

UNITED STATES OF AMERICA NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	Docket No. 40-8943-MLA-2
CROW BUTTE RESOURCES, INC.	ASLBP No. 13-926-01-MLA-BD01
(Marsland Expansion Area)	

Hearing Exhibit

Exhibit Number:

Exhibit Title:



Test Report

Client:

PTS Laboratories, Inc.

MI#:

11182

PTS File # 41269; Marsland Core Project Sample Type:

Sediment samples

PO#

11-133

Date:

06.06.11

Contact	Rachel Spitz
Address	PTS Laboratories
	8100 Secura Way
	Santa Fe Springs, CA 90670
E-mail	rspitz@ptsgeolabs.com
Phone	562-347-2500
PO #	11-133
Test Methods	XRD (Bulk & Clay Fraction analysis) (n=8)
Project ID	PTS File # 41269
	Marsland Core Project
Calibration Date	06.06.11
MI Lab Supervisor	Tom the B. Margh
	Timothy B. Murphy

CONDITIONS AND QUALIFICATIONS

Mineralogy, Inc. will endeavor to provide accurate and reliable laboratory measurements of the samples provided by the client. The results of any x-ray diffraction, petrographic or core analysis test are necessarily influenced by the condition and selection of the samples to be analyzed. It should be recognized that geological samples are commonly heterogeneous and lack uniform properties. Mineralogical, geochemical and/or petrographic data obtained for a specific sample provides compositional data pertinent to that specific sampling location. Such "site-specific data" may fail to provide adequate characterization of the range of compositional variability possible within a given project area, thus the "projection" of these laboratory findings and values to adjoining, "untested" areas of the formation or project area is inherently risky, and exceeds the scope of the laboratory work request. Hence, Mineralogy, Inc. shall not assume any liability risk or responsibility for any loss or potential failure associated with the application of "site or sample-specific laboratory data" to "untested" areas of the formation or project area. Unless otherwise directed, the samples selected for analysis will be chosen to reflect a visually representative portion of the bulk sample submitted for analysis. Where provided, the interpretation of x-ray diffraction, petrographic or core analysis results constitutes the best geological judgment of Mineralogy, Inc., and is subject to the sampling limitations described above, and the detection limits inherent to semi-quantitative and/or qualitative mineralogical and microscopic analysis. Mineralogy, Inc. assumes no responsibility nor offers any guarantee of the productivity, suitability or performance of any oil or gas well, hydrocarbon recovery process, dimension stone, and/or ore material based upon the data or conclusions presented in this report.



TABLE I X-RAY DIFFRACTION ANALYSIS

Client: PTS Laboratories, Inc. MI#: 11182
PTS File # 41269; Marsland Core Project Sample Type: Sediment samples PO# 11-133 Date: 06.06.11

X-Ray Diffraction Results

	Sample ID		M1454c	54c			M16	M1624c	
	Run #	Run 1	Run 2	Run 3	Run 4	Run 1	Run 2	Run 4	Run 5
	Lab ID	11182-01	11182-02	11182-03	11182-04	11182-05	11182-06	11182-07	11182-08
Mineral Constituents	Chemical Formula				Relative Ab	Relative Abundance (%)			
Quartz	SiO ₂	15	11	63	29	5	14	54	23
Plagioclase Feldspar	(Na,Ca)AISi ₃ O ₈	o	6 0	4	2	=	10	4	ς
K-Feldspar	KAISi3O8	2	2	6 0	2	22	က	80	4
Calcite	CaCO ₃	47	35	trc		13	-		
Dolomite	(Ca,Mg)(CO ₃) ₂				က			2	
Siderite	FeCO ₃			-					
Pyrite	FeS ₂			-					-
Magnetite	alpha-Fe ₃ O ₄		-	trc		2			
Magnesium Vanadium Oxide	beta-Mg(VO ₃)			2					
Kaolinite	Al ₂ Si ₂ O ₅ (OH) ₄			-	2			tr	2
Chlorite	(Fe,AI,Mg) ₆ (Si,AI) ₄ O ₁₀ (OH) ₈				8		trc		2
Ilite/Mica	KAl ₂ (Si ₃ AlO ₁₀)(OH) ₂	2	2	2	9	S	12	က	80
Mixed-Layered Illite/Smectite	K _{0.5} Al ₂ (Si,Al) ₄ O ₁₀ (OH) ₂ . 2H ₂ O		38	48	48	49	09	28	55
Montmorillonite	Na _{0.3} (AI,Mg) ₂ Si ₄ O ₁₀ (OH) ₂ . xH ₂ O	52							
TOTAL		100	100	100	100	100	100	100	100
% Illite Layers in ML Illite/Smectite	(+/- 5%)		45%	10%	25%	10%	25%	15%	20%

41269 Crow Butte Resources, Inc. PTS File No:

PARTICLE SIZE SUMMARY (METHODOLOGY: ASTM D422/D4464M)

Marsland Core N/A PROJECT NAME: PROJECT NO:

		Median		Particle	Particle Size Distribution, wt. percent	oution, wt.	percent		Silt
		Grain Size			Sand Size				∞ŏ
Sample ID	Depth, ft.	mm	Grave	Coarse	Medium	Fine	Silt	Clay	Clay
M-1454c Run 1	A/N	0.056	0.00	0.00	24.31	18.80	47.25	9.64	56.89
M-1454c Run 2	N/A	0.027	00.00	0.00	8.58	24.41	46.36	20.65	67.01
M-1454c Run 3	N/A	0.075	0.00	0.00	2.74	47.49	29.85	19.92	49.77
M-1454c Run 4	N/A	0.007	0.00	0.00	00:00	0.45	60.15	39.40	99.55
M-1624c Run 1	N/A	0.049	00.00	0.00	7.50	29.12	54.65	8.73	63.38
M-1624c Run 2	N/A	0.065	00.00	0.00	26.37	22.12	34.96	16.54	51.50
M-1624c Run 4	N/A	0.711	00.00	0.00	69.05	14.89	11.56	4.50	16.06
M-1624c Run 5	A/N	0.005	0.00	00.00	0.00	1.28	50.88	47.85	98.72

Particle Size Analysis - ASTM D4464M

Client:

Crow Butte Resources, Inc.

Project: Project No: M | 10

N/A

Marsland Core

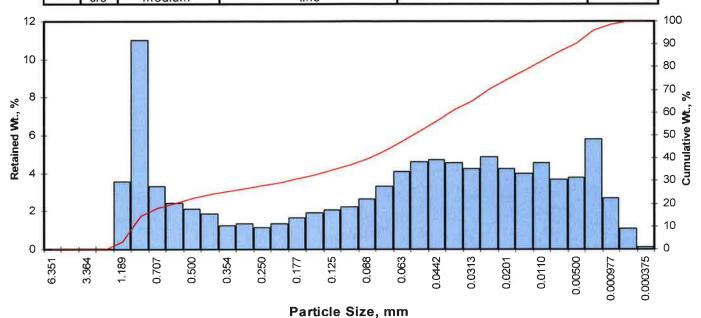
Sample II

PTS File No: Sample ID: 41269 M-1454c Run 1

Depth, ft:

N/A





Ор	ening	Phi of	U.S.	Sample Weight,	Increment Weight,	Cumulativ Weight,
Inches	Millimeters	Screen	No.	grams	percent	percent
0.2500	6.351	-2.67	1/4	0.00	0.00	0.00
0.1873	4.757	-2.25	4	0.00	0.00	0.00

