ANALYTICAL SUMMARY REPORT

June 20, 2011

Crow Butte Resources
86 Crow Butte Rd
Crawford, NE 69339

Workorder No.: C11040726 Quote ID: C1125 - Crow Butte Uranium

Project Name: Marsland Baseline Samples

Energy Laboratories, Inc. Casper WY received the following 6 samples for Crow Butte Resources on 4/22/2011 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C11040726-001	Well 705	04/20/11 00:00	04/22/11	Aqueous	Metals by ICP/ICPMS, Dissolved Alkalinity QA Calculations Conductivity Sample Filtering Fluoride E300.0 Anions Uranium, Suspended Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Digestion, Total Metals Lead 210, Dissolved Lead 210, Suspended Polonium 210, Dissolved Polonium 210, Suspended Radium 226, Dissolved Radium 226, Suspended Thorium, Isotopic Thorium, Suspended Isotopic Solids, Total Dissolved
C11040726-002	Well 727	04/20/11 00:00	04/22/11	Aqueous	Same As Above
C11040726-003	Well 788	04/20/11 00:00	04/22/11	Aqueous	Same As Above
C11040726-004	BOW-8	04/19/11 00:00	04/22/11	Aqueous	Same As Above
C11040726-005	BOW-7	04/19/11 00:00	04/22/11	Aqueous	Same As Above
C11040726-006	BOW-4A	04/19/11 00:00	04/22/11	Aqueous	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:

CLIENT: Crow Butte Resources
Project: Marsland Baseline Samples
Sample Delivery Group: C11040726

Report Date: 06/20/11

CASE NARRATIVE

PB210 ANALYSIS
The MDC for Pb-210 per RG 4.14 is 1 pCi/L. The current technique can achieve an MDC of about 2 pCi/L to 5 pCi/L if we have sufficient sample to process 1.0 L. This is reported on a sample specific basis. Please consult with your local regulatory agency prior to using these results for compliance purposes.

RADIOCHEMISTRY ANALYSIS
Per client request, results less than MDC (or precision if no MDC), are reported as <MDC (or <precision). Actual instrument results are available by request.

BRANCH LABORATORY SUBCONTRACT ANALYSIS
Tests associated with analyst identified as ELI-CS were subcontracted to Energy Laboratories, 415 Graham Rd., College Station, TX, EPA Number TX01520.

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.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Samples
Lab ID: C11040726-001
Client Sample ID: Well 705

Report Date: 06/20/11
Collection Date: 04/20/11
DateReceived: 04/22/11
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Alkalinity, Total as CaCO3	149	mg/L		1		A2320 B	04/22/11 18:05 / jba
Carbonate as CO3	ND	mg/L		1		A2320 B	04/22/11 18:05 / jba
Bicarbonate as HCO3	182	mg/L		1		A2320 B	04/22/11 18:05 / jba
Calcium	34	mg/L		1		E200.7	05/13/11 13:34 / cp
Chloride	3	mg/L		1		E300.0	04/26/11 10:19 / ljl
Fluoride	0.6	mg/L		0.1		A4500-F C	04/25/11 12:25 / jba
Magnesium	8	mg/L		1		E200.7	05/13/11 13:34 / cp
Nitrogen, Ammonia as N	ND	mg/L		0.05		A4500-NH3 G	04/25/11 12:24 / dc
Nitrogen, Nitrate+Nitrite as N	1.4	mg/L		0.1		E353.2	04/29/11 13:04 / dc
Potassium	4	mg/L		1		E200.7	05/13/11 13:34 / cp
Silica	72.4	mg/L		0.2		E200.7	05/19/11 13:14 / cp
Sodium	19	mg/L		1		E200.7	05/13/11 13:34 / cp
Sulfate	9	mg/L		1		E300.0	04/26/11 10:19 / ljl
PHYSICAL PROPERTIES							
Conductivity @ 25 C	301	umhos/cm		1		A2510 B	04/22/11 16:01 / lr
pH	7.93	s.u.		0.01		A4500-H B	04/22/11 16:01 / lr
Solids, Total Dissolved TDS @ 180 C	234	mg/L		10		A2540 C	04/22/11 16:23 / lmc
METALS - DISSOLVED							
Aluminum	ND	mg/L		0.1		E200.8	04/26/11 21:15 / sml
Arsenic	0.003	mg/L		0.001		E200.8	04/26/11 21:15 / sml
Barium	0.1	mg/L		0.1		E200.8	04/26/11 21:15 / sml
Boron	0.1	mg/L		0.1		E200.7	05/13/11 13:34 / cp
Cadmium	ND	mg/L		0.005		E200.8	04/26/11 21:15 / sml
Chromium	ND	mg/L		0.05		E200.8	04/26/11 21:15 / sml
Copper	ND	mg/L		0.01		E200.8	04/26/11 21:15 / sml
Iron	0.06	mg/L		0.03		E200.7	05/13/11 13:34 / cp
Lead	ND	mg/L		0.001		E200.8	04/26/11 21:15 / sml
Manganese	ND	mg/L		0.01		E200.8	04/26/11 21:15 / sml
Mercury	ND	mg/L		0.001		E200.8	04/26/11 21:15 / sml
Molybdenum	ND	mg/L		0.1		E200.8	04/26/11 21:15 / sml
Nickel	ND	mg/L		0.05		E200.8	04/26/11 21:15 / sml
Selenium	0.001	mg/L		0.001		E200.8	04/26/11 21:15 / sml
Uranium	0.0065	mg/L		0.0003		E200.8	04/26/11 21:15 / sml
Uranium, Activity	4.4E-09	uCi/mL		2.0E-10		E200.8	04/26/11 21:15 / sml
Vanadium	ND	mg/L		0.1		E200.8	04/26/11 21:15 / sml
Zinc	0.10	mg/L		0.01		E200.7	05/13/11 13:34 / cp
METALS - SUSPENDED							
Uranium	ND	mg/L		0.0003		E200.8	04/30/11 07:19 / sml
Uranium, Activity	ND	uCi/mL		2.0E-10		E200.8	04/30/11 07:19 / sml

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Samples
Lab ID: C11040726-001
Client Sample ID: Well 705

Report Date: 06/20/11
Collection Date: 04/20/11
DateReceived: 04/22/11
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES - DISSOLVED							
Lead 210	<0.9	pCi/L	U	0.9		E909.0	06/09/11 21:03 / eli-cs
Lead 210 precision (±)	0.5	pCi/L				E909.0	06/09/11 21:03 / eli-cs
Lead 210 MDC	0.9	pCi/L				E909.0	06/09/11 21:03 / eli-cs
Polonium 210	<0.6	pCi/L	U	0.6		E912.0	05/09/11 09:06 / ep
Polonium 210 precision (±)	0.2	pCi/L				E912.0	05/09/11 09:06 / ep
Polonium 210 MDC	0.6	pCi/L				E912.0	05/09/11 09:06 / ep
Radium 226	0.9	pCi/L		0.1		E903.0	05/09/11 16:29 / trs
Radium 226 precision (±)	0.2	pCi/L				E903.0	05/09/11 16:29 / trs
Radium 226 MDC	0.1	pCi/L				E903.0	05/09/11 16:29 / trs
Thorium 230	<0.2	pCi/L	U	0.2		E908.0	05/20/11 16:22 / dmf
Thorium 230 precision (±)	0.08	pCi/L				E908.0	05/20/11 16:22 / dmf
Thorium 230 MDC	0.2	pCi/L				E908.0	05/20/11 16:22 / dmf
RADIONUCLIDES - SUSPENDED							
Lead 210	<0.9	pCi/L	U	0.9		E909.0	06/11/11 04:11 / eli-cs
Lead 210 precision (±)	0.6	pCi/L				E909.0	06/11/11 04:11 / eli-cs
Lead 210 MDC	0.9	pCi/L				E909.0	06/11/11 04:11 / eli-cs
Polonium 210	<0.2	pCi/L	U	0.2		E912.0	05/05/11 11:49 / ep
Polonium 210 precision (±)	0.09	pCi/L				E912.0	05/05/11 11:49 / ep
Polonium 210 MDC	0.2	pCi/L				E912.0	05/05/11 11:49 / ep
Radium 226	<0.1	pCi/L	U	0.1		E903.0	05/11/11 10:48 / trs
Radium 226 precision (±)	0.05	pCi/L				E903.0	05/11/11 10:48 / trs
Radium 226 MDC	0.1	pCi/L				E903.0	05/11/11 10:48 / trs
Thorium 230	<0.1	pCi/L	U	0.1		E908.0	05/09/11 14:36 / dmf
Thorium 230 precision (±)	0.1	pCi/L				E908.0	05/09/11 14:36 / dmf
Thorium 230 MDC	0.1	pCi/L				E908.0	05/09/11 14:36 / dmf
DATA QUALITY							
A/C Balance (± 5)	-0.304	%				Calculation	05/25/11 07:48 / kbh
Anions	3.37	meq/L				Calculation	05/25/11 07:48 / kbh
Cations	3.35	meq/L				Calculation	05/25/11 07:48 / kbh
Solids, Total Dissolved Calculated	265	mg/L				Calculation	05/25/11 07:48 / kbh
TDS Balance (0.80 - 1.20)	0.880					Calculation	05/25/11 07:48 / kbh

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Samples
Lab ID: C11040726-002
Client Sample ID: Well 727

Report Date: 06/20/11
Collection Date: 04/20/11
DateReceived: 04/22/11
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Alkalinity, Total as CaCO3	159	mg/L		1		A2320 B	04/22/11 18:13 / jba
Carbonate as CO3	ND	mg/L		1		A2320 B	04/22/11 18:13 / jba
Bicarbonate as HCO3	194	mg/L		1		A2320 B	04/22/11 18:13 / jba
Calcium	31	mg/L		1		E200.7	05/13/11 13:46 / cp
Chloride	5	mg/L		1		E300.0	04/26/11 10:34 / ljl
Fluoride	0.5	mg/L		0.1		A4500-F C	04/25/11 12:28 / jba
Magnesium	13	mg/L		1		E200.7	05/13/11 13:46 / cp
Nitrogen, Ammonia as N	ND	mg/L		0.05		A4500-NH3 G	04/25/11 12:26 / dc
Nitrogen, Nitrate+Nitrite as N	1.3	mg/L		0.1		E353.2	04/29/11 13:06 / dc
Potassium	4	mg/L		1		E200.7	05/13/11 13:46 / cp
Silica	78.9	mg/L		0.2		E200.7	05/19/11 13:26 / cp
Sodium	19	mg/L		1		E200.7	05/13/11 13:46 / cp
Sulfate	9	mg/L		1		E300.0	04/26/11 10:34 / ljl
PHYSICAL PROPERTIES							
Conductivity @ 25 C	324	umhos/cm		1		A2510 B	04/22/11 16:03 / lr
pH	8.05	s.u.		0.01		A4500-H B	04/22/11 16:03 / lr
Solids, Total Dissolved TDS @ 180 C	250	mg/L		10		A2540 C	04/22/11 16:24 / lmc
METALS - DISSOLVED							
Aluminum	ND	mg/L		0.1		E200.8	04/26/11 21:22 / sml
Arsenic	0.002	mg/L		0.001		E200.8	04/26/11 21:22 / sml
Barium	ND	mg/L		0.1		E200.8	04/26/11 21:22 / sml
Boron	0.1	mg/L		0.1		E200.7	05/13/11 13:46 / cp
Cadmium	ND	mg/L		0.005		E200.8	04/26/11 21:22 / sml
Chromium	ND	mg/L		0.05		E200.8	04/26/11 21:22 / sml
Copper	ND	mg/L		0.01		E200.8	04/26/11 21:22 / sml
Iron	ND	mg/L		0.03		E200.7	05/13/11 13:46 / cp
Lead	ND	mg/L		0.001		E200.8	04/26/11 21:22 / sml
Manganese	ND	mg/L		0.01		E200.8	04/26/11 21:22 / sml
Mercury	ND	mg/L		0.001		E200.8	04/26/11 21:22 / sml
Molybdenum	ND	mg/L		0.1		E200.8	04/26/11 21:22 / sml
Nickel	ND	mg/L		0.05		E200.8	04/26/11 21:22 / sml
Selenium	0.002	mg/L		0.001		E200.8	04/26/11 21:22 / sml
Uranium	0.0097	mg/L		0.0003		E200.8	04/26/11 21:22 / sml
Uranium, Activity	6.6E-09	uCi/mL		2.0E-10		E200.8	04/26/11 21:22 / sml
Vanadium	ND	mg/L		0.1		E200.8	04/26/11 21:22 / sml
Zinc	0.28	mg/L		0.01		E200.7	05/13/11 13:46 / cp
METALS - SUSPENDED							
Uranium	ND	mg/L		0.0003		E200.8	04/30/11 07:40 / sml
Uranium, Activity	ND	uCi/mL		2.0E-10		E200.8	04/30/11 07:40 / sml

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Samples
Lab ID: C11040726-002
Client Sample ID: Well 727

