

REM#: 7938
PIT FAC ID#: 292430
DOC# 2452191
DATE: 08/02/2016



75 Suttle Street
Durango, CO 81303
970.247.4220 Phone
970.247.4227 Fax
www.greenanalytical.com

26 July 2011

Linda Spry ORourke
Colorado Oil and Gas Conservation Commission-Rifle
707 Wapiti Court
Rifle, CO 81560
RE: COGCC

Enclosed are the results of analyses for samples received by the laboratory on 07/06/11 13:45. The data to follow was performed, in whole or in part, by a subcontract laboratory with an additional report attached.

If you any any further assistance, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Debbie Zufelt". The signature is written in a cursive, flowing style.

Debbie Zufelt
Reports Manager



Colorado Oil and Gas Conservation Commission-Rifle
707 Wapiti Court
Rifle CO, 81560

Project: COGCC
Project Name / Number: BH-Fed 35-2 pit
Project Manager: Linda Spry ORourke

Reported:
07/26/11 10:07

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH-Fed-35-2	1107023-01	Solid	07/05/11 13:45	07/06/11 13:45

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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Colorado Oil and Gas Conservation Commission-Rifle 707 Wapiti Court Rifle CO, 81560	Project: COGCC Project Name / Number: BH-Fed 35-2 pit Project Manager: Linda Spry ORourke	Reported: 07/26/11 10:07
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BH-Fed-35-2

1107023-01 (Solid)

Analyte	Result	Reporting		Dilution	Analyzed	Method	Notes	Analyst
		Limit	Units					

*** DEFAULT GENERAL METHOD ***

Conductivity	11000		umhos/cm	1	07/25/11	ASA9		DJZ
pH	8.08		[blank]	1	07/25/11	ASA9		DJZ
SAR	12.8		[blank]	1	07/21/11	Calculation		JGS

Total Metals by ICP

Barium	1630	1.00	mg/kg dry	100	07/13/11	6010		JGS
Boron	33.7	30.0	mg/kg dry	100	07/13/11	6010		JGS
Chromium	9.64	5.00	mg/kg dry	100	07/13/11	6010		JGS
Copper	9.03	2.00	mg/kg dry	100	07/13/11	6010		JGS
Nickel	13.9	5.00	mg/kg dry	100	07/13/11	6010		JGS
Zinc	47.9	5.00	mg/kg dry	100	07/13/11	6010		JGS

Dissolved Metals by ICP

Calcium	451	10.0	mg/kg dry	10	07/13/11	200.7		JGS
Magnesium	457	10.0	mg/kg dry	10	07/13/11	200.7		JGS
Sodium	1610	10.0	mg/kg dry	10	07/13/11	200.7		JGS

Total Metals by ICPMS

Antimony	ND	0.0500	mg/kg dry	100	07/22/11	6020		JGS
Arsenic	3.84	0.0500	mg/kg dry	100	07/22/11	6020		JGS
Cadmium	0.431	0.0100	mg/kg dry	100	07/22/11	6020		JGS
Lead	9.83	0.0500	mg/kg dry	100	07/22/11	6020		JGS
Selenium	0.684	0.100	mg/kg dry	100	07/22/11	6020		JGS
Silver	0.0747	0.0100	mg/kg dry	100	07/22/11	6020		JGS

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Colorado Oil and Gas Conservation Commission-Rifle	Project: COGCC	
707 Wapiti Court	Project Name / Number: BH-Fed 35-2 pit	Reported:
Rifle CO, 81560	Project Manager: Linda Spry ORourke	07/26/11 10:07

BH-Fed-35-2

1107023-01 (Solid)

Analyte	Result	Reporting			Analyzed	Method	Notes	Analyst
		Limit	Units	Dilution				

Total Mercury

Mercury	ND	0.0990	mg/kg dry	495	07/14/11	7471		JGS
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Colorado Oil and Gas Conservation Commission-Rifle 707 Wapiti Court Rifle CO, 81560	Project: COGCC Project Name / Number: BH-Fed 35-2 pit Project Manager: Linda Spry ORourke	Reported: 07/26/11 10:07
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Total Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B107093 - EPA 3050