Inches	Millimeters	Screen	No.	grams	percent	percent
0.2500	6.351	-2.67	1/4	0.00	0.00	0.00
0.1873	4.757	-2.25	4	0.00	0.00	0,.00
0.1324	3.364	-1.75	6	0.00	0.00	0.00
0.0787	2.000	-1.00	10	0.00	0.00	0.00
0.0468	1.189	-0.25	16	3,58	3.58	3,58
0.0331	0.841	0.25	20	11.00	11.00	14.59
0.0278	0.707	0.50	25	3,31	3.31	17.90
0.0234	0.595	0.75	30	2.42	2.42	20.32
0.0197	0.500	1.00	35	2.14	2.14	22.46
0.0166	0.420	1,25	40	1,85	1.85	24.31
0.0139	0.354	1,50	45	1.22	1.22	25.53
0.0117	0.297	1.75	50	1.34	1.34	26.87
0.0098	0.250	2,00	60	1.13	1.13	28.00
0.0083	0.210	2,25	70	1.36	1.36	29.36
0.0070	0.177	2.50	80	1.63	1.63	30.99
0.0059	0.149	2.75	100	1,89	1.89	32.88
0.0049	0.125	3.00	120	2.06	2.06	34.94
0.0041	0.105	3.25	140	2.23	2.23	37.17
0.0035	0.088	3.50	170	2.62	2.62	39.80
0,0029	0.074	3.75	200	3.31	3.31	43.11
0.0025	0.063	4.00	230	4.09	4.09	47.20
0.0021	0.053	4.25	270	4.59	4.59	51.79
0.00174	0.0442	4.50	325	4.73	4.73	56.52
0.00146	0.0372	4.75	400	4.54	4.54	61.06
0.00123	0.0313	5.00	450	4.23	4.23	65.30
0.000986	0.0250	5.32	500	4.87	4.87	70,17
0.000790	0.0201	5.64	635	4.23	4.23	74.40
0.000615	0.0156	6.00		3.98	3.98	78.38
0.000435	0.0110	6.50		4.53	4.53	82.91
0.000308	0.00781	7.00		3.67	3.67	86.58
0.000197	0.00500	7.65		3.77	3,77	90,36
0,000077	0.00195	9.00		5.78	5.78	96.14
0.000038	0.000977	10.00		2.69	2.69	98.83
0,000019	0.000488	11.00		1.08	1.08	99.91
0.000015	0.000375	11.38		0.09	0.09	100.00

Cumula	tive Weight	Percent grea	ater than
Weight	Phi	Parti	cle Size
percent	Value	Inches	Millimeters
5	-0.19	0.0448	1,137
10	0.04	0.0383	0.972
16	0.36	0.0307	0.781
25	1,39	0.0150	0.381
40	3.52	0.0034	0.087
50	4.15	0.0022	0.056
60	4.69	0.0015	0.039
75	5.69	0.0008	0.019
84	6.65	0.0004	0.010
90	7.58	0.0002	0.005
95	8.73	0.0001	0.002

Trask	Inman	Folk-Ward
4.15	4.15	4.15
0.0022	0.0022	0.0022
0.056	0.056	0.056
2.32	3.50	3,72
0.0079	0.0035	0.0030
0.200	0.088	0.076
4.443	3.146	2.924
1.526	-0.207	-0.090
0.187	0.418	0.849
	4.15 0.0022 0.056 2.32 0.0079 0.200 4.443 1.526	4.15 4.15 0.0022 0.0022 0.056 0.056 2.32 3.50 0.0079 0.0035 0.200 0.088 4.443 3.146 1.526 -0.207

Grain Size Description	Fine sand
(ASTM-USCS Scale)	(based on Mean from Trask)

Description	Retained on Sieve #	Weight Percent
Gravel	4	0.00
Coarse Sand	10	0.00
Medium Sand	40	24.31
Fine Sand	200	18.80
Silt	>0.005 mm	47.25
Clay	<0.005 mm	9.64
	Total	100

TOTALS

100.00

100.00

Particle Size Analysis - ASTM D4464M

Client:

Crow Butte Resources, Inc.

Project:

Marsland Core

Project No:

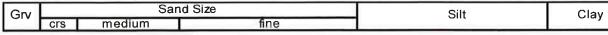
N/A

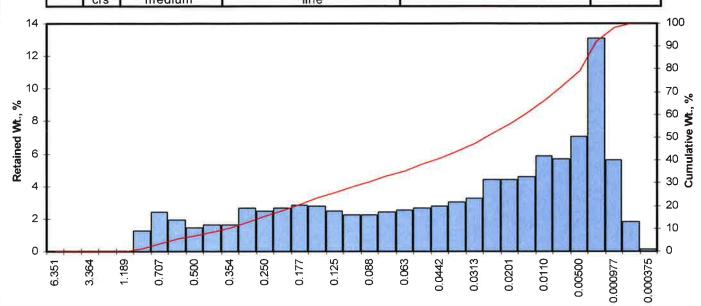
PTS File No: Sample ID:

M-1454c Run 2

Depth, ft:

N/A





Particle Size, mm

				Sample	Increment	Cumulative
Ope	ening	Phi of	U.S.	Weight,	Weight,	Weight,
Inches	Millimeters	Screen	No.	grams	percent	percent
0.2500	6,351	-2,67	1/4	0.00	0.00	0.00
0.1873	4.757	-2,25	4	0.00	0.00	0.00
0.1324	3.364	-1.75	6	0.00	0.00	0.00
0.0787	2.000	-1.00	10	0.00	0,00	0.00
0.0468	1.189	-0.25	16	0.00	0.00	0.00
0.0331	0.841	0.25	20	1.24	1.24	1.24
0.0278	0.707	0.50	25	2.40	2.40	3.64
0.0234	0.595	0.75	30	1.92	1.92	5.56
0,0197	0.500	1.00	35	1.42	1,42	6.98
0.0166	0.420	1.25	40	1.60	1.60	8.58
0.0139	0.354	1.50	45	1.64	1.64	10.22
0.0117	0.297	1:75	50	2.63	2.63	12.85
0.0098	0.250	2.00	60	2.46	2.46	15.31
0.0083	0.210	2.25	70	2.67	2.67	17.98
0.0070	0.177	2.50	80	2.82	2.82	20.80
0.0059	0.149	2.75	100	2.77	2.77	23.57
0.0049	0.125	3.00	120	2.49	2.49	26.06
0.0041	0.105	3.25	140	2.26	2.26	28.32
0.0035	0.088	3.50	170	2.26	2.26	30,58
0.0029	0.074	3.75	200	2.41	2.41	32.99
0.0025	0.063	4.00	230	2.55	2.55	35.54
0.0021	0.053	4.25	270	2.63	2.63	38.17
0.00174	0.0442	4.50	325	2,80	2.80	40.97
0.00146	0.0372	4.75	400	3.04	3,04	44.01
0.00123	0.0313	5.00	450	3.28	3.28	47.29
0.000986	0.0250	5.32	500	4.40	4.40	51.69
0.000790	0.0201	5.64	635	4.43	4.43	56.12
0.000615	0.0156	6.00		4.61	4,61	60.73
0.000435	0.0110	6.50		5.86	5.86	66.59
0.000308	0.00781	7.00		5.69	5.69	72.28
0.000197	0.00500	7.65		7.07	7.07	79.35
0.000077	0.00195	9.00		13.10	13.10	92.45
0.000038	0.000977	10.00		5,63	5.63	98.08
0.000019	0.000488	11.00		1,79	1.79	99.87
0.000015	0.000375	11.38		0.13	0.13	100.00
TOTALS				100.00	100.00	100.00

Cumula	tive Weight I	Percent great	ater than
Weight	Phi	Parti	cle Size
percent	Value	Inches	Millimeters
5	0.68	0.0246	0.625
10	1.47	0.0142	0.362
16	2.06	0.0094	0.239
25	2.89	0.0053	0.135
40	4.41	0.0018	0.047
50	5.20	0.0011	0.027
60	5.94	0.0006	0.016
75	7.25	0.0003	0.007
84	8.13	0.0001	0.004
90	8.75	0.0001	0.002
95	9.45	0.0001	0.001

Measure	Trask	Inman	Folk-Ward
Median, phi	5.20	5.20	5.20
Median, in.	0.0011	0.0011	0.0011
Median, mm	0.027	0.027	0,027
Mean, phi	3,82	5.10	5.13
Mean, in.	0.0028	0.0012	0.0011
Mean, mm	0.071	0.029	0.029
Sorting	4.523	3.031	2.845
Skewness	1.091	-0.034	-0.032
Kurtosis	0.178	0.448	0.826
Grain Size De	escription		Silt

Description	Retained on Sieve #	Weight Percent
Gravel	4	0.00
Coarse Sand	10	0.00
Medium Sand	40	8.58
Fine Sand	200	24.41
Silt	>0.005 mm	46.36
Clay	<0.005 mm	20.65
	Total	100

(ASTM-USCS Scale)

(based on Mean from Trask)

Particle Size Analysis - ASTM D4464M

Client:

Crow Butte Resources, Inc.