Report Date: 06/20/11
Collection Date: 04/20/11
DateReceived: 04/22/11
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES - DISSOLVED							
Lead 210	<0.9	pCi/L	U	0.9		E909.0	06/09/11 22:09 / eli-cs
Lead 210 precision (±)	0.5	pCi/L				E909.0	06/09/11 22:09 / eli-cs
Lead 210 MDC	0.9	pCi/L				E909.0	06/09/11 22:09 / eli-cs
Polonium 210	<0.8	pCi/L	U	0.8		E912.0	05/09/11 09:07 / ep
Polonium 210 precision (±)	0.5	pCi/L				E912.0	05/09/11 09:07 / ep
Polonium 210 MDC	0.8	pCi/L				E912.0	05/09/11 09:07 / ep
Radium 226	0.1	pCi/L		0.1		E903.0	05/09/11 16:29 / trs
Radium 226 precision (±)	0.09	pCi/L				E903.0	05/09/11 16:29 / trs
Radium 226 MDC	0.1	pCi/L				E903.0	05/09/11 16:29 / trs
Thorium 230	<0.2	pCi/L	U	0.2		E908.0	05/20/11 16:22 / dmf
Thorium 230 precision (±)	0.09	pCi/L				E908.0	05/20/11 16:22 / dmf
Thorium 230 MDC	0.2	pCi/L				E908.0	05/20/11 16:22 / dmf
RADIONUCLIDES - SUSPENDED							
Lead 210	<0.9	pCi/L	U	0.9		E909.0	06/11/11 05:17 / eli-cs
Lead 210 precision (±)	0.5	pCi/L				E909.0	06/11/11 05:17 / eli-cs
Lead 210 MDC	0.9	pCi/L				E909.0	06/11/11 05:17 / eli-cs
Polonium 210	<0.2	pCi/L	U	0.2		E912.0	05/05/11 11:49 / ep
Polonium 210 precision (±)	0.09	pCi/L				E912.0	05/05/11 11:49 / ep
Polonium 210 MDC	0.2	pCi/L				E912.0	05/05/11 11:49 / ep
Radium 226	<0.1	pCi/L	U	0.1		E903.0	05/11/11 10:48 / trs
Radium 226 precision (±)	0.07	pCi/L				E903.0	05/11/11 10:48 / trs
Radium 226 MDC	0.1	pCi/L				E903.0	05/11/11 10:48 / trs
Thorium 230	<0.1	pCi/L	U	0.1		E908.0	05/09/11 14:36 / dmf
Thorium 230 precision (±)	0.07	pCi/L				E908.0	05/09/11 14:36 / dmf
Thorium 230 MDC	0.1	pCi/L				E908.0	05/09/11 14:36 / dmf
DATA QUALITY							
A/C Balance (± 5)	-1.03	%				Calculation	05/25/11 07:49 / kbh
Anions	3.62	meq/L				Calculation	05/25/11 07:49 / kbh
Cations	3.54	meq/L				Calculation	05/25/11 07:49 / kbh
Solids, Total Dissolved Calculated	283	mg/L				Calculation	05/25/11 07:49 / kbh
TDS Balance (0.80 - 1.20)	0.880					Calculation	05/25/11 07:49 / kbh

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Samples
Lab ID: C11040726-003
Client Sample ID: Well 788

Report Date: 06/20/11
Collection Date: 04/20/11
DateReceived: 04/22/11
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Alkalinity, Total as CaCO3	152	mg/L		1		A2320 B	04/22/11 18:20 / jba
Carbonate as CO3	ND	mg/L		1		A2320 B	04/22/11 18:20 / jba
Bicarbonate as HCO3	185	mg/L		1		A2320 B	04/22/11 18:20 / jba
Calcium	34	mg/L		1		E200.7	05/13/11 13:54 / cp
Chloride	3	mg/L		1		E300.0	04/26/11 10:49 / ljl
Fluoride	0.4	mg/L		0.1		A4500-F C	04/25/11 12:34 / jba
Magnesium	9	mg/L		1		E200.7	05/13/11 13:54 / cp
Nitrogen, Ammonia as N	ND	mg/L		0.05		A4500-NH3 G	04/25/11 12:28 / dc
Nitrogen, Nitrate+Nitrite as N	2.1	mg/L		0.1		E353.2	04/29/11 13:09 / dc
Potassium	4	mg/L		1		E200.7	05/13/11 13:54 / cp
Silica	69.5	mg/L		0.2		E200.7	05/19/11 13:34 / cp
Sodium	19	mg/L		1		E200.7	05/13/11 13:54 / cp
Sulfate	7	mg/L		1		E300.0	04/26/11 10:49 / ljl
PHYSICAL PROPERTIES							
Conductivity @ 25 C	308	umhos/cm		1		A2510 B	04/22/11 16:05 / lr
pH	8.02	s.u.		0.01		A4500-H B	04/22/11 16:05 / lr
Solids, Total Dissolved TDS @ 180 C	235	mg/L		10		A2540 C	04/22/11 16:24 / lmc
METALS - DISSOLVED							
Aluminum	ND	mg/L		0.1		E200.8	04/26/11 21:29 / sml
Arsenic	0.003	mg/L		0.001		E200.8	04/26/11 21:29 / sml
Barium	0.1	mg/L		0.1		E200.8	04/26/11 21:29 / sml
Boron	ND	mg/L		0.1		E200.7	05/13/11 13:54 / cp
Cadmium	ND	mg/L		0.005		E200.8	04/26/11 21:29 / sml
Chromium	ND	mg/L		0.05		E200.8	04/26/11 21:29 / sml
Copper	ND	mg/L		0.01		E200.8	04/26/11 21:29 / sml
Iron	ND	mg/L		0.03		E200.7	05/13/11 13:54 / cp
Lead	ND	mg/L		0.001		E200.8	04/26/11 21:29 / sml
Manganese	ND	mg/L		0.01		E200.8	04/26/11 21:29 / sml
Mercury	ND	mg/L		0.001		E200.8	04/26/11 21:29 / sml
Molybdenum	ND	mg/L		0.1		E200.8	04/26/11 21:29 / sml
Nickel	ND	mg/L		0.05		E200.8	04/26/11 21:29 / sml
Selenium	0.001	mg/L		0.001		E200.8	04/26/11 21:29 / sml
Uranium	0.0071	mg/L		0.0003		E200.8	04/26/11 21:29 / sml
Uranium, Activity	4.8E-09	uCi/mL		2.0E-10		E200.8	04/26/11 21:29 / sml
Vanadium	ND	mg/L		0.1		E200.8	04/26/11 21:29 / sml
Zinc	0.04	mg/L		0.01		E200.7	05/13/11 13:54 / cp
METALS - SUSPENDED							
Uranium	ND	mg/L		0.0003		E200.8	04/30/11 07:44 / sml
Uranium, Activity	ND	uCi/mL		2.0E-10		E200.8	04/30/11 07:44 / sml

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Samples
Lab ID: C11040726-003
Client Sample ID: Well 788

Report Date: 06/20/11
Collection Date: 04/20/11
DateReceived: 04/22/11
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES - DISSOLVED							
Lead 210	<0.9	pCi/L	U	0.9		E909.0	06/09/11 23:15 / eli-cs
Lead 210 precision (±)	0.5	pCi/L				E909.0	06/09/11 23:15 / eli-cs
Lead 210 MDC	0.9	pCi/L				E909.0	06/09/11 23:15 / eli-cs
Polonium 210	<0.7	pCi/L	U	0.7		E912.0	05/09/11 09:07 / ep
Polonium 210 precision (±)	0.2	pCi/L				E912.0	05/09/11 09:07 / ep
Polonium 210 MDC	0.7	pCi/L				E912.0	05/09/11 09:07 / ep
Radium 226	0.3	pCi/L		0.1		E903.0	05/09/11 16:29 / trs
Radium 226 precision (±)	0.1	pCi/L				E903.0	05/09/11 16:29 / trs
Radium 226 MDC	0.1	pCi/L				E903.0	05/09/11 16:29 / trs
Thorium 230	<0.2	pCi/L	U	0.2		E908.0	05/20/11 16:22 / dmf
Thorium 230 precision (±)	0.09	pCi/L				E908.0	05/20/11 16:22 / dmf
Thorium 230 MDC	0.2	pCi/L				E908.0	05/20/11 16:22 / dmf
RADIONUCLIDES - SUSPENDED							
Lead 210	<0.9	pCi/L	U	0.9		E909.0	06/11/11 06:23 / eli-cs
Lead 210 precision (±)	0.6	pCi/L				E909.0	06/11/11 06:23 / eli-cs
Lead 210 MDC	0.9	pCi/L				E909.0	06/11/11 06:23 / eli-cs
Polonium 210	<0.2	pCi/L	U	0.2		E912.0	05/05/11 11:49 / ep
Polonium 210 precision (±)	0.2	pCi/L				E912.0	05/05/11 11:49 / ep
Polonium 210 MDC	0.2	pCi/L				E912.0	05/05/11 11:49 / ep
Radium 226	<0.1	pCi/L	U	0.1		E903.0	05/11/11 10:48 / trs
Radium 226 precision (±)	0.08	pCi/L				E903.0	05/11/11 10:48 / trs
Radium 226 MDC	0.1	pCi/L				E903.0	05/11/11 10:48 / trs
Thorium 230	<0.1	pCi/L	U	0.1		E908.0	05/09/11 14:36 / dmf
Thorium 230 precision (±)	0.07	pCi/L				E908.0	05/09/11 14:36 / dmf
Thorium 230 MDC	0.1	pCi/L				E908.0	05/09/11 14:36 / dmf
DATA QUALITY							
A/C Balance (± 5)	-0.665	%				Calculation	05/25/11 07:50 / kbh
Anions	3.44	meq/L				Calculation	05/25/11 07:50 / kbh
Cations	3.39	meq/L				Calculation	05/25/11 07:50 / kbh
Solids, Total Dissolved Calculated	265	mg/L				Calculation	05/25/11 07:50 / kbh
TDS Balance (0.80 - 1.20)	0.890					Calculation	05/25/11 07:50 / kbh

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Samples
Lab ID: C11040726-004
Client Sample ID: BOW-8

Report Date: 06/20/11
Collection Date: 04/19/11
DateReceived: 04/22/11
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Alkalinity, Total as CaCO3	182	mg/L		1		A2320 B	04/22/11 18:29 / jba
Carbonate as CO3	24	mg/L		1		A2320 B	04/22/11 18:29 / jba
Bicarbonate as HCO3	172	mg/L		1		A2320 B	04/22/11 18:29 / jba
Calcium	8	mg/L		1		E200.7	05/13/11 13:58 / cp
Chloride	13	mg/L		1		E300.0	04/26/11 11:05 / ljl
Fluoride	0.5	mg/L		0.1		A4500-F C	04/25/11 12:49 / jba
Magnesium	ND	mg/L		1		E200.7	05/13/11 13:58 / cp
Nitrogen, Ammonia as N	ND	mg/L		0.05		A4500-NH3 G	04/25/11 12:30 / dc
Nitrogen, Nitrate+Nitrite as N	0.6	mg/L		0.1		E353.2	04/29/11 13:11 / dc
Potassium	12	mg/L		1		E200.7	05/13/11 13:58 / cp
Silica	76.3	mg/L		0.2		E200.7	05/19/11 13:38 / cp
Sodium	90	mg/L		1		E200.7	05/13/11 13:58 / cp
Sulfate	24	mg/L		1		E300.0	04/26/11 11:05 / ljl
PHYSICAL PROPERTIES							
Conductivity @ 25 C	428	umhos/cm		1		A2510 B	04/22/11 16:06 / lr
pH	9.15	s.u.		0.01		A4500-H B	04/22/11 16:06 / lr
Solids, Total Dissolved TDS @ 180 C	326	mg/L		10		A2540 C	04/22/11 16:24 / lmc
METALS - DISSOLVED							
Aluminum	ND	mg/L		0.1		E200.8	04/26/11 21:36 / sml
Arsenic	0.005	mg/L		0.001		E200.8	04/26/11 21:36 / sml
Barium	ND	mg/L		0.1		E200.8	04/26/11 21:36 / sml
Boron	ND	mg/L		0.1		E200.7	05/13/11 13:58 / cp
Cadmium	ND	mg/L		0.005		E200.8	04/26/11 21:36 / sml
Chromium	ND	mg/L		0.05		E200.8	04/26/11 21:36 / sml
Copper	ND	mg/L		0.01		E200.8	04/26/11 21:36 / sml
Iron	ND	mg/L		0.03		E200.7	05/13/11 13:58 / cp
Lead	ND	mg/L		0.001		E200.8	04/26/11 21:36 / sml
Manganese	ND	mg/L		0.01		E200.8	04/26/11 21:36 / sml
Mercury	ND	mg/L		0.001		E200.8	04/26/11 21:36 / sml
Molybdenum	ND	mg/L		0.1		E200.8	04/26/11 21:36 / sml
Nickel	ND	mg/L		0.05		E200.8	04/26/11 21:36 / sml
Selenium	ND	mg/L		0.001		E200.8	04/26/11 21:36 / sml
Uranium	0.0070	mg/L		0.0003		E200.8	04/26/11 21:36 / sml
Uranium, Activity	4.7E-09	uCi/mL		2.0E-10		E200.8	04/26/11 21:36 / sml
Vanadium	ND	mg/L		0.1		E200.8	04/26/11 21:36 / sml
Zinc	0.01	mg/L		0.01		E200.7	05/13/11 13:58 / cp
METALS - SUSPENDED							
Uranium	ND	mg/L		0.0003		E200.8	04/30/11 07:48 / sml
Uranium, Activity	ND	uCi/mL		2.0E-10		E200.8	04/30/11 07:48 / sml

