

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		111 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 12/11/15 10:28

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0018	mg/kg	1	1512140	12/15/15	12/16/15	EPA 8260B	
Toluene	ND	0.0044	"	"	"	"	"	"	
Ethylbenzene	ND	0.0044	"	"	"	"	"	"	
Xylenes (total)	ND	0.0044	"	"	"	"	"	"	

Date Sampled: 12/11/15 10:28

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		98.2 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		94.2 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.5 %	21-167		"	"	"	"	

Summit Scientific

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Extraction Oil & Gas
570 17th St. Suite 550
Denver CO, 80202

Project: FCR MD 1-1

Project Number: [none]
Project Manager: Ryan Bruner

Reported:
12/17/15 14:58

B05@11'
1512104-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 12/11/15 10:42

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1512132	12/14/15	12/15/15	8015M	

Date Sampled: 12/11/15 10:42

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		111 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 12/11/15 10:42

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1512140	12/15/15	12/16/15	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	

Date Sampled: 12/11/15 10:42

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		100 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		94.0 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.1 %	21-167		"	"	"	"	

Summit Scientific

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Extraction Oil & Gas
570 17th St. Suite 550
Denver CO, 80202

Project: FCR MD 1-1

Project Number: [none]
Project Manager: Ryan Bruner

Reported:
12/17/15 14:58

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD		Notes
		Limit	Units		Result	%REC	Limits	RPD	Limit		

Batch 1512132 - EPA 3550A

Blank (1512132-BLK1)

Prepared & Analyzed: 12/14/15

C10-C28 (DRO)	ND	50	mg/kg								
<i>Surrogate: o-Terphenyl</i>	14.0		"	12.5		112	30-150				

LCS (1512132-BS1)

Prepared & Analyzed: 12/14/15

C10-C28 (DRO)	517	50	mg/kg	499		104	73-134				
<i>Surrogate: o-Terphenyl</i>	14.3		"	12.5		114	30-150				

Matrix Spike (1512132-MS1)

Source: 1512095-01

Prepared & Analyzed: 12/14/15

C10-C28 (DRO)	607	50	mg/kg	463	107	108	50-148				
<i>Surrogate: o-Terphenyl</i>	17.1		"	11.6		147	30-150				

Matrix Spike Dup (1512132-MSD1)

Source: 1512095-01

Prepared & Analyzed: 12/14/15

C10-C28 (DRO)	608	50	mg/kg	474	107	106	50-148	0.0792	13		
<i>Surrogate: o-Terphenyl</i>	13.9		"	11.9		117	30-150				

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Extraction Oil & Gas
570 17th St. Suite 550
Denver CO, 80202

Project: FCR MD 1-1

Project Number: [none]
Project Manager: Ryan Bruner

Reported:
12/17/15 14:58

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

Batch 1512140 - EPA 5030 Soil MS

Blank (1512140-BLK1)

Prepared: 12/15/15 Analyzed: 12/16/15

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.0050	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0337</i>		<i>"</i>	<i>0.0400</i>		<i>84.2</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0380</i>		<i>"</i>	<i>0.0400</i>		<i>94.9</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0366</i>		<i>"</i>	<i>0.0400</i>		<i>91.6</i>	<i>21-167</i>			

LCS (1512140-BS1)

Prepared: 12/15/15 Analyzed: 12/16/15

Benzene	0.0880	0.0020	mg/kg	0.100		88.0	58-130			
Toluene	0.0887	0.0050	"	0.100		88.7	61-134			
Ethylbenzene	0.0989	0.0050	"	0.0992		99.7	74-139			
m,p-Xylene	0.195	0.010	"	0.200		97.8	73-137			
o-Xylene	0.0939	0.0050	"	0.0984		95.4	73-141			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0320</i>		<i>"</i>	<i>0.0400</i>		<i>80.0</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0382</i>		<i>"</i>	<i>0.0400</i>		<i>95.5</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0369</i>		<i>"</i>	<i>0.0400</i>		<i>92.2</i>	<i>21-167</i>			

Matrix Spike (1512140-MS1)

Source: 1512095-06

Prepared: 12/15/15 Analyzed: 12/16/15

Benzene	0.0897	0.0020	mg/kg	0.0943	ND	95.1	30-131			
Toluene	0.0893	0.0050	"	0.0943	ND	94.7	30-134			
Ethylbenzene	0.0993	0.0050	"	0.0936	ND	106	22-153			
m,p-Xylene	0.195	0.010	"	0.188	ND	104	10-159			
o-Xylene	0.0950	0.0050	"	0.0928	ND	102	31-151			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0361</i>		<i>"</i>	<i>0.0377</i>		<i>95.8</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0362</i>		<i>"</i>	<i>0.0377</i>		<i>96.0</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0351</i>		<i>"</i>	<i>0.0377</i>		<i>93.1</i>	<i>21-167</i>			

Summit Scientific

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Extraction Oil & Gas
 570 17th St. Suite 550
 Denver CO, 80202