Project:

Marsland Core

N/A

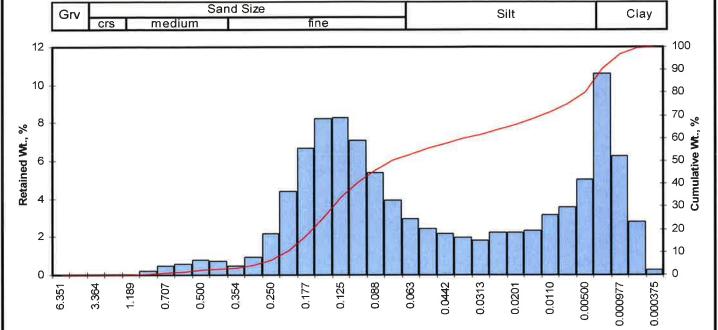
Project No:

PTS File No: Sample ID:

Depth, ft:

M-1454c Run 3

N/A



Particle Si	ze, mm
-------------	--------

				Sample	Increment	
Оре	ening	Phi of	U.S.	Weight,	Weight,	Weight,
Inches	Millimeters	Screen	No.	grams	percent	percent
0.2500	6.351	-2.67	1/4	0.00	0.00	0.00
0.1873	4.757	-2,25	4	0.00	0.00	0.00
0.1324	3,364	-1.75	6	0.00	0.00	0.00
0.0787	2.000	-1.00	10	0.00	0.00	0.00
0.0468	1,189	-0.25	16	0.00	0.00	0.00
0.0331	0.841	0.25	20	0.23	0.23	0.23
0.0278	0,707	0.50	25	0.47	0.47	0.70
0.0234	0.595	0.75	30	0.59	0.59	1.29
0.0197	0.500	1.00	35	0.75	0.75	2.04
0.0166	0.420	1.25	40	0.70	0.70	2.74
0.0139	0.354	1.50	45	0.45	0.45	3.19
0.0117	0.297	1.75	50	0.94	0.94	4,13
0.0098	0.250	2.00	60	2.16	2.16	6.29
0.0083	0.210	2.25	70	4.38	4.38	10.67
0_0070	0.177	2.50	80	6.68	6.68	17.35
0.0059	0.149	2,75	100	8.23	8.23	25,59
0.0049	0.125	3.00	120	8,27	8.27	33,86
0.0041	0.105	3.25	140	7.07	7.07	40.93
0.0035	0.088	3.50	170	5.38	5.38	46.31
0.0029	0.074	3.75	200	3.92	3.92	50.23
0.0025	0.063	4.00	230	2,97	2.97	53.20
0.0021	0.053	4.25	270	2.45	2.45	55.65
0.00174	0.0442	4.50	325	2.16	2.16	57.81
0.00146	0.0372	4.75	400	1,94	1.94	59.75
0.00123	0.0313	5.00	450	1.81	1.81	61.56
0.000986	0.0250	5.32	500	2.24	2.24	63.80
0.000790	0.0201	5.64	635	2.21	2.21	66.01
0.000615	0.0156	6.00		2.32	2,32	68.33
0.000435	0.0110	6.50		3.13	3.13	71.46
0.000308	0.00781	7.00		3.58	3,58	75.05
0.000197	0.00500	7.65		5.03	5.03	80.08
0.000077	0.00195	9.00		10.60	10.60	90,68
0.000038	0.000977	10.00		6.28	6,28	96.96
0.000019	0.000488	11.00		2.80	2.80	99.76
0.000015	0.000375	11.38		0.24	0.24	100.00
TOTALS				100.00	100.00	100.00

Cumula	Cumulative Weight Percent greater than				
Weight	Phi	Particle Size			
percent	Value	Inches	Millimeters		
5	1.85	0.0109	0.277		
10	2,21	0,0085	0.216		
16	2.45	0.0072	0.183		
25	2.73	0.0059	0.150		
40	3.22	0.0042	0.108		
50	3.74	0.0030	0.075		
60	4,78	0.0014	0.036		
75	6.99	0.0003	0.008		
84	8.15	0.0001	0.004		
90	8.91	0.0001	0.002		
95	9.69	0.0000	0.001		

Measure	Trask	Inman	Folk-Ward
Median, phi	3.74	3.74	3.74
Median, in.	0.0030	0.0030	0.0030
Median, mm	0.075	0.075	0.075
Mean, phi	3.66	5.30	4.78
Mean, in.	0.0031	0.0010	0.0014
Mean, mm	0.079	0.025	0.036
Sorting	4.379	2.849	2.612
Skewness	0.458	0.549	0.534
Kurtosis	0.334	0.376	0.754
Grain Size De	escription		Fine sand

Grain Size Description	n	Fine sand
(ASTM-USCS Scale)	(based on M	lean from Trask)

Description	Retained	Weight
	on Sieve #	Percent
Gravel	4	0.00
Coarse Sand	10	0.00
Medium Sand	40	2.74
Fine Sand	200	47.49
Silt	>0.005 mm	29,85
Clay	<0.005 mm	19.92
	Total	100

Particle Size Analysis - ASTM D4464M

Client:

Crow Butte Resources, Inc.

Project:

Marsland Core

Project No:

N/A

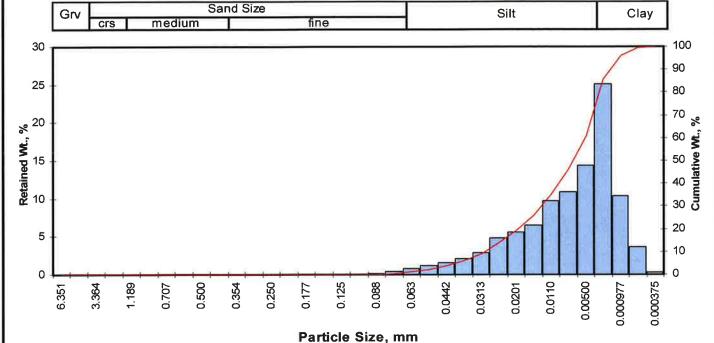
PTS File No:

41269

Sample ID:

M-1454c Run 4 N/A

Depth, ft:



0		Dhi of	11.6	Sample	Increment	Cumulative
	ening	Phi of	U.S.	Weight,	Weight,	Weight,
Inches	Millimeters	Screen	No.	grams	percent	percent
0.2500	6.351	-2.67	1/4	0.00	0.00	0.00
0.1873	4.757	-2.25	4	0.00	0.00	0.00
0.1324	3.364	-1.75	6	0.00	0.00	0.00
0.0787	2.000	-1.00	10	0.00	0.00	0.00
0.0468	1.189	-0.25	16	0.00	0.00	0.00
0.0331	0.841	0.25	20	0.00	0.00	0.00
0.0278	0.707	0.50	25	0.00	0.00	0.00
0.0234	0.595	0.75	30	0.00	0.00	0.00
0.0197	0.500	1.00	35	0.00	0.00	0.00
0.0166	0.420	1.25	40	0.00	0.00	0.00
0.0139	0.354	1.50	45	0.00	0.00	0.00
0.0117	0.297	1.75	50	0.00	0.00	0.00
0.0098	0.250	2.00	60	0.00	0.00	0.00
0.0083	0.210	2.25	70	0.00	0.00	0.00
0.0070	0.177	2.50	80	0.00	0.00	0.00
0.0059	0.149	2.75	100	0.00	0.00	0.00
0.0049	0.125	3.00	120	0.00	0.00	0.00
0.0041	0.105	3.25	140	0.00	0.00	0.00
0.0035	0.088	3.50	170	0.08	0.08	0.09
0.0029	0.074	3.75	200	0.36	0.36	0.45
0.0025	0.063	4.00	230	0.77	0.77	1.22
0.0021	0.053	4.25	270	1.14	1.14	2.36
0.00174	0.0442	4.50	325	1.55	1.55	3.91
0.00146	0.0372	4.75	400	2.10	2.10	6.01
0.00123	0.0313	5.00	450	2.87	2.87	8.88
0.000986	0.0250	5.32	500	4.78	4.78	13.66
0.000790	0.0201	5.64	635	5.62	5.62	19.28
0.000615	0.0156	6.00		6.45	6.45	25.73
0.000435	0.0110	6.50		9.67	9.67	35.40
0.000308	0.00781	7.00		10.90	10.90	46.30
0.000197	0.00500	7.65		14.30	14.30	60.60
0.000077	0.00195	9.00		25.10	25.10	85.70
0.000038	0.000977	10.00		10.40	10.40	96.10
0.000019	0.000488	11.00		3.62	3.62	99.72
0.000015	0.000375	11.38		0.28	0.28	100.00
TOTALS				100.00	100.00	100.00