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Samples
Lab ID: C11040726-004
Client Sample ID: BOW-8

Report Date: 06/20/11
Collection Date: 04/19/11
DateReceived: 04/22/11
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES - DISSOLVED							
Lead 210	<0.9	pCi/L	U	0.9		E909.0	06/10/11 00:21 / eli-cs
Lead 210 precision (±)	0.5	pCi/L				E909.0	06/10/11 00:21 / eli-cs
Lead 210 MDC	0.9	pCi/L				E909.0	06/10/11 00:21 / eli-cs
Polonium 210	<1.1	pCi/L	U	1.1		E912.0	05/09/11 11:17 / ep
Polonium 210 precision (±)	0.9	pCi/L				E912.0	05/09/11 11:17 / ep
Polonium 210 MDC	1.1	pCi/L				E912.0	05/09/11 11:17 / ep
Radium 226	<0.1	pCi/L	U	0.1		E903.0	05/09/11 16:29 / trs
Radium 226 precision (±)	0.08	pCi/L				E903.0	05/09/11 16:29 / trs
Radium 226 MDC	0.1	pCi/L				E903.0	05/09/11 16:29 / trs
Thorium 230	<0.2	pCi/L	U	0.2		E908.0	05/20/11 16:22 / dmf
Thorium 230 precision (±)	0.09	pCi/L				E908.0	05/20/11 16:22 / dmf
Thorium 230 MDC	0.2	pCi/L				E908.0	05/20/11 16:22 / dmf
RADIONUCLIDES - SUSPENDED							
Lead 210	<0.9	pCi/L	U	0.9		E909.0	06/11/11 07:29 / eli-cs
Lead 210 precision (±)	0.5	pCi/L				E909.0	06/11/11 07:29 / eli-cs
Lead 210 MDC	0.9	pCi/L				E909.0	06/11/11 07:29 / eli-cs
Polonium 210	<0.4	pCi/L	U	0.4		E912.0	05/05/11 11:49 / ep
Polonium 210 precision (±)	0.2	pCi/L				E912.0	05/05/11 11:49 / ep
Polonium 210 MDC	0.4	pCi/L				E912.0	05/05/11 11:49 / ep
Radium 226	<0.1	pCi/L	U	0.1		E903.0	05/11/11 10:48 / trs
Radium 226 precision (±)	0.05	pCi/L				E903.0	05/11/11 10:48 / trs
Radium 226 MDC	0.1	pCi/L				E903.0	05/11/11 10:48 / trs
Thorium 230	<0.1	pCi/L	U	0.1		E908.0	05/09/11 14:37 / dmf
Thorium 230 precision (±)	0.07	pCi/L				E908.0	05/09/11 14:37 / dmf
Thorium 230 MDC	0.1	pCi/L				E908.0	05/09/11 14:37 / dmf
DATA QUALITY							
A/C Balance (± 5)	0.853	%				Calculation	05/25/11 07:50 / kbh
Anions	4.57	meq/L				Calculation	05/25/11 07:50 / kbh
Cations	4.65	meq/L				Calculation	05/25/11 07:50 / kbh
Solids, Total Dissolved Calculated	356	mg/L				Calculation	05/25/11 07:50 / kbh
TDS Balance (0.80 - 1.20)	0.920					Calculation	05/25/11 07:50 / kbh

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Samples
Lab ID: C11040726-005
Client Sample ID: BOW-7

Report Date: 06/20/11
Collection Date: 04/19/11
DateReceived: 04/22/11
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Alkalinity, Total as CaCO3	185	mg/L		1		A2320 B	04/22/11 18:38 / jba
Carbonate as CO3	21	mg/L		1		A2320 B	04/22/11 18:38 / jba
Bicarbonate as HCO3	182	mg/L		1		A2320 B	04/22/11 18:38 / jba
Calcium	5	mg/L		1		E200.7	05/13/11 14:02 / cp
Chloride	28	mg/L		1		E300.0	04/26/11 11:20 / ljl
Fluoride	0.6	mg/L		0.1		A4500-F C	04/25/11 12:58 / jba
Magnesium	ND	mg/L		1		E200.7	05/13/11 14:02 / cp
Nitrogen, Ammonia as N	ND	mg/L		0.05		A4500-NH3 G	05/04/11 12:25 / dc
Nitrogen, Nitrate+Nitrite as N	1.0	mg/L		0.1		E353.2	04/29/11 13:21 / dc
Potassium	10	mg/L		1		E200.7	05/13/11 14:02 / cp
Silica	76.9	mg/L		0.2		E200.7	05/19/11 13:42 / cp
Sodium	119	mg/L		1		E200.7	05/13/11 14:02 / cp
Sulfate	54	mg/L	D	2		E300.0	04/26/11 11:20 / ljl
PHYSICAL PROPERTIES							
Conductivity @ 25 C	540	umhos/cm		1		A2510 B	04/22/11 16:08 / lr
pH	9.00	s.u.		0.01		A4500-H B	04/22/11 16:08 / lr
Solids, Total Dissolved TDS @ 180 C	411	mg/L		10		A2540 C	04/22/11 16:25 / lmc
METALS - DISSOLVED							
Aluminum	ND	mg/L		0.1		E200.8	04/26/11 21:43 / sml
Arsenic	0.029	mg/L		0.001		E200.8	04/26/11 21:43 / sml
Barium	ND	mg/L		0.1		E200.8	04/26/11 21:43 / sml
Boron	0.1	mg/L		0.1		E200.7	05/13/11 14:02 / cp
Cadmium	ND	mg/L		0.005		E200.8	04/26/11 21:43 / sml
Chromium	ND	mg/L		0.05		E200.8	04/26/11 21:43 / sml
Copper	ND	mg/L		0.01		E200.8	04/26/11 21:43 / sml
Iron	ND	mg/L		0.03		E200.7	05/13/11 14:02 / cp
Lead	ND	mg/L		0.001		E200.8	04/26/11 21:43 / sml
Manganese	ND	mg/L		0.01		E200.8	04/26/11 21:43 / sml
Mercury	ND	mg/L		0.001		E200.8	04/26/11 21:43 / sml
Molybdenum	ND	mg/L		0.1		E200.8	04/26/11 21:43 / sml
Nickel	ND	mg/L		0.05		E200.8	04/26/11 21:43 / sml
Selenium	0.220	mg/L		0.001		E200.8	04/26/11 21:43 / sml
Uranium	0.0049	mg/L		0.0003		E200.8	04/26/11 21:43 / sml
Uranium, Activity	3.3E-09	uCi/mL		2.0E-10		E200.8	04/26/11 21:43 / sml
Vanadium	ND	mg/L		0.1		E200.8	04/26/11 21:43 / sml
Zinc	0.01	mg/L		0.01		E200.7	05/13/11 14:02 / cp
METALS - SUSPENDED							
Uranium	0.0004	mg/L		0.0003		E200.8	04/30/11 07:52 / sml
Uranium, Activity	3.2E-10	uCi/mL		2.0E-10		E200.8	04/30/11 07:52 / sml

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Samples
Lab ID: C11040726-005
Client Sample ID: BOW-7

Report Date: 06/20/11
Collection Date: 04/19/11
DateReceived: 04/22/11
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES - DISSOLVED							
Lead 210	<0.9	pCi/L	U	0.9		E909.0	06/10/11 01:27 / eli-cs
Lead 210 precision (±)	0.5	pCi/L				E909.0	06/10/11 01:27 / eli-cs
Lead 210 MDC	0.9	pCi/L				E909.0	06/10/11 01:27 / eli-cs
Polonium 210	<0.6	pCi/L	U	0.6		E912.0	05/09/11 11:17 / ep
Polonium 210 precision (±)	0.3	pCi/L				E912.0	05/09/11 11:17 / ep
Polonium 210 MDC	0.6	pCi/L				E912.0	05/09/11 11:17 / ep
Radium 226	0.5	pCi/L		0.1		E903.0	05/09/11 16:29 / trs
Radium 226 precision (±)	0.1	pCi/L				E903.0	05/09/11 16:29 / trs
Radium 226 MDC	0.1	pCi/L				E903.0	05/09/11 16:29 / trs
Thorium 230	<0.2	pCi/L	U	0.2		E908.0	05/20/11 16:22 / dmf
Thorium 230 precision (±)	0.08	pCi/L				E908.0	05/20/11 16:22 / dmf
Thorium 230 MDC	0.2	pCi/L				E908.0	05/20/11 16:22 / dmf
RADIONUCLIDES - SUSPENDED							
Lead 210	<0.9	pCi/L	U	0.9		E909.0	06/11/11 08:35 / eli-cs
Lead 210 precision (±)	0.6	pCi/L				E909.0	06/11/11 08:35 / eli-cs
Lead 210 MDC	0.9	pCi/L				E909.0	06/11/11 08:35 / eli-cs
Polonium 210	0.5	pCi/L		0.2		E912.0	05/05/11 11:49 / ep
Polonium 210 precision (±)	0.3	pCi/L				E912.0	05/05/11 11:49 / ep
Polonium 210 MDC	0.2	pCi/L				E912.0	05/05/11 11:49 / ep
Radium 226	0.3	pCi/L		0.1		E903.0	05/11/11 10:48 / trs
Radium 226 precision (±)	0.1	pCi/L				E903.0	05/11/11 10:48 / trs
Radium 226 MDC	0.1	pCi/L				E903.0	05/11/11 10:48 / trs
Thorium 230	0.2	pCi/L		0.1		E908.0	05/09/11 14:37 / dmf
Thorium 230 precision (±)	0.1	pCi/L				E908.0	05/09/11 14:37 / dmf
Thorium 230 MDC	0.1	pCi/L				E908.0	05/09/11 14:37 / dmf
DATA QUALITY							
A/C Balance (± 5)	0.159	%				Calculation	05/25/11 07:50 / kbh
Anions	5.71	meq/L				Calculation	05/25/11 07:50 / kbh
Cations	5.73	meq/L				Calculation	05/25/11 07:50 / kbh
Solids, Total Dissolved Calculated	430	mg/L				Calculation	05/25/11 07:50 / kbh
TDS Balance (0.80 - 1.20)	0.960					Calculation	05/25/11 07:50 / kbh

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Samples
Lab ID: C11040726-006
Client Sample ID: BOW-4A

Report Date: 06/20/11
Collection Date: 04/19/11
DateReceived: 04/22/11
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Alkalinity, Total as CaCO3	131	mg/L		1		A2320 B	04/22/11 18:47 / jba
Carbonate as CO3	32	mg/L		1		A2320 B	04/22/11 18:47 / jba
Bicarbonate as HCO3	95	mg/L		1		A2320 B	04/22/11 18:47 / jba
Calcium	7	mg/L		1		E200.7	05/13/11 14:18 / cp
Chloride	33	mg/L		1		E300.0	04/26/11 12:07 / ljl
Fluoride	0.5	mg/L		0.1		A4500-F C	04/25/11 13:02 / jba
Magnesium	ND	mg/L		1		E200.7	05/13/11 14:18 / cp
Nitrogen, Ammonia as N	ND	mg/L		0.05		A4500-NH3 G	05/04/11 12:27 / dc
Nitrogen, Nitrate+Nitrite as N	1.2	mg/L		0.1		E353.2	04/29/11 13:24 / dc
Potassium	9	mg/L		1		E200.7	05/13/11 14:18 / cp
Silica	70.6	mg/L		0.2		E200.7	05/19/11 13:47 / cp
Sodium	95	mg/L		1		E200.7	05/13/11 14:18 / cp
Sulfate	50	mg/L		1		E300.0	04/26/11 12:07 / ljl
PHYSICAL PROPERTIES							
Conductivity @ 25 C	474	umhos/cm		1		A2510 B	04/22/11 16:09 / lr
pH	9.40	s.u.		0.01		A4500-H B	04/22/11 16:09 / lr
Solids, Total Dissolved TDS @ 180 C	345	mg/L		10		A2540 C	04/22/11 16:26 / lmc
METALS - DISSOLVED							
Aluminum	ND	mg/L		0.1		E200.8	04/26/11 21:49 / sml
Arsenic	0.014	mg/L		0.001		E200.8	04/26/11 21:49 / sml
Barium	ND	mg/L		0.1		E200.8	04/26/11 21:49 / sml
Boron	0.1	mg/L		0.1		E200.7	05/13/11 14:18 / cp
Cadmium	ND	mg/L		0.005		E200.8	04/26/11 21:49 / sml
Chromium	ND	mg/L		0.05		E200.8	04/26/11 21:49 / sml
Copper	ND	mg/L		0.01		E200.8	04/26/11 21:49 / sml
Iron	ND	mg/L		0.03		E200.7	05/13/11 14:18 / cp
Lead	ND	mg/L		0.001		E200.8	04/26/11 21:49 / sml
Manganese	ND	mg/L		0.01		E200.8	04/26/11 21:49 / sml
Mercury	ND	mg/L		0.001		E200.8	04/26/11 21:49 / sml
Molybdenum	ND	mg/L		0.1		E200.8	04/26/11 21:49 / sml
Nickel	ND	mg/L		0.05		E200.8	04/26/11 21:49 / sml
Selenium	0.011	mg/L		0.001		E200.8	04/26/11 21:49 / sml
Uranium	0.0053	mg/L		0.0003		E200.8	04/26/11 21:49 / sml
Uranium, Activity	3.6E-09	uCi/mL		2.0E-10		E200.8	04/26/11 21:49 / sml
Vanadium	ND	mg/L		0.1		E200.8	04/26/11 21:49 / sml
Zinc	0.01	mg/L		0.01		E200.7	05/13/11 14:18 / cp
METALS - SUSPENDED							
Uranium	ND	mg/L		0.0003		E200.8	04/30/11 07:56 / sml
Uranium, Activity	ND	uCi/mL		2.0E-10		E200.8	04/30/11 07:56 / sml