Blank (B107093-BLK1)

Prepared & Analyzed: 07/13/11

Barium	ND	0.010	mg/kg dry						
Boron	ND	0.300	mg/kg dry						
Chromium	ND	0.050	mg/kg dry						
Copper	ND	0.020	mg/kg dry						
Nickel	ND	0.050	mg/kg dry						
Zinc	ND	0.050	mg/kg dry						

LCS (B107093-BS1)

Prepared & Analyzed: 07/13/11

Barium	178	1.00	mg/kg dry	200		89.1	85-115		
Boron	367	30.0	mg/kg dry	400		91.6	85-115		
Chromium	185	5.00	mg/kg dry	200		92.7	85-115		
Copper	383	2.00	mg/kg dry	400		95.7	85-115		
Nickel	177	5.00	mg/kg dry	200		88.7	85-115		
Zinc	174	5.00	mg/kg dry	200		86.9	85-115		

LCS Dup (B107093-BSD1)

Prepared & Analyzed: 07/13/11

Barium	181	1.00	mg/kg dry	200		90.3	85-115	1.40	20
Boron	370	30.0	mg/kg dry	400		92.6	85-115	1.06	20
Chromium	188	5.00	mg/kg dry	200		93.8	85-115	1.20	20
Copper	387	2.00	mg/kg dry	400		96.7	85-115	1.09	20
Nickel	180	5.00	mg/kg dry	200		89.8	85-115	1.27	20
Zinc	176	5.00	mg/kg dry	200		87.9	85-115	1.20	20

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Colorado Oil and Gas Conservation Commission-Rifle	Project: COGCC	
707 Wapiti Court	Project Name / Number: BH-Fed 35-2 pit	Reported:
Rifle CO, 81560	Project Manager: Linda Spry ORourke	07/26/11 10:07

Total Metals by ICPMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B107177 - EPA 3050M

Blank (B107177-BLK1) Prepared & Analyzed: 07/22/11

Antimony	ND	0.0500	mg/kg dry							
Arsenic	ND	0.0500	mg/kg dry							
Cadmium	ND	0.0100	mg/kg dry							
Lead	ND	0.0500	mg/kg dry							
Selenium	ND	0.100	mg/kg dry							
Silver	ND	0.0100	mg/kg dry							

LCS (B107177-BS1) Prepared & Analyzed: 07/22/11

Antimony	0.0506	0.0005	mg/kg dry	0.0500		101	85-115			
Arsenic	0.0492	0.0005	mg/kg dry	0.0500		98.4	85-115			
Cadmium	0.0492	0.0001	mg/kg dry	0.0500		98.3	85-115			
Lead	0.0453	0.0005	mg/kg dry	0.0500		90.6	85-115			
Selenium	0.250	0.0010	mg/kg dry	0.250		99.8	85-115			
Silver	0.0460	0.0001	mg/kg dry	0.0500		92.0	85-115			

LCS Dup (B107177-BSD1) Prepared & Analyzed: 07/22/11

Antimony	0.0493	0.0005	mg/kg dry	0.0500		98.6	85-115	2.51	20	
Arsenic	0.0488	0.0005	mg/kg dry	0.0500		97.6	85-115	0.755	20	
Cadmium	0.0483	0.0001	mg/kg dry	0.0500		96.6	85-115	1.77	20	
Lead	0.0449	0.0005	mg/kg dry	0.0500		89.9	85-115	0.807	20	
Selenium	0.250	0.0010	mg/kg dry	0.250		100	85-115	0.177	20	
Silver	0.0449	0.0001	mg/kg dry	0.0500		89.7	85-115	2.58	20	

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Debbie Zufelt, Reports Manager