Cumula	Cumulative Weight Percent greater than				
Weight	Phi	Particle Size			
percent	Value	Inches	Millimeters		
5	4.63	0.0016	0.040		
10	5.08	0.0012	0.030		
16	5.45	0.0009	0.023		
25	5.96	0.0006	0.016		
40	6.71	0.0004	0.010		
50	7.17	0.0003	0.007		
60	7.62	0.0002	0.005		
75	8.42	0.0001	0.003		
84	8.91	0.0001	0.002		
90	9.41	0.0001	0.001		
95	9.89	0.0000	0.001		

Measure	Trask	Inman	Folk-Ward
Median, phi	7.17	7.17	7.17
Median, in.	0.0003	0.0003	0.0003
Median, mm	0.007	0.007	0.007
Mean, phi	6.72	7.18	7.18
Mean, in.	0.0004	0.0003	0.0003
Mean, mm	0.009	0.007	0.007
Sorting	2.348	1.727	1.661
Skewness	0.984	0.008	0.022
Kurtosis	0.233	0.524	0.876
Grain Size Description			Silt

Description	Retained on Sieve #	Weight Percent
Gravel	4	0.00
Coarse Sand	10	0.00
Medium Sand	40	0.00
Fine Sand	200	0.45
Silt	>0.005 mm	60.15
Clay	<0.005 mm	39.40
	Total	100

(ASTM-USCS Scale) (based on Mean from Trask)

Particle Size Analysis - ASTM D4464M

Client:

Crow Butte Resources, Inc.

Project:

Marsland Core

Project No:

N/A

PTS File No:

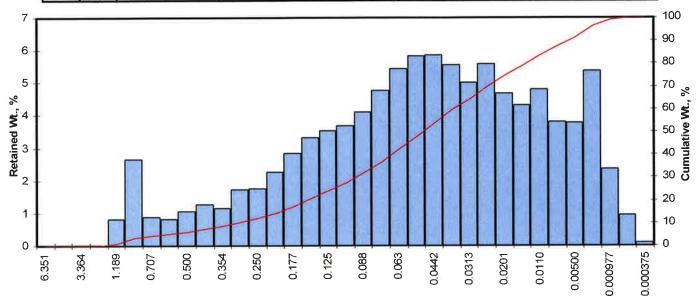
Sample ID:

M-1624c Run 1

Depth, ft:

N/A





Particle Size, mm

				Sample	Increment	
Ope	ening	Phi of	U.S.	Weight,	Weight,	Weight,
Inches	Millimeters	Screen	No.	grams	percent	percent
0.2500	6,351	-2.67	1/4	0.00	0.00	0.00
0.1873	4.757	-2.25	4	0.00	0.00	0.00
0.1324	3.364	-1,75	6	0.00	0.00	0.00
0.0787	2.000	-1.00	10	0.00	0.00	0.00
0.0468	1.189	-0,25	16	0.81	0.81	0.81
0.0331	0.841	0.25	20	2.66	2.66	3.47
0.0278	0.707	0.50	25	0.89	0.89	4.36
0.0234	0.595	0.75	30	0.81	0.81	5.17
0.0197	0.500	1.00	35	1.05	1.05	6.22
0.0166	0,420	1,25	40	1.28	1.28	7.50
0.0139	0.354	1.50	45	1.16	1.16	8.66
0.0117	0.297	1.75	50	1.72	1.72	10.38
0.0098	0.250	2.00	60	1.76	1.76	12.14
0.0083	0.210	2.25	70	2.25	2.25	14,39
0.0070	0.177	2.50	80	2.84	2.84	17,23
0.0059	0.149	2.75	100	3.32	3.32	20,54
0.0049	0.125	3.00	120	3.52	3.52	24.06
0.0041	0.105	3.25	140	3.69	3.69	27.75
0.0035	0.088	3.50	170	4.10	4.10	31.85
0.0029	0.074	3.75	200	4.77	4.77	36.62
0.0025	0.063	4.00	230	5.44	5.44	42.06
0.0021	0.053	4.25	270	5.83	5.83	47_89
0.00174	0.0442	4.50	325	5.87	5.87	53.75
0.00146	0.0372	4.75	400	5.54	5.54	59.29
0.00123	0.0313	5.00	450	5.02	5.02	64.31
0.000986	0.0250	5.32	500	5.58	5,58	69.89
0.000790	0.0201	5.64	635	4.69	4.69	74.58
0.000615	0.0156	6.00		4.33	4.33	78.91
0.000435	0.0110	6.50		4.81	4.81	83.72
0.000308	0,00781	7,00		3.79	3.79	87.50
0.000197	0.00500	7.65		3,77	3,77	91.27
0.000077	0,00195	9.00		5.38	5.38	96.65
0.000038	0.000977	10.00		2.34	2:34	98.99
0.000019	0.000488	11.00		0.93	0.93	99.92
0.000015	0.000375	11.38		0.08	0.08	100.00
TOTALS				100.00	100.00	100.00

Cumula	Cumulative Weight Percent greater than					
Weight	Phi	Phi Particle Size Value Inches Millimet		Phi Particle	cle Size	
percent	Value					
5	0.70	0.0243	0.616			
10	1.70	0.0122	0,309			
16	2.39	0.0075	0.191			
25	3.06	0.0047	0.120			
40	3.91	0.0026	0.067			
50	4.34	0,0019	0.049			
60	4.79	0.0014	0.036			
75	5.68	0.0008	0.020			
84	6.54	0.0004	0.011			
90	7.43	0.0002	0.006			
95	8.58	0.0001	0.003			

Measure	Trask	Inman	Folk-Ward
Median, phi	4.34	4.34	4.34
Median, in.	0.0019	0.0019	0.0019
Median, mm	0.049	0.049	0.049
Mean, phi	3,84	4.46	4.42
Mean, in.	0.0027	0,0018	0,0018
Mean, mm	0.070	0.045	0.047
Sorting	2,472	2,073	2.231
Skewness	0.980	0.060	0,068
Kurtosis 0.165		0.902	1,238
Grain Size Do		(based on N	Silt (lean from Trask)

Description	Retained on Sieve #	Weight Percent
Gravel	4	0.00
Coarse Sand	10	0.00
Medium Sand	40	7:50
Fine Sand	200	29.12
Silt	>0.005 mm	54.65
Clay	<0.005 mm	8.73
	Total	100

Particle Size Analysis - ASTM D4464M

Client:

Crow Butte Resources, Inc.

Project:

0

6.351

Marsland Core

Project No:

N/A

1.189

0.707

3.364

PTS File No:

41269

Sample ID:

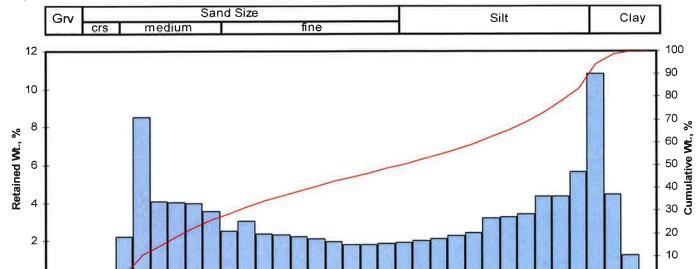
M-1624c Run 2

0.000375

0.000977

Depth, ft:

N/A



Particle Size, mm

0.088

0.063

0.125

0.177

0.0442

0.0313

0.0201

				Sample	Increment	Cumulative
Ope	ening	Phi of	U.S.	Weight,	Weight,	Weight,
Inches	Millimeters	Screen	No.	grams	percent	percent
0.2500	6.351	-2,67	1/4	0.00	0.00	0.00
0.1873	4.757	-2.25	4	0.00	0.00	0.00
0.1324	3,364	-1.75	6	0.00	0.00	0.00
0.0787	2.000	-1.00	10	0.00	0.00	0.00
0.0468	1.189	-0.25	16	2.23	2.23	2.23
0.0331	0.841	0.25	20	8.51	8.51	10.74
0.0278	0.707	0.50	25	4.07	4.07	14.81
0.0234	0,595	0.75	30	4.04	4.04	18.85
0.0197	0.500	1.00	35	3.97	3.97	22.82
0.0166	0.420	1.25	40	3.55	3.55	26.37
0.0139	0.354	1.50	45	2.54	2.54	28.91
0.0117	0.297	1.75	50	3.04	3.04	31.95
0.0098	0.250	2.00	60	2.40	2.40	34.35
0.0083	0.210	2.25	70	2.31	2.31	36.66
0.0070	0,177	2,50	80	2,24	2.24	38.91
0.0059	0.149	2.75	100	2.14	2.14	41.05
0.0049	0.125	3,00	120	1.98	1.98	43.03
0.0041	0.105	3.25	140	1.83	1.83	44.86
0.0035	0.088	3.50	170	1.79	1.79	46.65
0.0029	0.074	3.75	200	1_85	1.85	48.50
0.0025	0.063	4.00	230	1.93	1.93	50.43
0.0021	0.053	4.25	270	2.00	2.00	52.43
0.00174	0.0442	4.50	325	2.13	2.13	54.56
0.00146	0.0372	4.75	400	2.28	2,28	56.84
0.00123	0,0313	5.00	450	2.43	2.43	59.27
0.000986	0.0250	5.32	500	3.22	3.22	62.49
0.000790	0,0201	5.64	635	3.24	3.24	65.73
0.000615	0.0156	6.00		3.39	3.39	69.12
0.000435	0.0110	6.50		4.36	4.36	73.48
0.000308	0.00781	7.00		4.35	4.35	77.83
0.000197	0.00500	7.65		5.63	5.63	83.46
0.000077	0.00195	9.00		10.80	10.80	94.26
0.000038	0.000977	10.00		4.44	4.44	98.70
0.000019	0.000488	11.00		1.22	1.22	99,92
0.000015	0.000375	11.38		0.08	0.08	100.00
TOTALS				100.00	100.00	100.00

0.354

0.500

0.250

Cumulative Weight Percent greater than					
Weight	Phi	Particle Size			
percent	Value	Inches	Millimeters		
5	-0.09	0.0418	1.062		
10	0.21	0.0341	0.867		
16	0.57	0.0265	0.672		
25	1.15	0.0177	0.450		
40	2.63	0.0064	0.162		
50	3.94	0.0026	0.065		
60	5.07	0.0012	0.030		
75	6.67	0.0004	0.010		
84	7.71	0.0002	0.005		
90	8.47	0.0001	0.003		
95	9.17	0.0001	0.002		

0.00500

0.0110

Measure	Trask	Inman	Folk-Ward
Median, phi	3.94	3.94	3.94
Median, in.	0.0026	0.0026	0.0026
Median, mm	0.065	0.065	0.065
Mean, phi	2.12	4.14	4.08
Mean, in,	0.0090	0.0022	0.0023
Mean, mm	0.230	0.057	0.059
Sorting	6,777	3.570	3,187
Skewness	1.022	0.056	0.092
Kurtosis	0.255	0.296	0.687

Fine sand
on Mean from Trask)

Description	Retained on Sieve #	Weight Percent
Gravel	4	0.00
Coarse Sand	10	0.00
Medium Sand	40	26.37
Fine Sand	200	22.12
Silt	>0.005 mm	34.96
Clay	<0.005 mm	16.54
	Total	100

Particle Size Analysis - ASTM D4464M

Client:

Crow Butte Resources, Inc.

Project:

Marsland Core

Project No:

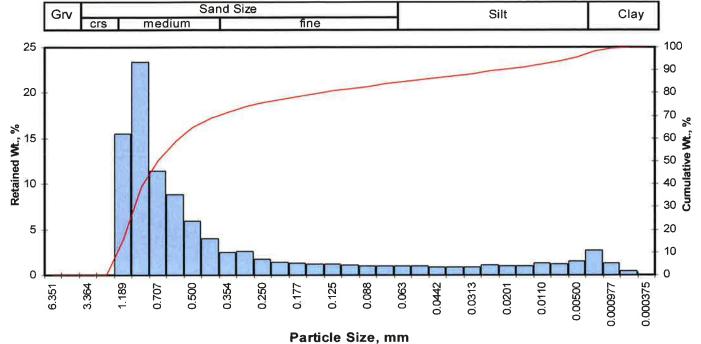
N/A

PTS File No: Sample ID:

41269

Depth, ft:

M-1624c Run 4 N/A



0		Distract		Sample	Increment	Cumulative
	ening	Phi of	U.S.	Weight,	Weight,	Weight,
Inches	Millimeters	Screen	No.	grams	percent	percent
0.2500	6.351	-2.67	1/4	0.00	0.00	0,00
0.1873	4.757	-2.25	4	0.00	0.00	0.00
0.1324	3.364	-1.75	6	0.00	0.00	0.00
0.0787	2.000	-1.00	10	0.00	0,00	0.00
0.0468	1.189	-0.25	16	15.50	15.51	15.51
0.0331	0.841	0.25	20	23.40	23.41	38.92
0.0278	0.707	0.50	25	11,40	11.41	50.33
0.0234	0.595	0.75	30	8.81	8.82	59.14
0.0197	0.500	1.00	35	5.92	5.92	65.07
0.0166	0.420	1.25	40	3.98	3.98	69.05
0.0139	0.354	1.50	45	2.47	2.47	71.52
0.0117	0.297	1.75	50	2.62	2.62	74.14
0.0098	0.250	2.00	60	1.71	1.71	75.85
0.0083	0.210	2.25	70	1.39	1.39	77.24
0.0070	0.177	2.50	80	1.26	1.26	78.51
0.0059	0.149	2.75	100	1.22	1.22	79.73
0.0049	0.125	3.00	120	1.14	1.14	80.87
0.0041	0.105	3.25	140	1.05	1.05	81.92
0.0035	0.088	3,50	170	1.01	1.01	82.93
0.0029	0.074	3.75	200	1.01	1.01	83.94
0.0025	0.063	4.00	230	0.99	0.99	84.93
0.0021	0.053	4.25	270	0.95	0.95	85.88
0.00174	0.0442	4.50	325	0.91	0.91	86.79
0.00146	0.0372	4.75	400	0.88	0.88	87.67
0.00123	0.0313	5.00	450	0.85	0.85	88.52
0.000986	0.0250	5,32	500	1.03	1.03	89,55
0.000790	0.0201	5.64	635	0.99	0.99	90.54
0.000615	0.0156	6.00		1.01	1.01	91.55
0.000435	0.0110	6.50		1.25	1.25	92.80
0.000308	0.00781	7.00		1.21	1.21	94.01
0.000197	0.00500	7.65		1.48	1.48	95.50
0.000077	0.00195	9.00		2.68	2.68	98.18
0.000038	0.000977	10.00		1.33	1.33	99.51
0.000019	0.000488	11.00		0.46	0.46	99.97
0.000015	0.000375	11.38		0.03	0.03	100.00
TOTALS				99.90	100.00	100.00

Cumula	Cumulative Weight Percent greater than						
Weight	Phi	Particle Size					
percent	Value	Inches	Millimeters				
5	-0.76	0.0666	1.691				
10	-0.52	0.0563	1.430				
16	-0.24	0.0465	1.181				
25	-0.05	0.0407	1.033				
40	0.27	0.0326	0.827				
50	0.49	0.0280	0.711				
60	0.79	0.0228	0.580				
75	1.88	0.0107	0.273				
84	3.77	0.0029	0.074				
90	5.46	0.0009	0.023				
95	7.43	0.0002	0.006				

Measure	Trask	Inman	Folk-Ward
Median, phi	0.49	0.49	0.49
Median, in.	0.0280	0.0280	0.0280
Median, mm	0.711	0.711	0.711
Mean, phi	0.61	1.76	1.34
Mean, in.	0.0257	0.0116	0.0156
Mean, mm	0.653	0.295	0.395
Sorting	1.947	2.002	2.242
Skewness	0.747	0.634	0.664
Kurtosis	0.270	1.044	1.745

(ASTM-USCS Scale)	(based on Mea	an from Trask)
Description	Retained	Weight

Description	Retained on Sieve #	Weight Percent
Gravel	4	0.00
Coarse Sand	10	0.00
Medium Sand	40	69.05
Fine Sand	200	14.89
Silt	>0.005 mm	11.56
Clay	<0.005 mm	4.50
	Total	100

Particle Size Analysis - ASTM D4464M

Client:

Crow Butte Resources, Inc.