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Samples
Lab ID: C11040726-006
Client Sample ID: BOW-4A

Report Date: 06/20/11
Collection Date: 04/19/11
DateReceived: 04/22/11
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES - DISSOLVED							
Lead 210	<1.9	pCi/L	U	1.9		E909.0	06/13/11 10:19 / eli-cs
Lead 210 precision (±)	1.1	pCi/L				E909.0	06/13/11 10:19 / eli-cs
Lead 210 MDC	1.9	pCi/L				E909.0	06/13/11 10:19 / eli-cs
Polonium 210	<0.7	pCi/L	U	0.7		E912.0	05/09/11 11:17 / ep
Polonium 210 precision (±)	0.5	pCi/L				E912.0	05/09/11 11:17 / ep
Polonium 210 MDC	0.7	pCi/L				E912.0	05/09/11 11:17 / ep
Radium 226	0.2	pCi/L		0.1		E903.0	05/09/11 16:29 / trs
Radium 226 precision (±)	0.1	pCi/L				E903.0	05/09/11 16:29 / trs
Radium 226 MDC	0.1	pCi/L				E903.0	05/09/11 16:29 / trs
Thorium 230	<0.2	pCi/L	U	0.2		E908.0	05/23/11 09:10 / dmf
Thorium 230 precision (±)	0.09	pCi/L				E908.0	05/23/11 09:10 / dmf
Thorium 230 MDC	0.2	pCi/L				E908.0	05/23/11 09:10 / dmf
- See Case Narrative regarding Pb210 analysis.							
RADIONUCLIDES - SUSPENDED							
Lead 210	<0.9	pCi/L	U	0.9		E909.0	06/11/11 09:41 / eli-cs
Lead 210 precision (±)	0.5	pCi/L				E909.0	06/11/11 09:41 / eli-cs
Lead 210 MDC	0.9	pCi/L				E909.0	06/11/11 09:41 / eli-cs
Polonium 210	<0.2	pCi/L	U	0.2		E912.0	05/05/11 11:49 / ep
Polonium 210 precision (±)	0.1	pCi/L				E912.0	05/05/11 11:49 / ep
Polonium 210 MDC	0.2	pCi/L				E912.0	05/05/11 11:49 / ep
Radium 226	<0.1	pCi/L	U	0.1		E903.0	05/11/11 10:48 / trs
Radium 226 precision (±)	0.05	pCi/L				E903.0	05/11/11 10:48 / trs
Radium 226 MDC	0.1	pCi/L				E903.0	05/11/11 10:48 / trs
Thorium 230	<0.1	pCi/L	U	0.1		E908.0	05/09/11 14:37 / dmf
Thorium 230 precision (±)	0.09	pCi/L				E908.0	05/09/11 14:37 / dmf
Thorium 230 MDC	0.1	pCi/L				E908.0	05/09/11 14:37 / dmf
DATA QUALITY							
A/C Balance (± 5)	0.755	%				Calculation	05/25/11 07:51 / kbh
Anions	4.70	meq/L				Calculation	05/25/11 07:51 / kbh
Cations	4.77	meq/L				Calculation	05/25/11 07:51 / kbh
Solids, Total Dissolved Calculated	368	mg/L				Calculation	05/25/11 07:51 / kbh
TDS Balance (0.80 - 1.20)	0.940					Calculation	05/25/11 07:51 / kbh

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Samples

Report Date: 06/20/11
Work Order: C11040726

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2320 B										Batch: R145099
Sample ID: MBLK	3	Method Blank				Run: MANTECH_110422A				04/22/11 15:42
Alkalinity, Total as CaCO3		2.86	mg/L	1.0						
Carbonate as CO3		ND	mg/L	1.0						
Bicarbonate as HCO3		3.48	mg/L	1.0						
Sample ID: LCS		Laboratory Control Sample				Run: MANTECH_110422A				04/22/11 15:59
Alkalinity, Total as CaCO3		214	mg/L	5.0	106	90	110			
Sample ID: C11040680-001BDUP		Sample Duplicate				Run: MANTECH_110422A				04/22/11 16:54
Alkalinity, Total as CaCO3		536	mg/L	5.0				0.7	10	
Sample ID: C11040680-001BMS		Sample Matrix Spike				Run: MANTECH_110422A				04/22/11 17:03
Alkalinity, Total as CaCO3		670	mg/L	5.0	111	80	120			

Qualifiers:

RL - Analyte reporting limit.
MDC - Minimum detectable concentration
ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 06/20/11

Project: Marsland Baseline Samples **Work Order:** C11040726

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2510 B								Analytical Run: ORION555A-2_110422A		
Sample ID: ICV2_110422_1		Initial Calibration Verification Standard							04/22/11 14:44	
Conductivity @ 25 C		1380	umhos/cm	1.0	97	90	110			
Method: A2510 B								Batch: 110422_1_PH-W_555A-2		
Sample ID: MBLK1_110422_1		Method Blank				Run: ORION555A-2_110422A			04/22/11 14:40	
Conductivity @ 25 C		ND	umhos/cm	1.0						
Sample ID: C11040726-006BDUP		Sample Duplicate				Run: ORION555A-2_110422A			04/22/11 16:11	
Conductivity @ 25 C		475	umhos/cm	1.0				0.2	10	

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Samples

Report Date: 06/20/11
Work Order: C11040726

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 C									Batch: 110422_1_SLDS-TDS-W	
Sample ID: MBLK1_110422		Method Blank				Run: BAL-1_110422B			04/22/11 16:09	
Solids, Total Dissolved TDS @ 180 C		ND	mg/L	10						
Sample ID: LCS1_110422		Laboratory Control Sample				Run: BAL-1_110422B			04/22/11 16:09	
Solids, Total Dissolved TDS @ 180 C		1000	mg/L	10	100	90	110			
Sample ID: C11040726-005ADUP		Sample Duplicate				Run: BAL-1_110422B			04/22/11 16:25	
Solids, Total Dissolved TDS @ 180 C		400	mg/L	10				2.6	10	
Sample ID: C11040726-006AMS		Sample Matrix Spike				Run: BAL-1_110422B			04/22/11 16:26	
Solids, Total Dissolved TDS @ 180 C		2410	mg/L	10	103	90	110			

Qualifiers:

RL - Analyte reporting limit.
MDC - Minimum detectable concentration
ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Report Date: 06/20/11
Project: Marsland Baseline Samples
Work Order: C11040726

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-F C										Batch: R145123
Sample ID: MBLK		Method Blank				Run: MANTECH_110425A				04/25/11 10:38
Fluoride		ND	mg/L	0.10						
Sample ID: LCS		Laboratory Control Sample				Run: MANTECH_110425A				04/25/11 10:40
Fluoride		1.00	mg/L	0.10	98	90	110			
Sample ID: C11040726-004BMS		Sample Matrix Spike				Run: MANTECH_110425A				04/25/11 12:52
Fluoride		1.49	mg/L	0.10	100	80	120			
Sample ID: C11040726-004BMSD		Sample Matrix Spike Duplicate				Run: MANTECH_110425A				04/25/11 12:55
Fluoride		1.49	mg/L	0.10	100	80	120	0.0	10	

Qualifiers:

RL - Analyte reporting limit.
MDC - Minimum detectable concentration
ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 06/20/11

Project: Marsland Baseline Samples **Work Order:** C11040726

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-H B								Analytical Run: ORION555A-2_110422A		
Sample ID: ICV1_110422_1	Initial Calibration Verification Standard								04/22/11 14:42	
pH		6.91	s.u.	0.010	101	98	102			
Method: A4500-H B								Batch: 110422_1_PH-W_555A-2		
Sample ID: C11040726-006BDUP	Sample Duplicate					Run: ORION555A-2_110422A			04/22/11 16:11	
pH		9.40	s.u.	0.010				0.0	3	

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Samples

Report Date: 06/20/11
Work Order: C11040726

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-NH3 G										Batch: R145125
Sample ID: MBLK-1		Method Blank				Run: TECHNICON_110425A				04/25/11 11:32
Nitrogen, Ammonia as N		ND	mg/L	0.050						
Sample ID: LCS-2		Laboratory Control Sample				Run: TECHNICON_110425A				04/25/11 11:34
Nitrogen, Ammonia as N		2.01	mg/L	0.050	100	90	110			
Sample ID: C11040646-001EMS		Sample Matrix Spike				Run: TECHNICON_110425A				04/25/11 12:16
Nitrogen, Ammonia as N		1.96	mg/L	0.050	95	80	120			
Sample ID: C11040646-001EMSD		Sample Matrix Spike Duplicate				Run: TECHNICON_110425A				04/25/11 12:18
Nitrogen, Ammonia as N		1.97	mg/L	0.050	96	80	120	0.5	10	
Method: A4500-NH3 G										Batch: R145477
Sample ID: MBLK-6		Method Blank				Run: TECHNICON_110504A				05/04/11 12:21
Nitrogen, Ammonia as N		ND	mg/L	0.050						
Sample ID: LCS-7		Laboratory Control Sample				Run: TECHNICON_110504A				05/04/11 12:23
Nitrogen, Ammonia as N		1.94	mg/L	0.050	97	90	110			
Sample ID: C11040852-001DMS		Sample Matrix Spike				Run: TECHNICON_110504A				05/04/11 12:35
Nitrogen, Ammonia as N		1.79	mg/L	0.050	91	80	120			
Sample ID: C11040852-001DMSD		Sample Matrix Spike Duplicate				Run: TECHNICON_110504A				05/04/11 12:37
Nitrogen, Ammonia as N		1.80	mg/L	0.050	92	80	120	0.6	10	

Qualifiers:

RL - Analyte reporting limit.
MDC - Minimum detectable concentration
ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 06/20/11

Project: Marsland Baseline Samples **Work Order:** C11040726

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7									Batch: R145849	
Sample ID: MB-110513A	7	Method Blank				Run: ICP2-C_110513A			05/13/11 12:21	
Boron		ND	mg/L	0.10						
Calcium		ND	mg/L	1.0						
Iron		ND	mg/L	0.030						
Magnesium		ND	mg/L	1.0						
Potassium		ND	mg/L	1.0						
Sodium		ND	mg/L	1.0						
Zinc		ND	mg/L	0.010						
Sample ID: LFB-110513A	7	Laboratory Fortified Blank				Run: ICP2-C_110513A			05/13/11 12:25	
Boron		0.937	mg/L	0.10	94	85	115			
Calcium		48.0	mg/L	0.50	96	85	115			
Iron		0.964	mg/L	0.030	96	85	115			
Magnesium		47.1	mg/L	0.50	94	85	115			
Potassium		43.7	mg/L	0.50	87	85	115			
Sodium		51.1	mg/L	0.50	102	85	115			
Zinc		0.944	mg/L	0.010	94	85	115			
Sample ID: C11040726-001CMS2	7	Sample Matrix Spike				Run: ICP2-C_110513A			05/13/11 13:38	
Boron		2.01	mg/L	0.10	93	70	130			
Calcium		130	mg/L	1.0	94	70	130			
Iron		2.05	mg/L	0.030	98	70	130			
Magnesium		106	mg/L	1.0	95	70	130			
Potassium		90.4	mg/L	1.0	84	70	130			
Sodium		119	mg/L	1.0	98	70	130			
Zinc		2.03	mg/L	0.010	94	70	130			
Sample ID: C11040726-001CMSD	7	Sample Matrix Spike Duplicate				Run: ICP2-C_110513A			05/13/11 13:42	
Boron		1.99	mg/L	0.10	92	70	130	1.0	20	
Calcium		131	mg/L	1.0	95	70	130	0.9	20	
Iron		2.03	mg/L	0.030	97	70	130	1.0	20	
Magnesium		106	mg/L	1.0	96	70	130	0.2	20	
Potassium		90.6	mg/L	1.0	85	70	130	0.2	20	
Sodium		116	mg/L	1.0	95	70	130	2.6	20	
Zinc		2.01	mg/L	0.010	93	70	130	1.1	20	
Method: E200.7									Batch: R146055	
Sample ID: MB-110519A		Method Blank				Run: ICP2-C_110519A			05/19/11 12:44	
Silicon		ND	mg/L	0.10						
Sample ID: LFB-110519A		Laboratory Fortified Blank				Run: ICP2-C_110519A			05/19/11 12:48	
Silicon		0.489	mg/L	0.10	98	85	115			
Sample ID: C11040726-001CMS2		Sample Matrix Spike				Run: ICP2-C_110519A			05/19/11 13:18	
Silicon		33.2	mg/L	0.10		70	130			A
Sample ID: C11040726-001CMSD		Sample Matrix Spike Duplicate				Run: ICP2-C_110519A			05/19/11 13:22	
Silicon		33.0	mg/L	0.10		70	130	0.5	20	A