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Colorado Oil and Gas Conservation Commission-Rifle 707 Wapiti Court Rifle CO, 81560	Project: COGCC Project Name / Number: BH-Fed 35-2 pit Project Manager: Linda Spry ORourke	Reported: 07/26/11 10:07
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Total Mercury - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B107105 - EPA 7471

Blank (B107105-BLK1)										
Prepared & Analyzed: 07/14/11										
Mercury	ND	0.0002	mg/kg dry							
LCS (B107105-BS1)										
Prepared & Analyzed: 07/14/11										
Mercury	1.09	0.100	mg/kg dry	1.00		109	85-115			
LCS Dup (B107105-BSD1)										
Prepared & Analyzed: 07/14/11										
Mercury	1.07	0.100	mg/kg dry	1.00		107	85-115	2.31	20	

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Debbie Zufelt, Reports Manager

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Colorado Oil and Gas Conservation Commission-Rifle
707 Wapiti Court
Rifle CO, 81560

Project: COGCC
Project Name / Number: BH-Fed 35-2 pit
Project Manager: Linda Spry ORourke

Reported:
07/26/11 10:07

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
*Results reported on as received basis unless designated as dry.
- RPD Relative Percent Difference
- LCS Laboratory Control Sample (Blank Spike)

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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July 20, 2011

Debbie Zufelt

Green Analytical Laboratories

75 Suttle Street

Durango, CO 81303

RE: COGCC

Enclosed are the results of analyses for samples received by the laboratory on 07/07/11 10:50.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Celey D. Keene

Lab Director/Quality Manager

Analytical Results For:

 Green Analytical Laboratories
 Debbie Zufelt
 75 Suttle Street
 Durango CO, 81303
 Fax To: (970) 247-4227

 Received: 07/07/2011
 Reported: 07/20/2011
 Project Name: COGCC
 Project Number: 1107-023-01
 Project Location: NOT GIVEN

 Sampling Date: 07/05/2011
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: BH-FED-35-2 (H101401-01)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/11/2011	ND	1.96	97.8	2.00	1.46	
Toluene*	<0.050	0.050	07/11/2011	ND	2.19	109	2.00	4.11	
Ethylbenzene*	<0.050	0.050	07/11/2011	ND	2.45	122	2.00	10.8	
Total Xylenes*	<0.150	0.150	07/11/2011	ND	7.30	122	6.00	11.3	

Surrogate: 4-Bromofluorobenzene (PIL) 109 % 70-130

PAH 8270C		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Naphthalene	<0.040	0.040	07/19/2011	ND	0.011	110	0.0100	0.272	
2-Methylnaphthalene	<0.040	0.040	07/19/2011	ND	0.011	106	0.0100	1.61	
1-Methylnaphthalene	<0.040	0.040	07/19/2011	ND					
Acenaphthylene	<0.040	0.040	07/19/2011	ND	0.011	111	0.0100	7.55	
Acenaphthene	<0.040	0.040	07/19/2011	ND	0.011	107	0.0100	2.59	
Fluorene	<0.040	0.040	07/19/2011	ND	0.011	106	0.0100	0.752	
Phenanthrene	<0.040	0.040	07/19/2011	ND	0.011	108	0.0100	0.918	
Anthracene	<0.040	0.040	07/19/2011	ND	0.011	110	0.0100	1.71	
Carbazole	<0.040	0.040	07/19/2011	ND	0.011	115	0.0100	2.07	
Fluoranthene	<0.040	0.040	07/19/2011	ND	0.011	115	0.0100	4.02	
Pyrene	<0.040	0.040	07/19/2011	ND	0.011	111	0.0100	8.63	
Benzo[a]anthracene	<0.040	0.040	07/19/2011	ND	0.010	101	0.0100	21.0	
Chrysene	<0.040	0.040	07/19/2011	ND	0.011	107	0.0100	2.32	
Benzo[b]fluoranthene	<0.040	0.040	07/19/2011	ND	0.011	108	0.0100	9.06	