Project:

Marsland Core

Project No:

N/A

PTS File No:

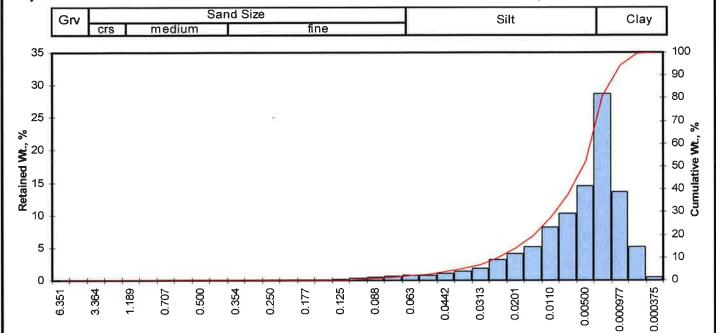
41269

Sample ID:

M-1624c Run 5

Depth, ft:

N/A



Pa	rticle	Siz	e.	mm

				Sample	Increment	Cumulative
Ope	ning	Phi of	U.S.	Weight,	Weight,	Weight,
Inches	Millimeters	Screen	No.	grams	percent	percent
0.2500	6.351	-2.67	1/4	0.00	0.00	0.00
0.1873	4.757	-2.25	4	0.00	0.00	0.00
0.1324	3.364	-1.75	6	0.00	0.00	0.00
0.0787	2.000	-1,00	10	0.00	0.00	0.00
0.0468	1.189	-0.25	16	0.00	0.00	0.00
0.0331	0.841	0.25	20	0.00	0,00	0.00
0.0278	0.707	0.50	25	0.00	0.00	0.00
0.0234	0.595	0.75	30	0.00	0.00	0.00
0.0197	0.500	1.00	35	0.00	0.00	0.00
0.0166	0.420	1.25	40	0.00	0.00	0.00
0.0139	0.354	1.50	45	0.00	0.00	0.00
0.0117	0.297	1.75	50	0.00	0.00	0.00
0.0098	0.250	2.00	60	0.00	0.00	0.00
0.0083	0.210	2.25	70	0.00	0.00	0.00
0.0070	0.177	2,50	80	0.00	0.00	0.00
0.0059	0.149	2.75	100	0.01	0.01	0.01
0.0049	0.125	3.00	120	0.08	0.08	0.09
0.0041	0.105	3,25	140	0.24	0.24	0.33
0.0035	0.088	3.50	170	0.39	0.39	0.72
0.0029	0.074	3.75	200	0.56	0.56	1.28
0.0025	0.063	4.00	230	0.70	0.70	1.98
0.0021	0.053	4.25	270	0.81	0.81	2:79
0.00174	0.0442	4.50	325	0.99	0.99	3.78
0.00146	0.0372	4.75	400	1.31	1.31	5.09
0.00123	0.0313	5.00	450	1.80	1.80	6.89
0.000986	0.0250	5.32	500	3.15	3,15	10.03
0.000790	0.0201	5.64	635	4.11	4.11	14.14
0.000615	0.0156	6.00		5.11	5.11	19.25
0.000435	0.0110	6.50		8.22	8.22	27.47
0.000308	0.00781	7.00	\$11	10.20	10.20	37.66
0.000197	0.00500	7.65		14.50	14.49	52.15
0.000077	0.00195	9.00		28.70	28.69	80.84
0.000038	0,000977	10.00		13.60	13.59	94.43
0.000019	0.000488	11.00		5.15	5.15	99.58
0.000015	0.000375	11.38		0,42	0.42	100.00
TOTALS				100.00	100.00	100.00

Cumula	tive Weight I	Percent grea	ter than
Weight	Phi	Parti	cle Size
percent	Value	Inches	Millimeters
5	4.73	0.0015	0.038
10	5.32	0.0010	0.025
16	5.77	0.0007	0.018
25	6.35	0.0005	0.012
40	7.10	0.0003	0.007
50	7.55	0.0002	0.005
60	8.02	0.0002	0.004
75	8.72	0.0001	0.002
84	9.23	0.0001	0.002
90	9.67	0.0000	0.001
95	10.11	0.0000	0.001

Measure	Trask	Inman	Folk-Ward
Median, phi	7.55	7.55	7.55
Median, in.	0.0002	0.0002	0.0002
Median, mm	0.005	0.005	0,005
Mean, phi	7.10	7.50	7.52
Mean, in.	0.0003	0.0002	0.0002
Mean, mm	0.007	0.006	0.005
Sorting	2,277	1.731	1.680
Skewness	1.008	-0.027	-0.037
Kurtosis	0.207	0.553	0.928
Grain Size De	escription		Silt

Description	Retained on Sieve #	Weight Percent
Gravel	4	0.00
Coarse Sand	10	0.00
Medium Sand	40	0.00
Fine Sand	200	1.28
Silt	>0.005 mm	50.88
Clay	<0.005 mm	47.85
	Total	100

(ASTM-USCS Scale)

(based on Mean from Trask)

CHAIN OF CUSTODY RECORD

PAGE

RE 5 SAMPLE INTEGRITY (CHECK): 5 DAYS NORMAL Note - There is ON ICE COMMENTS TURNAROUND TIME 0 W 4126 PTS QUOTE NO 24 HOURS | 48 HOURS | 72 HOURS | PTS FILE: INTACT OTHER: PO# 4. RECEIVED BY COMPANY DATE Rtmg raphy АТТЕВВЕНG LIMITS, ASTM D4318 LOC: WALKLEY-BLACK GRAIN SIZE DISTRIBUTION, ASTM D422/4464M ANALYSIS REQUEST HYDRAULIC CONDUCTIVITY, EPA9100, API RP40, D6084 АІЯ РЕЙМЕАВІLІТУ, АРІ ЯР40 BULK DEUSITY (DRY), API RP40 of ASTM D2937 SPECIFIC GRAVITY, ASTM D854 POROSITY: EFFECTIVE, ASTM D425M RELINQUISHED POROSITY: TOTAL, API RP40 MOISTURE CONTENT, ASTM D2216 РНОТОГОС: СОЯЕ РНОТОБЯРНУ COMPANY FLUID PROPERTIES PACKAGE DATE CAPILLARITY PACKAGE CCEQUINDEC PROPERTIES PACKAGE PORE FLUID SATURATIONS PACKAGE HYDRAULIC CONDUCTIVITY PACKAGE SOIL PROPERTIES PACKAGE NUMBER OF SAMPLES 69339 308 665 2215 ext 113 PIS Law Inc ZIP CODE DEPTH, FT PHONE NUMBER FAX NUMBER 2341 DATE 4-25-11 2. RECEIVED BY Cameco, Com 665 Gransford, COMPANY Resources TIME 308 RESOUTCES, Inc. 1.00 AM 3/22/11 3/22/11 M-1624 RUNU 3/25/11 3/25/11 3/22/11 DATE 3/22/11 Run! 3/25/11 M-1624c RUNZ 3/25/11 3 الم Wade beins @ Runs RUNZ Both PUNCH L PINS. Runl 36 Crow Booke SAMPLE ID NUMBER ر چ ک Beit Crow By He SAMPLER, SIGNATURE arsland M-1454c M-1454c M- 1454C - 14542 M-1624c 4-20-1 M-1624c PROJECT NAME PROJECT MANA TOE SITE LOCATION Wade COMPANY

PTS Laboratories, Inc. • 8100 Secura Way • Santa Fe Springs, CA 90670 • Phone (562) 347-2500 • Fax (562) 907-3610 PTS Laboratories. Inc. • 4342 W. 12th St. • Houston. TX 77055 • Phone (713) 316-1800 • Fax (713) 316-1882

ANALYTICAL SUMMARY REPORT

June 10, 2011

Crow Butte Resources 86 Crow Butte Rd Crawford, NE 69339

Workorder No.: C11040735
Project Name: Not Indicated

Energy Laboratories, Inc. Casper WY received the following 14 samples for Crow Butte Resources on 4/22/2011 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C11040735-001	M1454c-Run3-Sample 1	03/22/11 0:00	04/22/11	Core	Metals by ICP/ICPMS, Total Digestion, Total Metals for Core Samples Gamma Sample Preparation Uranium by Gamma
C11040735-002	M1454c-Run3-Sample 2	03/22/11 0:00	04/22/11	Core	Same As Above
C11040735-003	M1454c-Run3-Sample 3	03/22/11 0:00	04/22/11	Core	Same As Above
C11040735-004	M1454c-Run3-Sample 4	03/22/11 0:00	04/22/11	Core	Same As Above
C11040735-005	M1454c-Run3-Sample 5	03/22/11 0:00	04/22/11	Core	Same As Above
C11040735-006	M1624c-Run3-Sample 1	03/25/11 0:00	04/22/11	Core	Same As Above
C11040735-007	M1624c-Run3-Sample 2	03/25/11 0:00	04/22/11	Core	Same As Above
C11040735-008	M1624c-Run3-Sample 3	03/25/11 0:00	04/22/11	Core	Same As Above
C11040735-009	M1624c-Run3-Sample 4	03/25/11 0:00	04/22/11	Core	Same As Above
C11040735-010	M1624c-Run4-Sample 1	03/25/11 0:00	0 04/22/11	Core	Same As Above
C11040735-011	M1624c-Run4-Sample 2	03/22/11 0:00	04/22/11	Core	Same As Above
C11040735-012	M1624c-Run4-Sample 3	03/22/11 0:00	04/22/11	Core	Same As Above
C11040735-013	M1624c-Run4-Sample 4	03/22/11 0:00	04/22/11	Core	Same As Above
C11040735-014	M1624c-Run4-Sample 5	03/22/11 0:00	04/22/11	Core	Same As Above