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

MDC - Minimum detectable concentration

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 06/20/11

Project: Marsland Baseline Samples **Work Order:** C11040726

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: R145209
Sample ID: LRB	14	Method Blank				Run: ICPMS2-C_110426A				04/26/11 10:12
Aluminum		ND	mg/L	0.10						
Arsenic		ND	mg/L	0.0010						
Barium		ND	mg/L	0.10						
Cadmium		ND	mg/L	0.0050						
Chromium		ND	mg/L	0.050						
Copper		ND	mg/L	0.010						
Lead		ND	mg/L	0.0010						
Manganese		ND	mg/L	0.010						
Mercury		ND	mg/L	0.0010						
Molybdenum		ND	mg/L	0.10						
Nickel		ND	mg/L	0.050						
Selenium		ND	mg/L	0.0010						
Uranium		ND	mg/L	0.00030						
Vanadium		ND	mg/L	0.10						
Sample ID: LFB	14	Laboratory Fortified Blank				Run: ICPMS2-C_110426A				04/26/11 10:19
Aluminum		0.0437	mg/L	0.0010	87	85	115			
Arsenic		0.0490	mg/L	0.0010	98	85	115			
Barium		0.0486	mg/L	0.0010	97	85	115			
Cadmium		0.0486	mg/L	0.0010	97	85	115			
Chromium		0.0496	mg/L	0.0010	99	85	115			
Copper		0.0472	mg/L	0.0010	94	85	115			
Lead		0.0489	mg/L	0.0010	98	85	115			
Manganese		0.0492	mg/L	0.0010	98	85	115			
Mercury		0.00488	mg/L	0.0010	98	85	115			
Molybdenum		0.0490	mg/L	0.0010	98	85	115			
Nickel		0.0480	mg/L	0.0010	96	85	115			
Selenium		0.0482	mg/L	0.0010	96	85	115			
Uranium		0.0501	mg/L	0.00030	100	85	115			
Vanadium		0.0495	mg/L	0.0010	99	85	115			
Sample ID: C11040726-006CMS4	14	Sample Matrix Spike				Run: ICPMS2-C_110426A				04/26/11 21:56
Aluminum		0.0674	mg/L	0.0010	112	70	130			
Arsenic		0.0645	mg/L	0.0010	102	70	130			
Barium		0.0731	mg/L	0.0010	100	70	130			
Cadmium		0.0492	mg/L	0.010	99	70	130			
Chromium		0.0533	mg/L	0.050	97	70	130			
Copper		0.0488	mg/L	0.010	97	70	130			
Lead		0.0497	mg/L	0.0010	99	70	130			
Manganese		0.0492	mg/L	0.010	98	70	130			
Mercury		0.00491	mg/L	0.0010	98	70	130			
Molybdenum		0.0543	mg/L	0.0010	98	70	130			
Nickel		0.0477	mg/L	0.0010	95	70	130			
Selenium		0.0597	mg/L	0.0010	96	70	130			
Uranium		0.0558	mg/L	0.00030	101	70	130			
Vanadium		0.0607	mg/L	0.0010	99	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Samples

Report Date: 06/20/11
Work Order: C11040726

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Batch: R145209	
Sample ID: C11040726-006CMSD	14	Sample Matrix Spike Duplicate				Run: ICPMS2-C_110426A			04/26/11 22:30	
Aluminum		0.0507	mg/L	0.0010	78	70	130	28	20	R
Arsenic		0.0637	mg/L	0.0010	100	70	130	1.3	20	
Barium		0.0729	mg/L	0.0010	100	70	130	0.3	20	
Cadmium		0.0491	mg/L	0.010	98	70	130	0.3	20	
Chromium		0.0527	mg/L	0.050	96	70	130	1.0	20	
Copper		0.0480	mg/L	0.010	95	70	130	1.6	20	
Lead		0.0496	mg/L	0.0010	99	70	130	0.1	20	
Manganese		0.0487	mg/L	0.010	97	70	130	1.0	20	
Mercury		0.00488	mg/L	0.0010	98	70	130	0.6	20	
Molybdenum		0.0534	mg/L	0.0010	96	70	130	1.7	20	
Nickel		0.0482	mg/L	0.0010	96	70	130	1.0	20	
Selenium		0.0591	mg/L	0.0010	95	70	130	0.9	20	
Uranium		0.0557	mg/L	0.00030	101	70	130	0.3	20	
Vanadium		0.0601	mg/L	0.0010	98	70	130	1.1	20	
Method: E200.8									Batch: 29662	
Sample ID: MB-29662		Method Blank				Run: ICPMS2-C_110429A			04/30/11 06:17	
Uranium		ND	pCi/Filter	0.00030						
Sample ID: LCS2-29662		Laboratory Control Sample				Run: ICPMS2-C_110429A			04/30/11 06:21	
Uranium		0.103	pCi/Filter	0.00030	103	85	115			
Sample ID: C11040726-006HMS		Sample Matrix Spike				Run: ICPMS2-C_110429A			04/30/11 08:01	
Uranium		0.00449	mg/L	0.0010	100	70	130			
Sample ID: C11040726-006HMSD		Sample Matrix Spike Duplicate				Run: ICPMS2-C_110429A			04/30/11 08:05	
Uranium		0.00450	mg/L	0.0010	101	70	130	0.3	20	

Qualifiers:

RL - Analyte reporting limit.
MDC - Minimum detectable concentration
ND - Not detected at the reporting limit.
R - RPD exceeds advisory limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Samples

Report Date: 06/20/11
Work Order: C11040726

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E300.0									Analytical Run: IC2-C_110425A	
Sample ID: ICV-110425	2	Initial Calibration Verification Standard							04/25/11 15:18	
Chloride		9.88	mg/L	1.0	99	90	110			
Sulfate		40.2	mg/L	1.0	100	90	110			
Method: E300.0									Batch: R145190	
Sample ID: ICB-110425	2	Method Blank				Run: IC2-C_110425A			04/25/11 15:33	
Chloride		ND	mg/L	1.0						
Sulfate		ND	mg/L	1.0						
Sample ID: LFB-110425	2	Laboratory Fortified Blank				Run: IC2-C_110425A			04/25/11 15:48	
Chloride		9.67	mg/L	1.0	97	90	110			
Sulfate		39.7	mg/L	1.0	99	90	110			
Sample ID: C11040726-005BMS	2	Sample Matrix Spike				Run: IC2-C_110425A			04/26/11 11:36	
Chloride		45.7	mg/L	1.0	94	80	120			
Sulfate		131	mg/L	1.6	100	80	120			
Sample ID: C11040726-005BMSD	2	Sample Matrix Spike Duplicate				Run: IC2-C_110425A			04/26/11 11:51	
Chloride		45.6	mg/L	1.0	94	80	120	0.3	10	
Sulfate		130	mg/L	1.6	99	80	120	0.5	10	

Qualifiers:

RL - Analyte reporting limit.
MDC - Minimum detectable concentration
ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Samples

Report Date: 06/20/11
Work Order: C11040726

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E353.2										Batch: R145338
Sample ID: MBLK-1		Method Blank				Run: TECHNICON_110429A				04/29/11 11:59
Nitrogen, Nitrate+Nitrite as N		ND	mg/L	0.10						
Sample ID: LCS-2		Laboratory Control Sample				Run: TECHNICON_110429A				04/29/11 12:01
Nitrogen, Nitrate+Nitrite as N		2.63	mg/L	0.10	105	90	110			
Sample ID: C11040728-002BMS		Sample Matrix Spike				Run: TECHNICON_110429A				04/29/11 13:34
Nitrogen, Nitrate+Nitrite as N		2.37	mg/L	0.10	104	90	110			
Sample ID: C11040728-002BMSD		Sample Matrix Spike Duplicate				Run: TECHNICON_110429A				04/29/11 13:36
Nitrogen, Nitrate+Nitrite as N		2.42	mg/L	0.10	106	90	110	2.1	10	

Qualifiers:

RL - Analyte reporting limit.
MDC - Minimum detectable concentration
ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 06/20/11

Project: Marsland Baseline Samples **Work Order:** C11040726

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E903.0									Batch: RA226-5340	
Sample ID: LCS-29662		Laboratory Control Sample				Run: BERTHOLD 770-2_110505A			05/11/11 10:48	
Radium 226		0.0090	pCi/g-dry		73	70	130			
Sample ID: MB-29662	3	Method Blank				Run: BERTHOLD 770-2_110505A			05/11/11 10:48	
Radium 226		ND	pCi/g-dry	0.10						U
Radium 226 precision (±)		0.00014	pCi/g-dry							
Radium 226 MDC		0.00035	pCi/g-dry							
Sample ID: C11040750-008AMS		Sample Matrix Spike				Run: BERTHOLD 770-2_110505A			05/11/11 12:48	
Radium 226		1.0	pCi/g-dry		97	70	130			
Sample ID: C11040750-008AMSD		Sample Matrix Spike Duplicate				Run: BERTHOLD 770-2_110505A			05/11/11 14:25	
Radium 226		1.0	pCi/g-dry		96	70	130	0.5	23.4	
Method: E903.0									Batch: RA226-5335	
Sample ID: C11040726-006DMS		Sample Matrix Spike				Run: TENNELEC-3_110503A			05/09/11 16:29	
Radium 226		6.3	pCi/L		96	70	130			
Sample ID: C11040726-006DMSD		Sample Matrix Spike Duplicate				Run: TENNELEC-3_110503A			05/09/11 16:29	
Radium 226		5.5	pCi/L		84	70	130	13	26	
Sample ID: MB-RA226-5335	3	Method Blank				Run: TENNELEC-3_110503A			05/09/11 21:59	
Radium 226		0.15	pCi/L	0.10						U
Radium 226 precision (±)		0.093	pCi/L							
Radium 226 MDC		0.11	pCi/L							
Sample ID: LCS-RA226-5335		Laboratory Control Sample				Run: TENNELEC-3_110503A			05/09/11 21:59	
Radium 226		5.7	pCi/L		88	85	115			

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

U - Not detected at minimum detectable concentration

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Samples

Report Date: 06/20/11
Work Order: C11040726

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E908.0										Batch: R146350
Sample ID: LCS-29539		Laboratory Control Sample				Run: EGG-ORTEC_110504A				05/09/11 14:36
Thorium 230		11	pCi/L		108	70	130			
Sample ID: MB-29539	3	Method Blank				Run: EGG-ORTEC_110504A				05/09/11 14:36
Thorium 230		ND	pCi/L	0.090						U
Thorium 230 precision (±)		0.20	pCi/L							
Thorium 230 MDC		0.40	pCi/L							
Sample ID: C11040726-006HMS		Sample Matrix Spike				Run: EGG-ORTEC_110504A				05/09/11 14:37
Thorium 230		9.9	pCi/L		116	70	130			
Sample ID: C11040726-006HMSD		Sample Matrix Spike Duplicate				Run: EGG-ORTEC_110504A				05/09/11 14:36
Thorium 230		8.4	pCi/L		97	70	130	16	48.1	
Method: E908.0										Batch: RA-TH-ISO-1391
Sample ID: LCS-RA-TH-ISO-1391		Laboratory Control Sample				Run: EGG-ORTEC_110518A				05/20/11 16:22
Thorium 230		5.2	pCi/L		91	70	130			
Sample ID: C11040726-003DMS		Sample Matrix Spike				Run: EGG-ORTEC_110518A				05/20/11 16:22
Thorium 230		11	pCi/L		101	70	130			
Sample ID: C11040726-003DMSD		Sample Matrix Spike Duplicate				Run: EGG-ORTEC_110518A				05/20/11 16:22
Thorium 230		11	pCi/L		96	70	130	5.1	39	
Sample ID: MB-RA-TH-ISO-1391	3	Method Blank				Run: EGG-ORTEC_110518A				05/23/11 09:10
Thorium 230		ND	pCi/L	0.090						U
Thorium 230 precision (±)		0.093	pCi/L							
Thorium 230 MDC		0.15	pCi/L							