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 Green Analytical Laboratories
 Debbie Zufelt
 75 Suttle Street
 Durango CO, 81303
 Fax To: (970) 247-4227

 Received: 07/07/2011
 Reported: 07/20/2011
 Project Name: COGCC
 Project Number: 1107-023-01
 Project Location: NOT GIVEN

 Sampling Date: 07/05/2011
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: BH-FED-35-2 (H101401-01)

PAH 8270C		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzo[k]flouranthene	<0.040	0.040	07/19/2011	ND	0.010	96.7	0.0100	6.12	
Benzo[a]pyrene	<0.040	0.040	07/19/2011	ND	0.010	105	0.0100	4.19	
Indeno[1,2,3-cd]pyrene	<0.040	0.040	07/19/2011	ND	0.013	125	0.0100	7.15	
Dibenz[a,h]anthracene	<0.040	0.040	07/19/2011	ND	0.013	128	0.0100	0.472	
Benzo[g,h,i]perylene	<0.040	0.040	07/19/2011	ND	0.012	116	0.0100	3.04	

Surrogate: Nitrobenzene-d5 52.2 % 35-114

Surrogate: 2-Fluorobiphenyl 55.4 % 43-116

Surrogate: Terphenyl-dl4 106 % 33-141

TPH 8015M		mg/kg		Analyzed By: ab					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/09/2011	ND	188	94.0	200	5.70	
DRO >C10-C28	10.0	10.0	07/09/2011	ND	192	95.8	200	2.13	
EXT DRO >C28-C35	<10.0	10.0	07/09/2011	ND					

Surrogate: 1-Chlorooctane 91.2 % 70-130

Surrogate: 1-Chlorooctadecane 103 % 70-130

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Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager



Cardinal
CHAIN OF CUSTODY RECORD

Page ____ of ____

Client: GREEN ANALYTICAL
 Contact: DEBBIE ZUFELT
 Address: 75 SUTTLE ST
DURANGO, CO 81303
 Phone Number: 970-247-4220
 FAX Number: 970-247-4227

NOTES:
 1) Ensure proper container packaging.
 2) Ship samples promptly following collection.
 3) Designate Sample Reject Disposition.
 PO# GA 11-154
 Project Name: COGCC

Table 1. - Matrix Type
 1 = Surface Water, 2 = Ground Water
 3 = Soil/Sediment, 4 = Rinsate, 5 = Oil
 6 = Waste, 7 = Other (Specify) _____

FOR GAL USE ONLY
 GAL JOB #

Samplers Signature: Linda Spay O'Rourke
PLEASE CALL WITH ANY QUESTIONS

Lab Name: Green Analytical Laboratories (970) 247-4220 FAX (970) 247-4227		Analyses Required										Comments			
Address: 75 Suttle Street, Durango, CO 81303															
Sample ID	Collection		Miscellaneous			Preservative(s)					TPH ext 80/5 BTEX 802/1 PAH				
	Date	Time	Collected by: (Init.)	Matrix Type From Table 1	No. of Containers	Sample Filtered ? Y/N	Unpreserved (Ice Only)	HNO3	HCL	H2SO4			NAOH	Other (Specify)	
1. BH-Fed-35-2 H101401-	07-05-11	1345		3	2		X								1107-023-01
2.															
3.															
4.															sample back material (worst case)
5.															
6.															
7.															
8.															
9.															
10.															
Relinquished by: <u>Kelsie Teel</u>			Date: <u>07-06-11</u>		Time: <u>1600</u>		Received by: <u>Chly Keene</u>			Date: <u>7/7/11</u>		Time: <u>10:50</u>			
Relinquished by:			Date:		Time:		Received by:			Date:		Time:			

01
AB

1.5°C #26

* Sample Reject: [] Return [] Dispose [] Store (30 Days)