This report was prepared by Energy Laboratories, Inc., 2393 Salt Creek Hwy., Casper, WY 82601. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

Stephanie D. Waldrop
Reporting Supervisor

Helena, MT 877-472-0711 • Billings, MT 800-735-4489 • Casper, WY 888-235-0515
Gillette, WY 866-686-7175 • Rapid City, SD 888-672-1225 • College Station, TX 888-690-2218

CLIENT:

Crow Butte Resources

Project:

Not Indicated

Sample Delivery Group: C11040735

Report Date: 06/10/11

CASE NARRATIVE

ORIGINAL SAMPLE SUBMITTAL(S)

All original sample submittals have been returned with the data package.

SAMPLE TEMPERATURE COMPLIANCE: 4°C (±2°C)

Temperature of samples received may not be considered properly preserved by accepted standards. Samples that are hand delivered immediately after collection shall be considered acceptable if there is evidence that the chilling process has begun.

GROSS ALPHA ANALYSIS

Method 900.0 for gross alpha and gross beta is intended as a drinking water method for low TDS waters. Data provided by this method for non potable waters should be viewed as inconsistent.

SOIL/SOLID SAMPLES

All samples reported on an as received basis unless otherwise indicated.

SUBCONTRACTING ANALYSIS

Subcontracting of sample analyses to an outside laboratory may be required. If so, ENERGY LABORATORIES will utilize its branch laboratories or qualified contract laboratories for this service. Any such laboratories will be indicated within the Laboratory Analytical Report.

BRANCH LABORATORY LOCATIONS

eli-b - Energy Laboratories, Inc. - Billings, MT eli-g - Energy Laboratories, Inc. - Gillette, WY eli-h - Energy Laboratories, Inc. - Helena, MT eli-r - Energy Laboratories, Inc. - Rapid City, SD eli-t - Energy Laboratories, Inc. - College Station, TX

CERTFICATIONS:

USEPA: WY00002; FL-DOH NELAC: E87641; California: 02118CA

Oregon: WY200001; Utah: 3072350515; Virginia: 00057; Washington: C1903

ISO 17025 DISCLAIMER:

The results of this Analytical Report relate only to the items submitted for analysis.

ENERGY LABORATORIES, INC. - CASPER,WY certifies that certain method selections contained in this report meet requirements as set forth by the above accrediting authorities. Some results requested by the client may not be covered under these certifications. All analysis data to be submitted for regulatory enforcement should be certified in the sample state of origin. Please verify ELI's certification coverage by visiting www.energylab.com

ELI appreciates the opportunity to provide you with this analytical service. For additional information and services visit our web page www.energylab.com.

Haiena, MT 677-472-0711 • Billings, MT 886-735-4489 • Caspor, WY 886-235-0515 Gilletta, WY 866-586-7175 • Rapid City, SD 888-672-1225 • Callege Station, TX 866-696-2218

LABORATORY ANALYTICAL REPORT Prepared by Casper, WY Branch

Report Date: 06/10/11

Cheat	Crow Butte Resources	8				Report Date: 06/10/11
Project:	Not Indicated					Date Received: 04/22/11
Workerder:	C11040735				- 1	
	Analysis	ר	0308	D 8	0308	
		Chemical	Chemical	Gamma	Gamma	

			CINCIPAL CANADA	Contraction	Contractor	
	Units	%	%	%	%	
Sample ID	Client Sample ID	Results	Results	Results	Results	
C11040735-001	M1454c-Run3-Sample I	< 0.005	> 0.006	0.038	0.045	
C11040735-002	M1454c-Run3-Sample 2	0.013	0.015	0.109	0.129	
C11040735-003	M1454c-Run3-Sample 3	0.259	0.305	0.370	0.436	
C11040735-004	M1454c-Run3-Sample 4	1,51	1.74	1.04	1.22	
C11040735-005	M1454c-Run3-Sample 5	1.12	1.24	0.715	0.842	
C11040735-006	M1624c-Run3-Sample !	600.0	0.010	0.003	0.004	
C11040735-007	M1624c-Run3-Sample 2	< 0.005	> 0.006	0.004	0.004	
C11040735-008	M1624c-Run3-Sample 3	< 0.005	> 0.006	0.003	0.004	
C11040735-009	M1624c-Run3-Sample 4	< 0.005	> 0.006	0.003	0.004	
C11040735-010	M1624c-Run4-Sample 1	< 0.005	> 0.006	0.004	0,005	
C11040735-011	M1624c-Run4-Sample 2	< 0.005	> 0.006	0.002	0.003	
C11040735-012	M1624c-Run4-Sample 3	0.024	0.028	0.022	0.026	
C11040735-013	M1624c-Run4-Sample 4	< 0.005	> 0.006	0.016	0.019	
C11040735-014	M1624c-Run4-Sample 5	0.032	0.037	0.028	0.033	



QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources

Report Date: 06/10/11

Project: Not Indicated

Work Order: C11040735

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E901.1									Batch:	R146661
Sample ID: LCS-R146661	Lat	ooratory Co	introl Sample			Run: GAM-	NAI_110606A		06/06	/11 12:16
Radium 226		8.00	pCi/g-dry	2.0	92	80	120			
Sample ID: MB-R146661	2 Me	thod Blank				Run: GAM-	NAI_110606A		06/06	/11 12:16
Uranium by Gamma		ND	mg/kg-dry							U
U3O8 by Gamma		ND	mg/kg-dry							U
Sample ID: C11040735-010ADUR	2 Sa	mple Duplic	cate			Run: GAM-	NAI_110606A		06/06	/11 12:16
Uranium by Gamma		43.3	mg/kg-dry	6.0				3.6	20	
U3O8 by Gamma		51.1	mg/kg-dry	7.1				3.6	20	



QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources

Report Date: 06/10/11

Project: Not Indicated

Work Order: C11040735

Analyte		Count	Result	Units	RL	%REC	Low Limit	t I	High Limit	RPD	RPDLImit	C	Qual
Method:	SW6020										Bat	tch:	29668
Sample ID:	MB-29668	Me	thod Blank				Run: ICPM	/IS2	2-C_110429A		04/30	/11	08:13
Uranium			0.02	mg/kg-dry	0.002								
Sample ID:	LCS3-29668	Lat	oratory Co	entrol Sample			Run: ICPM	/IS2	2-C_110429A		04/30	/11	08:34
Uranium			106	mg/kg-dry	0.50	106	54.2		183				
Sample ID:	C11040735-014AMS	3 Sai	mple Matri	Spike			Run: ICPM	/IS2	2-C_110429A		04/30)/11	10:26
Uranium			404	mg/kg-dry	0.50		75		125				Α
Sample ID:	C11040735-014AMSI	D Sai	mple Matri	Spike Duplicate			Run: ICPN	/IS	2-C_110429A		04/30)/11	10:30
Uranium			411	mg/kg-dry	0.50		75		125	1.8	20		Α
Method:	SW6020										Ва	tch:	29668
Sample ID:	MB-29668	Me	thod Blank				Run: ICPN	/IS	2-C_110502A		05/03	3/11	00:52
Uranium			0.2	mg/kg-dry	0.002								
Sample ID:	LCS3-29668	Lai	oratory Co	ontrol Sample			Run: ICPN	NS:	2-C_110502A		05/03	3/11	01:18
Uranium			126	mg/kg-dry	0.50	126	54.2		183				
Sample ID:	C11040735-014AMS	3 Sa	mple Matri	x Spike			Run: ICPN	MS:	2-C_110502A		05/03	3/11	01:50
Uranium			431	mg/kg-dry	0.50		75	j	125				Α
Sample ID:	C11040735-014AMS	D Sa	mple Matri	x Spike Duplicate			Run: ICPN	VIS:	2-C_110502A		05/03	3/11	01:55
Uranium			443	mg/kg-dry	0.50		75	5	125	2.7	20		Α