Qualifiers:

RL - Analyte reporting limit.
MDC - Minimum detectable concentration
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 06/20/11

Project: Marsland Baseline Samples **Work Order:** C11040726

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E909.0									Batch: T_PB-210-0106	
Sample ID: T11040117-004GMSD		Sample Matrix Spike Duplicate				Run: SUB-T40731			06/09/11 04:32	
Lead 210		160	pCi/L		106	70	130	9.8	16.7	
Sample ID: MB-PB-210-0106	3	Method Blank				Run: SUB-T40731			06/09/11 00:07	
Lead 210		ND	pCi/L	0.90						U
Lead 210 precision (±)		1.0	pCi/L							
Lead 210 MDC		1.7	pCi/L							
Sample ID: LCS-PB-210-0106		Laboratory Control Sample				Run: SUB-T40731			06/09/11 01:13	
Lead 210		54	pCi/L		99	70	130			
Sample ID: T11040117-004GMS		Sample Matrix Spike				Run: SUB-T40731			06/09/11 03:26	
Lead 210		150	pCi/L		96	70	130			
Method: E909.0									Batch: T_13936	
Sample ID: MB-13936	3	Method Blank				Run: SUB-T40778			06/10/11 16:04	
Lead 210		ND	pCi/Filter	0.90						U
Lead 210 precision (±)		6.19	pCi/Filter							
Lead 210 MDC		10.6	pCi/Filter							
Sample ID: LCS-13936		Laboratory Control Sample				Run: SUB-T40778			06/10/11 17:10	
Lead 210		305	pCi/Filter		87	70	130			
Sample ID: C11040613-001AMS		Sample Matrix Spike				Run: SUB-T40778			06/10/11 19:22	
Lead 210		1030	pCi/Filter		92	70	130			
Sample ID: C11040613-001AMSD		Sample Matrix Spike Duplicate				Run: SUB-T40778			06/10/11 20:28	
Lead 210		1010	pCi/Filter		88	70	130	1.9	16.6	
Method: E909.0									Batch: T_PB-210-0107	
Sample ID: C11040726-006FMSD		Sample Matrix Spike Duplicate				Run: SUB-T40779			06/13/11 12:31	
Lead 210		100	pCi/L		95	70	130	4.8	16.8	
Sample ID: MB-PB-210-0107	3	Method Blank				Run: SUB-T40779			06/13/11 08:07	
Lead 210		ND	pCi/L	0.90						U
Lead 210 precision (±)		0.99	pCi/L							
Lead 210 MDC		1.7	pCi/L							
Sample ID: LCS-PB-210-0107		Laboratory Control Sample				Run: SUB-T40779			06/13/11 09:13	
Lead 210		53	pCi/L		98	70	130			
Sample ID: C11040726-006FMS		Sample Matrix Spike				Run: SUB-T40779			06/13/11 11:25	
Lead 210		110	pCi/L		99	70	130			

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

U - Not detected at minimum detectable concentration

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Samples

Report Date: 06/20/11
Work Order: C11040726

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E912.0										Batch: R146175
Sample ID: C11040296-001HMS		Sample Matrix Spike				Run: EGG-ORTEC_110503C				05/05/11 08:57
Polonium 210		5.3	pCi/L		100	70	130			
Sample ID: C11040296-001HMSD		Sample Matrix Spike Duplicate				Run: EGG-ORTEC_110503C				05/05/11 11:49
Polonium 210		5.7	pCi/L		108	70	130	7.9	67.5	
Sample ID: LCS-29539		Laboratory Control Sample				Run: EGG-ORTEC_110503C				05/05/11 11:49
Polonium 210		0.43	pCi/L			70	130			US
- LCS response is outside of the acceptance range for this analysis. Since the MB, MS, MSD, and all tracer recoveries are acceptable the batch is approved.										
Sample ID: MB-29539	3	Method Blank				Run: EGG-ORTEC_110503C				05/05/11 11:49
Polonium 210		0.32	pCi/L	0.20						U
Polonium 210 precision (±)		1.1	pCi/L							
Polonium 210 MDC		2.0	pCi/L							
Method: E912.0										Batch: PO210-0365
Sample ID: C11040296-001EMS		Sample Matrix Spike				Run: EGG-ORTEC_110507A				05/09/11 09:07
Polonium 210		12	pCi/L		89	70	130			
Sample ID: C11040296-001EMSD		Sample Matrix Spike Duplicate				Run: EGG-ORTEC_110507A				05/09/11 09:07
Polonium 210		17	pCi/L		127	70	130	35	67.6	
Sample ID: MB-PO210-0365	3	Method Blank				Run: EGG-ORTEC_110507A				05/09/11 11:17
Polonium 210		ND	pCi/L	0.20						U
Polonium 210 precision (±)		0.23	pCi/L							
Polonium 210 MDC		0.58	pCi/L							
Sample ID: LCS-PO210-0365		Laboratory Control Sample				Run: EGG-ORTEC_110507A				05/09/11 11:17
Polonium 210		6.4	pCi/L		101	70	130			

Qualifiers:

RL - Analyte reporting limit.
MDC - Minimum detectable concentration
U - Not detected at minimum detectable concentration
ND - Not detected at the reporting limit.
S - Spike recovery outside of advisory limits.

Workorder Receipt Checklist

Crow Butte Resources

C11040726

Login completed by: Edith McPike
Reviewed by: BL2000\cwagner
Reviewed Date: 4/25/2011

Date Received: 4/22/2011
Received by: jba
Carrier name: Next Day Air Saver

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature:	8.6°C On Ice		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Contact and Corrective Action Comments:

Samples filtered and preserved as necessary for dissolved Radionuclides.

Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: Crow Butte Resources, Inc.	Project Name: Marsland Baseline Samples	Sample Origin: State:	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: P.O. Box 169, Crawford, NE 69339	Contact Name: Larry Teahon; Phone/Fax: 308-665-2341	Email: daxmynus@msn.com	Sampler: (Please Print) Brooke Bass, Rhonda Pelton
Invoice Address: P.O. Box 169, Crawford, NE 69339	Invoice Contact & Phone: Larry Teahon, 308-665-2215 ext 114	Purchase Order: 1125	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

- ☐ DW
- ☐ GSA
- ☐ POTW/WWTP
- ☐ State: _____
- ☐ Other: _____
- ☐ A2LA
- ☐ EDD/EDT (Electronic Data) Format: _____
- ☐ LEVEL IV
- ☐ NELAC

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX (Number of Containers; Sample Type: A W S V B O; Air Water Soils/Solids Vegetation Bioassay Other)	HNO3-F, Metals	RAW-F, Common Ions	RAW-UF, Alkalinity	H2SO4-F, NO2, NO3, NH4	Raw-UF, Ra226, Po210 dis, sus	Raw-UF, Pb210 dis and sus	Rau-UF, Th230, U-nat dis and sus			SEE ATTACHED	Normal Turnaround (TAT)	RUSH	Comments
1	Well 705	4/20/11		Water	.5	1	1	.5	1 G	1 G	1 G						Please report 5/25/11
2	Well 727	4/20/11		Water	.5	1	1	.5	1 G	1 G	1 G						Please report 5/25/11
3	Well 788	4/20/11		Water	.5	1	1	.5	1 G	1 G	1 G						Please report 5/25/11
4	BOW-8	4/19/11		Water	.5	1	1	.5	1 G	1 G	1 G						Please report 5/25/11
5	BOW-7	4/19/11		Water	.5	1	1	.5	1 G	1 G	1 G						Please report 5/25/11
6	BOW-4A	4/19/11		Water	.5	1	1	.5	1 G	1 G	1 G						Please report 5/25/11
7																	
8																	
9																	
10																	

Contact ELI prior to RUSH sample submittal for charges and scheduling – See Instruction Page

Comments: NDEQ parameters for baseline sampling. Report on separate sheets. Analyze as per WDEQ Guideline 8 and NRC Reg. Guide 4.14 requirements. Record U as mg/L and µCi/ml and radiometrics as pCi/L

LABORATORY USE ONLY

Shipped by: UPS G

Cooler ID(s): Client

Receipt Temp: 8.6 °C

On Ice: Yes No

Custody Seal Y N

Intact Y N

Signature Match Y N

11040724

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Brooke Bass	4/21/11 10:30	Brooke Bass			
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory: Gil Anderson	Date/Time: 4/22/11 9:30	Signature:

Sample Disposal: Return to Client: No Lab Disposal: YES

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.

CROW BUTTE RESOURCES, INC.
CROW BUTTE PROJECT

NO_2^-

DATE: 4/20/11

ANALYST: _____

STANDARD CURVE DATA

NO_2^-	BL	0.01	0.05	0.1			
Abs	0	0.033	0.169	0.336			
Abs							

SAMPLE #	VOLUME	Df	Abs	NO_2^- mg/L
1 705	10 ml	1	0.013	<0.01
2 727	10 ml	1	-0.002	<0.01
3 788	10 ml	1	-0.001	<0.01
4				
5 788 Dup	10 ml	1	-0.001	<0.01
Dup				
6				
7				
8				
9				
10				
Dup				
11				
12				
13				
14				
15				
Dup				
16				
17				
18				
19				
20				
Dup				
21				
22				
23				
24				
25				
Dup				

CROW BUTTE RESOURCES, INC.
CROW BUTTE PROJECT

NO_2^-

DATE: 4/19/11

ANALYST: _____

STANDARD CURVE DATA

NO_2^-	BL	0.01	0.05	0.10			
Abs	0	.034	.173	.344			
Abs							

SAMPLE #	VOLUME	Df	Abs	NO_2^- mg/L
1 BOW 4-A	10 ml	1	0.330	0.1
2 BOW 7	10 ml	1	0.306	0.09
3 BOW 8	10 ml	1	0.004	<0.01
4				
5 BOW 8 Dup	10 ml	1	0.006	<0.01
Dup				
6				
7				
8				
9				
10				
Dup				
11				
12				
13				
14				
15				
Dup				
16				
17				
18				
19				
20				
Dup				
21				
22				
23				
24				
25				
Dup				

ANALYTICAL SUMMARY REPORT

June 23, 2011

Crow Butte Resources
86 Crow Butte Rd
Crawford, NE 69339

Workorder No.: C11040852 Quote ID: C1125 - Crow Butte Uranium

Project Name: Marsland Baseline Samples

Energy Laboratories, Inc. Casper WY received the following 1 sample for Crow Butte Resources on 4/28/2011 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C11040852-001	Well 747	04/25/11 00:00	04/28/11	Aqueous	Metals by ICP/ICPMS, Dissolved Alkalinity QA Calculations Conductivity Sample Filtering Fluoride E300.0 Anions Uranium, Suspended Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Digestion, Total Metals Lead 210, Dissolved Lead 210, Suspended Polonium 210, Dissolved Polonium 210, Suspended Radium 226, Dissolved Radium 226, Suspended Thorium, Isotopic Thorium, Suspended Isotopic Solids, Total Dissolved

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:

CLIENT: Crow Butte Resources
Project: Marsland Baseline Samples
Sample Delivery Group: C11040852

Report Date: 06/23/11

CASE NARRATIVE

RADIOCHEMISTRY ANALYSIS
Per client request, results less than MDC (or precision if no MDC), are reported as <MDC (or <precision). Actual instrument results are available by request.

BRANCH LABORATORY SUBCONTRACT ANALYSIS
Tests associated with analyst identified as ELI-CS were subcontracted to Energy Laboratories, 415 Graham Rd., College Station, TX, EPA Number TX01520.