Project: FCR MD 1-1

Project Number: [none]
 Project Manager: Ryan Bruner

Reported:
 12/17/15 14:58

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source	%REC			RPD	Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

Batch 1512140 - EPA 5030 Soil MS

Matrix Spike Dup (1512140-MSD1)	Source: 1512095-06			Prepared: 12/15/15		Analyzed: 12/16/15				
Benzene	0.0921	0.0020	mg/kg	0.0990	ND	93.0	30-131	2.66	34	
Toluene	0.0929	0.0050	"	0.0990	ND	93.8	30-134	3.91	30	
Ethylbenzene	0.106	0.0050	"	0.0982	ND	108	22-153	6.61	24	
m,p-Xylene	0.208	0.010	"	0.198	ND	105	10-159	6.34	68	
o-Xylene	0.0992	0.0050	"	0.0974	ND	102	31-151	4.38	38	
Surrogate: 1,2-Dichloroethane-d4	0.0358		"	0.0396		90.4	23-173			
Surrogate: Toluene-d8	0.0363		"	0.0396		91.6	20-170			
Surrogate: 4-Bromofluorobenzene	0.0367		"	0.0396		92.5	21-167			

Summit Scientific

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Extraction Oil & Gas
570 17th St. Suite 550
Denver CO, 80202

Project: FCR MD 1-1

Project Number: [none]
Project Manager: Ryan Bruner

Reported:
12/17/15 14:58

Notes and Definitions

DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference

Summit Scientific

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**ATTACHMENT B
WASTE MANIFEST**

10408216



Buffalo Ridge
11655 CR 59
Keenesburg, CO, 80643
Ph: (303)732-0218

Original
Ticket# 940511

Customer Name	EXTRACTION OIL & GAS EXTRACTION	Carrier	NORTHERN PLAINS	NORTHERN PLAINS
Ticket Date	12/29/2015	Vehicle#	77	Volume
Payment Type	Credit Account	Container		
Manual Ticket#		Driver		
Hauling Ticket#		Check#		
Route		Billing #	0000518	
State Waste Code		Gen EPA ID		
Manifest	238393	Grid		
Destination				
PO	Various per Driver			
Profile	122375CO (CONTAMINATED SOIL)			
Generator	125-EXTRACTION OIL & GAS VARIOUS CO			

In	Time	Scale	Operator	Inbound	Gross
12/29/2015	15:08:34	Scale 1	shaddock		64960 lb
Out	12/29/2015		shaddock		26740 lb
	15:08:34				38220 lb
					19.11

WASTE MANAGEMENT

Comments

Hours: M-F 7AM-4PM, Sat: 8AM-1PM

Product	LDX	Qty	UOM	Rate	Tax	Amount	Origin
1 Cont Soil Pet-Tons	100	19.11	Tons				
2 FUEL-Fuel Surcharg	100		%				
3 EVF-L-Standard Env	100	1	Load				

Total Tax
Total Ticket

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number
N / A

2. Page 1 of
1

3. Emergency Response Phone
800-424-9300

4. Waste Tracking Number
238393

5. Generator's Name and Mailing Address
EXTRACTION OIL AND GAS
370 17TH STREET SUITE 5300
DENVER CO 80202

Generator's Project Address (if different than mailing address)
VARIOUS LOCATIONS

Generator's Phone: (720) 481-2372

6. Transporter 1: Complete Company Name and Address

Transporter Phone
970 5341015

7. Transporter 2: Complete Company Name and Address

Transporter Phone

8. Designated Disposal Facility Name and Site Address

Buffalo Ridge Landfill
11655 WCR 59
Keenesburg CO 80643

Facility's Phone:

(303) 732-0218

9. Waste Shipping Name, Description, & Profile Number

10. Containers

11. Total Quantity

12. Unit Wt./Vol.

1. NON REGULATED SOLID (CONTAMINATED SOIL)

122375CO

19.11 Tons

2.

13. Regulatory Agency: Colorado Department of Public Health and Environment
4300 Cherry Creek Drive South
Denver, Co 80222-1530

Emergency Notification:
CHEMTREC (800) 424-9300
24-hour Toll Free Number

14. Bill to & Account Number:

Customer Acct #: BR 518 Customer Name: EXTRACTION OIL AND GAS

15. Contractor/Generator Certification:

I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/ placarded, and are in all respects in proper condition for transportation according to applicable national and state governmental regulations.

I hereby certify that the above described waste is not a hazardous waste defined by federal, state or local regulations and does not contain regulated quantities of PCB's or radioactive materials.

Generator's/Officer's Printed/Typed Name

Signature

Month Day Year
DEC 22 2015

16. Transporter Acknowledgement of Receipt of Materials

Transporter 1 Printed/Typed Name

Signature

Month Day Year

Transporter 2 Printed/Typed Name

Signature

Month Day Year
12 29 15

17. Special Handling Instructions

18. Discrepancy Indication Space:

19. Ticket #

940511

Initials of Person noting discrepancy

Signature

Date

20. Management Method/Location

Landfill Monofill Location:

21. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 18

Printed/Typed Name

Signature

Month Day Year