Energy Laboratories Inc Workorder Receipt Checklist

Corinne Wagner

BL2000\emcpike

Crow Butte Resources

Login completed

Reviewed by:

	C11040735
Date Received:	4/22/2011
Received by:	ckw
Carrier name:	Ground

Reviewed Date:	4/25/2011			Carrier Ground name:	
Shipping container/co	poler 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 pres	sent?	Yes ✓	No 🗌		
Chain of custody sign	ned when relinquished and received?	Yes 🗸	No 🔲		
Chain of custody agre	ees with sample labels?	Yes 🗸	No 🗌		
Samples in proper co	ontainer/bottle?	Yes 🗸	No 🗌		
Sample containers in	tact?	Yes 🔽	No 🗌		
Sufficient sample vol	ume for indicated test?	Yes 🗸	No 🗌		
All samples received	within holding time?	Yes 🗸	No 🔲		
Container/Temp Blar	nk temperature:	N/A°C			
Water - VOA vials ha	ave zero headspace?	Yes 🗌	No 🗌	No VOA vials submitted	
Water - pH acceptab	le upon receipt?	Yes	No 🗌	Not Applicable	

Contact and Corrective Action Comments:

None

Chain of Custody and Analytical Request Record

Page 1 of 2

	ı
<u>•</u>	ı
Ω	ı
75	ı
ö	ı
ö	ı
Ō.	ı
in	l
č	l
~	ı
≍	ı
×	l
6	ı
Ë	ı
E	l
0	ı
=	l
=	ı
_	ŀ
ü	ľ
3	ı
Ε	l
44	ı
as muc	ı
A1	ı
š	ı
₹	l
6	ŧ
E	Ì
٩.	ı
	ı
	ı
롣	ı
2	ı
ā	ı
_	ı
쑀	١
7	ı
	ı
щ	۱
~	۱
-	Ļ
	ĺ
	ı
	1

Company Name: Crow Butte Resources, Inc	e: sources, Inc			Project Name, PWS, Permit, Etc.	Je P	VS, Permit,	Etc.				Sample Origin State: Nebraska	EPA/State Yes □	EPA/State Compliance:	
Report Mail Address: PO Box 169	dress:			Contact Name: Wade Beins	ae:	_ v	Phone/Fax: 308 665 2215 ext 113	15 ext 113			Email: Wade_Beins@cameco .com	Sampler. (Ple Wade Beins	Sampler: (Please Print) Wade Beins	
Invoice Address: PO Box 169				Invoice Contact & Phone: Terri Anderson 308 665 2215 ext 110	son 3	Phone: 08 665 221	5 ext 110				Purchase Order. 5450	Quote/Bo	Quote/Bottle Order.	
Special Rep	Special Report/Formats - ELI must be notified	I must be no	xified		No.	AALYSI	S REGI	ANALYSIS REQUESTED			Contact ELI prior to		APS-C	_
pnor to sam	pnor to sample submittal for the following:	tne tollowing		tainers V S V B C Solids Say <u>O</u> ther					IED	(TAT)			Cooper ID(s):	
DW		A2LA EDD/EDT/Electronic Data)	actronic Data)	n oO to Y A : Selos Selos selossi Reseol <u>s</u> n		wn			HOAT	around	Comments:	2 1	Receipt Temp	
POTW/WWTP		Format: LEVEL IV		edmuN (T əlqmsć Is <u>W</u> 1 <u>iA</u> lolistəgə <u>v</u>	muinenU	insiU na			TA 33	muT len	S	0	On Ice: Yes (No	
		NELAC		7 8	Isoim	sO be			is .	noN	I	Ö =	Custody Seal Y N	10
SAMPLE IT	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	СРег	Clos							Signature Y N	
1 M1454c-R	M1454c-Run3-Sample 1	3/22/11	NA A	တ	×	×							n	
² M1454c-R	M1454c-Run3-Sample 2	3/22/11	₹	တ	×	×							50	-
3 M1454c-R	M1454c-Run3-Sample 3	3/22/11	₹	ဟ	×	×						0 2		-
4 M1454c-R	M1454c-Run3-Sample 4	3/22/11	¥	တ	×	×							7100/	
M1454c-R	M1454c-Run3-Sample 5	3/22/11	₹	Ø	×	×						U 🔊	O 1	-
M1624c-R	M1624c-Run3-Sample 1	3/25/11	AN A	တ	×	×						<u>a</u>	N/I/G	
7 M1624c-R	M1624c-Run3-Sample 2	3/25/11	¥	S	×	×						TT/A	,,,,	
8 M1624c-R	M1624c-Run3-Sample 3	3/25/11	₹	Ø	×	×							10.1 10	
9 M1624c-R	M1624c-Run3-Sample 4	3/25/11	ΑĀ	v	×	×) B (CID40735	
10 M1624c-R	M1624c-Run4-Sample 1	3/25/11	AN A	တ	×	×						<i>[</i>]	7 =1	
Custody	Relinquished by (print):	1/20/11	me:	Signature:	Le.	¥.	Keceive	Received by (print):		Call	Date/ I ime:	Signature:		1
Record	Relinquished by (print):		me:	Signature:	ature:		Kecelve	Received by (print):		Dad	Date/Ilme:	Signature:		
Signed	Sample Disposal: R	Return to Client: Yes	Yes	Lab Disposal:	% 		Received by	ed by aboratory:		5	China: 11 930	Signature:		
	1)							

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested.

This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.

Visit our web site at www.energyjab.com for additional information, downloadable fee schedule, forms, and links.

•		
8		

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

Page 2 of 2

EPA/State Compliance: Yes \[\] No \[\]	Sampler: (Please Print) Wade Beins	Quote/Bottle Order.	r to Shippedby: Chalmittal Cooler Press.		Receipt Temp (H (H °C	On loe: Yes (No	Custody Seal Y N	Signature Y N Match	A	TN	() ()	ISA) AE	AQ)I	RCICIED SY) 8 V	7	Signature:	Signature:	Signature:
Sample Origin State:Nebraska	Email: Wade_Beins@cameco .com	Purchase Order. 5450	Contact ELl prior to RUSH sample submittal	scheduling See	Comments:	S	I											Date/ lime:	Date/Ime:	100/1/00/100 OR
						TA 33														Soratory:
ď	Phone/Fax: 308 665 2215 ext 113	110 ext	REQUESTED			81]												Keceived by (pnnt):	Received by (print):	Received by Labora
Project Name, PWS, Permit, Etc.		Invoice Contact & Phone: Terri Anderson 308 665 2215 ext 110	AMALYSIS			muinsiU nsiU ni	_		×	×	×	×						Signature:	re:	
Project Name	Contact Name: Wade Beins	Invoice Conta Terri Anderso) JE	tainers V S V B VSolids Say <u>O</u> the	r of Cor V A : 9qy ter <u>S</u> oils n <u>B</u> ioss:	e dmu M (T əlqms 18 <u>W</u> 11 <u>A</u> ottstəgə)	⊼ S	MATRIX	S	S	ဟ	တ						Signatu	Signature:	
			xified		ectronic Data)			Collection	NA VA	A'A	ΑΝ	¥ Y						me: 0/11	ë:	
			must be no		A2LA EDD/EDT(Electronic Data)	Format: LEVEL IV	NELAC	Collection Date	3/22/11	3/22/11	3/22/11	3/22/11						Cathon		
e: sources, Inc	dress:	is)	Special Report/Formats – ELI must be notified prior to sample submittal for the following:					SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	M1624c-Run4-Sample 2	M1624c-Run4-Sample 3	M1624c-Run4-Sample 4	M1624c-Run4-Sample 5						Reinquished by (pant):	Relinquished by (print):	i
Company Name: Crow Butte Resources, Inc	Report Mail Address: PO Box 169	Invoice Address: PO Box 169	Special Repo		DW GSSA	☐ POTW/WWTP ☐ State:	Other:	SAMPLE ID (Name, Locat	1 M1624c-Ru	² M1624c-Ru	³ M1624c-Ru		0	1 0	- 00	a	10	Custody	Record	Signed

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.

Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.