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.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Samples
Lab ID: C11040852-001
Client Sample ID: Well 747

Report Date: 06/23/11
Collection Date: 04/25/11
DateReceived: 04/28/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Alkalinity, Total as CaCO3	132	mg/L		1		A2320 B	04/29/11 17:56 / jba
Carbonate as CO3	ND	mg/L		1		A2320 B	04/29/11 17:56 / jba
Bicarbonate as HCO3	161	mg/L		1		A2320 B	04/29/11 17:56 / jba
Calcium	32	mg/L		1		E200.7	05/13/11 14:26 / cp
Chloride	3	mg/L		1		E300.0	05/03/11 14:20 / ljl
Fluoride	1.0	mg/L		0.1		A4500-F C	05/02/11 13:03 / jba
Magnesium	7	mg/L		1		E200.8	05/06/11 19:17 / sml
Nitrogen, Ammonia as N	ND	mg/L		0.05		A4500-NH3 G	05/04/11 12:29 / dc
Nitrogen, Nitrate+Nitrite as N	0.9	mg/L		0.1		E353.2	05/02/11 12:18 / dc
Potassium	3	mg/L		1		E200.7	05/13/11 14:26 / cp
Silica	79.8	mg/L		0.2		E200.7	05/19/11 13:51 / cp
Sodium	14	mg/L		1		E200.8	05/06/11 19:17 / sml
Sulfate	5	mg/L		1		E300.0	05/02/11 17:27 / ljl
PHYSICAL PROPERTIES							
Conductivity @ 25 C	263	umhos/cm		1		A2510 B	04/29/11 08:38 / lmc
pH	8.07	s.u.		0.01		A4500-H B	04/29/11 08:38 / lmc
Solids, Total Dissolved TDS @ 180 C	216	mg/L		10		A2540 C	04/29/11 16:34 / lmc
METALS - DISSOLVED							
Aluminum	ND	mg/L		0.1		E200.8	05/06/11 19:17 / sml
Arsenic	0.005	mg/L		0.001		E200.8	05/06/11 19:17 / sml
Barium	ND	mg/L		0.1		E200.8	05/06/11 19:17 / sml
Boron	ND	mg/L		0.1		E200.8	05/06/11 19:17 / sml
Cadmium	ND	mg/L		0.005		E200.8	05/06/11 19:17 / sml
Chromium	ND	mg/L		0.05		E200.8	05/06/11 19:17 / sml
Copper	ND	mg/L		0.01		E200.8	05/06/11 19:17 / sml
Iron	ND	mg/L		0.03		E200.8	05/06/11 19:17 / sml
Lead	ND	mg/L		0.001		E200.8	05/06/11 19:17 / sml
Manganese	ND	mg/L		0.01		E200.8	05/06/11 19:17 / sml
Mercury	ND	mg/L		0.001		E200.8	05/06/11 19:17 / sml
Molybdenum	ND	mg/L		0.1		E200.8	05/06/11 19:17 / sml
Nickel	ND	mg/L		0.05		E200.8	05/06/11 19:17 / sml
Selenium	0.001	mg/L		0.001		E200.8	05/06/11 19:17 / sml
Uranium	0.0059	mg/L		0.0003		E200.8	05/06/11 19:17 / sml
Uranium, Activity	4.0E-09	uCi/mL		2.0E-10		E200.8	05/06/11 19:17 / sml
Vanadium	ND	mg/L		0.1		E200.8	05/06/11 19:17 / sml
Zinc	0.06	mg/L		0.01		E200.8	05/06/11 19:17 / sml
METALS - SUSPENDED							
Uranium	ND	mg/L		0.0003		E200.8	05/10/11 04:23 / sml
Uranium, Activity	ND	uCi/mL		2.0E-10		E200.8	05/10/11 04:23 / sml

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Samples
Lab ID: C11040852-001
Client Sample ID: Well 747

Report Date: 06/23/11
Collection Date: 04/25/11
DateReceived: 04/28/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES - DISSOLVED							
Lead 210	<1.2	pCi/L	U	1.2		E909.0	06/20/11 03:21 / eli-cs
Lead 210 precision (±)	0.7	pCi/L				E909.0	06/20/11 03:21 / eli-cs
Lead 210 MDC	1.2	pCi/L				E909.0	06/20/11 03:21 / eli-cs
Polonium 210	<0.5	pCi/L	U	0.5		E912.0	05/10/11 08:41 / ep
Polonium 210 precision (±)	0.3	pCi/L				E912.0	05/10/11 08:41 / ep
Polonium 210 MDC	0.5	pCi/L				E912.0	05/10/11 08:41 / ep
Radium 226	0.2	pCi/L		0.1		E903.0	05/09/11 16:29 / trs
Radium 226 precision (±)	0.1	pCi/L				E903.0	05/09/11 16:29 / trs
Radium 226 MDC	0.1	pCi/L				E903.0	05/09/11 16:29 / trs
Thorium 230	<0.2	pCi/L	U	0.2		E908.0	05/23/11 09:10 / dmf
Thorium 230 precision (±)	0.08	pCi/L				E908.0	05/23/11 09:10 / dmf
Thorium 230 MDC	0.2	pCi/L				E908.0	05/23/11 09:10 / dmf
RADIONUCLIDES - SUSPENDED							
Lead 210	<1.2	pCi/L	U	1.2		E909.0	05/26/11 02:06 / eli-cs
Lead 210 precision (±)	0.7	pCi/L				E909.0	05/26/11 02:06 / eli-cs
Lead 210 MDC	1.2	pCi/L				E909.0	05/26/11 02:06 / eli-cs
Polonium 210	<0.2	pCi/L	U	0.2		E912.0	05/19/11 09:04 / ep
Polonium 210 precision (±)	0.1	pCi/L				E912.0	05/19/11 09:04 / ep
Polonium 210 MDC	0.2	pCi/L				E912.0	05/19/11 09:04 / ep
Radium 226	<0.1	pCi/L	U	0.1		E903.0	05/31/11 21:44 / trs
Radium 226 precision (±)	0.04	pCi/L				E903.0	05/31/11 21:44 / trs
Radium 226 MDC	0.1	pCi/L				E903.0	05/31/11 21:44 / trs
Thorium 230	<0.1	pCi/L	U	0.1		E908.0	05/23/11 09:12 / dmf
Thorium 230 precision (±)	0.08	pCi/L				E908.0	05/23/11 09:12 / dmf
Thorium 230 MDC	0.1	pCi/L				E908.0	05/23/11 09:12 / dmf
DATA QUALITY							
A/C Balance (± 5)	-2.19	%				Calculation	05/25/11 07:53 / kbh
Anions	2.95	meq/L				Calculation	05/25/11 07:53 / kbh
Cations	2.83	meq/L				Calculation	05/25/11 07:53 / kbh
Solids, Total Dissolved Calculated	249	mg/L				Calculation	05/25/11 07:53 / kbh
TDS Balance (0.80 - 1.20)	0.870					Calculation	05/25/11 07:53 / kbh

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Samples

Report Date: 06/23/11
Work Order: C11040852

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2320 B										Batch: R145349
Sample ID: MBLK	3	Method Blank				Run: MANTECH_110429A				04/29/11 15:59
Alkalinity, Total as CaCO3		2.98	mg/L	1.0						
Carbonate as CO3		ND	mg/L	1.0						
Bicarbonate as HCO3		3.64	mg/L	1.0						
Sample ID: LCS		Laboratory Control Sample				Run: MANTECH_110429A				04/29/11 16:15
Alkalinity, Total as CaCO3		209	mg/L	5.0	103	90	110			
Sample ID: C11040852-001BDUP		Sample Duplicate				Run: MANTECH_110429A				04/29/11 18:04
Alkalinity, Total as CaCO3		132	mg/L	5.0				0.0	10	
Sample ID: C11040852-001BMS		Sample Matrix Spike				Run: MANTECH_110429A				04/29/11 18:14
Alkalinity, Total as CaCO3		267	mg/L	5.0	108	80	120			

Qualifiers:

RL - Analyte reporting limit.
MDC - Minimum detectable concentration
ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Samples

Report Date: 06/23/11
Work Order: C11040852

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2510 B								Analytical Run: ORION555A-2_110429A		
Sample ID: ICV2_110429_1		Initial Calibration Verification Standard							04/29/11 08:26	
Conductivity @ 25 C		1380	umhos/cm	1.0	98	90	110			
Method: A2510 B								Batch: 110429_1_PH-W_555A-2		
Sample ID: MBLK1_110429_1		Method Blank				Run: ORION555A-2_110429A			04/29/11 08:23	
Conductivity @ 25 C		ND	umhos/cm	1.0						
Sample ID: C11040846-001BDUP		Sample Duplicate				Run: ORION555A-2_110429A			04/29/11 09:15	
Conductivity @ 25 C		1360	umhos/cm	1.0				0.1	10	

Qualifiers:

RL - Analyte reporting limit.
MDC - Minimum detectable concentration
ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Samples

Report Date: 06/23/11
Work Order: C11040852

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 C										Batch: R145440
Sample ID: MBLK1_		Method Blank				Run: BAL-1_110429B				04/29/11 16:33
Solids, Total Dissolved TDS @ 180 C		ND	mg/L	10						
Sample ID: LCS1_		Laboratory Control Sample				Run: BAL-1_110429B				04/29/11 16:33
Solids, Total Dissolved TDS @ 180 C		1010	mg/L	10	100	90	110			
Sample ID: C11040889-002BDUP		Sample Duplicate				Run: BAL-1_110429B				04/29/11 16:36
Solids, Total Dissolved TDS @ 180 C		264	mg/L	10				1.5	10	
Sample ID: C11040893-001AMS		Sample Matrix Spike				Run: BAL-1_110429B				04/29/11 16:38
Solids, Total Dissolved TDS @ 180 C		3500	mg/L	10	102	90	110			

Qualifiers:

RL - Analyte reporting limit.
MDC - Minimum detectable concentration
ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Samples

Report Date: 06/23/11
Work Order: C11040852

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-F C										Batch: R145395
Sample ID: MBLK		Method Blank				Run: MANTECH_110502A				05/02/11 08:58
Fluoride		ND	mg/L	0.10						
Sample ID: LCS		Laboratory Control Sample				Run: MANTECH_110502A				05/02/11 09:01
Fluoride		1.02	mg/L	0.10	99	90	110			
Sample ID: C11040889-002AMS		Sample Matrix Spike				Run: MANTECH_110502A				05/02/11 13:24
Fluoride		1.16	mg/L	0.10	103	80	120			
Sample ID: C11040889-002AMSD		Sample Matrix Spike Duplicate				Run: MANTECH_110502A				05/02/11 13:26
Fluoride		1.16	mg/L	0.10	103	80	120	0.0	10	

Qualifiers:

RL - Analyte reporting limit.
MDC - Minimum detectable concentration
ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Samples

Report Date: 06/23/11
Work Order: C11040852

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-H B								Analytical Run: ORION555A-2_110429A		
Sample ID: ICV1_110429_1		Initial Calibration Verification Standard							04/29/11 08:24	
pH		6.94	s.u.	0.010	101	98	102			
Method: A4500-H B								Batch: 110429_1_PH-W_555A-2		
Sample ID: C11040846-001BDUP		Sample Duplicate				Run: ORION555A-2_110429A			04/29/11 09:15	
pH		7.95	s.u.	0.010				0.1	3	

Qualifiers:

RL - Analyte reporting limit.
MDC - Minimum detectable concentration
ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Samples

Report Date: 06/23/11
Work Order: C11040852

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-NH3 G										Batch: R145477
Sample ID: MBLK-6		Method Blank				Run: TECHNICON_110504A				05/04/11 12:21
Nitrogen, Ammonia as N		ND	mg/L	0.050						
Sample ID: LCS-7		Laboratory Control Sample				Run: TECHNICON_110504A				05/04/11 12:23
Nitrogen, Ammonia as N		1.94	mg/L	0.050	97	90	110			
Sample ID: C11040852-001DMS		Sample Matrix Spike				Run: TECHNICON_110504A				05/04/11 12:35
Nitrogen, Ammonia as N		1.79	mg/L	0.050	91	80	120			
Sample ID: C11040852-001DMSD		Sample Matrix Spike Duplicate				Run: TECHNICON_110504A				05/04/11 12:37
Nitrogen, Ammonia as N		1.80	mg/L	0.050	92	80	120	0.6	10	

Qualifiers:

RL - Analyte reporting limit.
MDC - Minimum detectable concentration
ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 06/23/11

Project: Marsland Baseline Samples **Work Order:** C11040852

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7										Batch: R145849
Sample ID: MB-110513A	2	Method Blank				Run: ICP2-C_110513A				05/13/11 12:21
Calcium		ND	mg/L	1.0						
Potassium		ND	mg/L	1.0						
Sample ID: LFB-110513A	2	Laboratory Fortified Blank				Run: ICP2-C_110513A				05/13/11 12:25
Calcium		48.0	mg/L	0.50	96	85	115			
Potassium		43.7	mg/L	0.50	87	85	115			
Sample ID: C11040852-001CMS2	2	Sample Matrix Spike				Run: ICP2-C_110513A				05/13/11 14:30
Calcium		129	mg/L	1.0	95	70	130			
Potassium		88.8	mg/L	1.0	84	70	130			
Sample ID: C11040852-001CMSD	2	Sample Matrix Spike Duplicate				Run: ICP2-C_110513A				05/13/11 14:34
Calcium		130	mg/L	1.0	96	70	130	0.9	20	
Potassium		89.1	mg/L	1.0	85	70	130	0.3	20	
Method: E200.7										Batch: R146055
Sample ID: MB-110519A		Method Blank				Run: ICP2-C_110519A				05/19/11 12:44
Silicon		ND	mg/L	0.10						
Sample ID: LFB-110519A		Laboratory Fortified Blank				Run: ICP2-C_110519A				05/19/11 12:48
Silicon		0.489	mg/L	0.10	98	85	115			
Sample ID: C11040726-001CMS2		Sample Matrix Spike				Run: ICP2-C_110519A				05/19/11 13:18
Silicon		33.2	mg/L	0.10		70	130			A
Sample ID: C11040726-001CMSD		Sample Matrix Spike Duplicate				Run: ICP2-C_110519A				05/19/11 13:22
Silicon		33.0	mg/L	0.10		70	130	0.5	20	A

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

MDC - Minimum detectable concentration

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Samples

Report Date: 06/23/11
Work Order: C11040852

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: 29764
Sample ID: MB-29764		Method Blank				Run: ICPMS2-C_110509A				05/10/11 04:11
Uranium		ND	mg/L	0.00030						
Sample ID: LCS2-29764		Laboratory Control Sample				Run: ICPMS2-C_110509A				05/10/11 04:15
Uranium		0.104	mg/L	0.00030	104	85	115			
Sample ID: C11040852-001HMS		Sample Matrix Spike				Run: ICPMS2-C_110509A				05/10/11 04:27
Uranium		0.00461	mg/L	0.00030	102	70	130			
Sample ID: C11040852-001HMSD		Sample Matrix Spike Duplicate				Run: ICPMS2-C_110509A				05/10/11 04:32
Uranium		0.00474	mg/L	0.00030	105	70	130	2.8	20	

Qualifiers:

RL - Analyte reporting limit.
MDC - Minimum detectable concentration
ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 06/23/11

Project: Marsland Baseline Samples **Work Order:** C11040852

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: R145598A
Sample ID: C11040769-001BMS4	19	Sample Matrix Spike				Run: ICPMS4-C_110506A			05/06/11 17:34	
Aluminum		0.323	mg/L	0.10	100	70	130			
Arsenic		0.267	mg/L	0.0010	107	70	130			
Barium		0.295	mg/L	0.10	103	70	130			
Boron		0.291	mg/L	0.10	100	70	130			
Cadmium		0.258	mg/L	0.010	103	70	130			
Chromium		0.259	mg/L	0.050	103	70	130			
Copper		0.258	mg/L	0.010	103	70	130			
Iron		6.34	mg/L	0.030	101	70	130			
Lead		0.257	mg/L	0.050	103	70	130			
Magnesium		106	mg/L	1.0	95	70	130			
Manganese		0.282	mg/L	0.010	101	70	130			
Mercury		0.0266	mg/L	0.0010	107	70	130			
Molybdenum		0.257	mg/L	0.10	103	70	130			
Nickel		0.260	mg/L	0.050	103	70	130			
Selenium		0.270	mg/L	0.0010	108	70	130			
Sodium		88.4	mg/L	1.0	96	70	130			
Uranium		0.261	mg/L	0.00030	104	70	130			
Vanadium		0.255	mg/L	0.10	102	70	130			
Zinc		0.307	mg/L	0.010	92	70	130			
Sample ID: C11040769-001BMSD	19	Sample Matrix Spike Duplicate				Run: ICPMS4-C_110506A			05/06/11 17:40	
Aluminum		0.319	mg/L	0.10	98	70	130	1.2	20	
Arsenic		0.264	mg/L	0.0010	106	70	130	1.0	20	
Barium		0.299	mg/L	0.10	105	70	130	1.2	20	
Boron		0.293	mg/L	0.10	101	70	130	0.7	20	
Cadmium		0.259	mg/L	0.010	104	70	130	0.4	20	
Chromium		0.254	mg/L	0.050	102	70	130	1.9	20	
Copper		0.256	mg/L	0.010	102	70	130	0.9	20	
Iron		6.28	mg/L	0.030	100	70	130	0.8	20	
Lead		0.256	mg/L	0.050	102	70	130	0.4	20	
Magnesium		107	mg/L	1.0	96	70	130	0.4	20	
Manganese		0.282	mg/L	0.010	101	70	130	0.2	20	
Mercury		0.0273	mg/L	0.0010	109	70	130	2.5	20	
Molybdenum		0.257	mg/L	0.10	103	70	130	0.2	20	
Nickel		0.256	mg/L	0.050	101	70	130	1.7	20	
Selenium		0.268	mg/L	0.0010	107	70	130	1.0	20	
Sodium		88.3	mg/L	1.0	96	70	130	0.1	20	
Uranium		0.263	mg/L	0.00030	105	70	130	0.6	20	
Vanadium		0.252	mg/L	0.10	101	70	130	1.0	20	
Zinc		0.304	mg/L	0.010	91	70	130	0.9	20	

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 06/23/11
Project: Marsland Baseline Samples **Work Order:** C11040852

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: R145598A
Sample ID: LRB	19	Method Blank				Run: ICPMS4-C_110506A				05/06/11 15:59
Aluminum		ND	mg/L	0.10						
Arsenic		ND	mg/L	0.0010						
Barium		ND	mg/L	0.10						
Boron		ND	mg/L	0.10						
Cadmium		ND	mg/L	0.0050						
Chromium		ND	mg/L	0.050						
Copper		ND	mg/L	0.010						
Iron		ND	mg/L	0.030						
Lead		ND	mg/L	0.0010						
Magnesium		ND	mg/L	1.0						
Manganese		ND	mg/L	0.010						
Mercury		ND	mg/L	0.0010						
Molybdenum		ND	mg/L	0.10						
Nickel		ND	mg/L	0.050						
Selenium		ND	mg/L	0.0010						
Sodium		ND	mg/L	1.0						
Uranium		ND	mg/L	0.00030						
Vanadium		ND	mg/L	0.10						
Zinc		ND	mg/L	0.010						
Sample ID: LFB	19	Laboratory Fortified Blank				Run: ICPMS4-C_110506A				05/06/11 16:06
Aluminum		0.0528	mg/L	0.0010	106	85	115			
Arsenic		0.0513	mg/L	0.0010	103	85	115			
Barium		0.0517	mg/L	0.0010	103	85	115			
Boron		0.0506	mg/L	0.0010	101	85	115			
Cadmium		0.0519	mg/L	0.0010	104	85	115			
Chromium		0.0503	mg/L	0.0010	101	85	115			
Copper		0.0510	mg/L	0.0010	102	85	115			
Iron		1.26	mg/L	0.012	101	85	115			
Lead		0.0512	mg/L	0.0010	102	85	115			
Magnesium		12.2	mg/L	0.12	97	85	115			
Manganese		0.0499	mg/L	0.0010	100	85	115			
Mercury		0.00510	mg/L	0.0010	102	85	115			
Molybdenum		0.0485	mg/L	0.0010	97	85	115			
Nickel		0.0504	mg/L	0.0010	101	85	115			
Selenium		0.0539	mg/L	0.0010	108	85	115			
Sodium		12.1	mg/L	0.12	97	85	115			
Uranium		0.0505	mg/L	0.00030	101	85	115			
Vanadium		0.0501	mg/L	0.0010	100	85	115			
Zinc		0.0548	mg/L	0.0010	107	85	115			

Qualifiers:

RL - Analyte reporting limit.
MDC - Minimum detectable concentration
ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 06/23/11

Project: Marsland Baseline Samples **Work Order:** C11040852

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E300.0									Analytical Run: IC2-C_110502A	
Sample ID: ICV	2	Initial Calibration Verification Standard							05/02/11 14:37	
Chloride		9.84	mg/L	1.0	98	90	110			
Sulfate		40.1	mg/L	1.0	100	90	110			
Method: E300.0									Batch: R145448	
Sample ID: LFB	2	Laboratory Fortified Blank				Run: IC2-C_110502A			05/02/11 14:53	
Chloride		9.78	mg/L	1.0	97	90	110			
Sulfate		39.5	mg/L	1.0	98	90	110			
Sample ID: ICB	2	Method Blank				Run: IC2-C_110502A			05/02/11 15:08	
Chloride		ND	mg/L	1.0						
Sulfate		ND	mg/L	1.0						
Sample ID: C11040846-002BMS	2	Sample Matrix Spike				Run: IC2-C_110502A			05/02/11 16:41	
Chloride		25.8	mg/L	1.0	102	80	120			
Sulfate		304	mg/L	1.6	85	80	120			
Sample ID: C11040846-002BMSD	2	Sample Matrix Spike Duplicate				Run: IC2-C_110502A			05/02/11 16:56	
Chloride		25.7	mg/L	1.0	102	80	120	0.3	10	
Sulfate		302	mg/L	1.6	84	80	120	0.4	10	

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Samples

Report Date: 06/23/11
Work Order: C11040852

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E353.2										Batch: R145387
Sample ID: MBLK-1		Method Blank				Run: TECHNICON_110502A				05/02/11 12:13
Nitrogen, Nitrate+Nitrite as N		ND	mg/L	0.10						
Sample ID: LCS-2		Laboratory Control Sample				Run: TECHNICON_110502A				05/02/11 12:16
Nitrogen, Nitrate+Nitrite as N		2.73	mg/L	0.10	109	90	110			
Sample ID: C11040862-004FMS		Sample Matrix Spike				Run: TECHNICON_110502A				05/02/11 12:31
Nitrogen, Nitrate+Nitrite as N		2.00	mg/L	0.10	102	90	110			
Sample ID: C11040862-004FMSD		Sample Matrix Spike Duplicate				Run: TECHNICON_110502A				05/02/11 12:33
Nitrogen, Nitrate+Nitrite as N		1.99	mg/L	0.10	102	90	110	0.5	10	

Qualifiers:

RL - Analyte reporting limit.
MDC - Minimum detectable concentration
ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 06/23/11

Project: Marsland Baseline Samples **Work Order:** C11040852

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E903.0										Batch: RA226-5349
Sample ID: LCS-29763		Laboratory Control Sample				Run: BERTHOLD 770-2_110510A				05/31/11 21:44
Radium 226		1.3E-05	uCi/kg		108	70	130			
Sample ID: MB-29763	3	Method Blank				Run: BERTHOLD 770-2_110510A				05/31/11 21:44
Radium 226		ND	uCi/kg	0.10						U
Radium 226 precision (±)		1.1E-07	uCi/kg							
Radium 226 MDC		2.7E-07	uCi/kg							
Sample ID: C11050009-001AMS		Sample Matrix Spike				Run: BERTHOLD 770-2_110510A				05/31/11 23:48
Radium 226		1.7	pCi/g-dry		89	70	130			
Sample ID: C11050009-001AMSD		Sample Matrix Spike Duplicate				Run: BERTHOLD 770-2_110510A				05/31/11 23:48
Radium 226		1.3	pCi/g-dry		79	70	130	28	26.3	R
- The RPD for the MSD is high. The individual spike recoveries are within range, the MB is acceptable, and the LCS is within range, therefore the batch is approved.										
Method: E903.0										Batch: RA226-5335
Sample ID: C11040726-006DMS		Sample Matrix Spike				Run: TENNELEC-3_110503A				05/09/11 16:29
Radium 226		6.3	pCi/L		96	70	130			
Sample ID: C11040726-006DMSD		Sample Matrix Spike Duplicate				Run: TENNELEC-3_110503A				05/09/11 16:29
Radium 226		5.5	pCi/L		84	70	130	13	26	
Sample ID: MB-RA226-5335	3	Method Blank				Run: TENNELEC-3_110503A				05/09/11 21:59
Radium 226		0.15	pCi/L	0.10						U
Radium 226 precision (±)		0.093	pCi/L							
Radium 226 MDC		0.11	pCi/L							
Sample ID: LCS-RA226-5335		Laboratory Control Sample				Run: TENNELEC-3_110503A				05/09/11 21:59
Radium 226		5.7	pCi/L		88	85	115			

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

U - Not detected at minimum detectable concentration

ND - Not detected at the reporting limit.

R - RPD exceeds advisory limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 06/23/11

Project: Marsland Baseline Samples **Work Order:** C11040852

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E908.0									Batch: RA-TH-ISO-1391	
Sample ID: LCS-RA-TH-ISO-1391		Laboratory Control Sample				Run: EGG-ORTEC_110518A			05/20/11 16:22	
Thorium 230		5.2	pCi/L		91	70	130			
Sample ID: C11040726-003DMS		Sample Matrix Spike				Run: EGG-ORTEC_110518A			05/20/11 16:22	
Thorium 230		11	pCi/L		101	70	130			
Sample ID: C11040726-003DMSD		Sample Matrix Spike Duplicate				Run: EGG-ORTEC_110518A			05/20/11 16:22	
Thorium 230		11	pCi/L		96	70	130	5.1	39	
Sample ID: MB-RA-TH-ISO-1391	3	Method Blank				Run: EGG-ORTEC_110518A			05/23/11 09:10	
Thorium 230		ND	pCi/L	0.10						U
Thorium 230 precision (±)		0.093	pCi/L							
Thorium 230 MDC		0.15	pCi/L							
Method: E908.0									Batch: R146383	
Sample ID: LCS-29764		Laboratory Control Sample				Run: EGG-ORTEC_110518B			05/23/11 09:12	
Thorium 230		11	pCi/L		108	70	130			
Sample ID: MB-29764	3	Method Blank				Run: EGG-ORTEC_110518B			05/23/11 09:12	
Thorium 230		ND	pCi/L	0.10						U
Thorium 230 precision (±)		0.15	pCi/L							
Thorium 230 MDC		0.29	pCi/L							
Sample ID: C11050219-001HMS		Sample Matrix Spike				Run: EGG-ORTEC_110518B			05/23/11 14:06	
Thorium 230		7.4	pCi/L		86	70	130			
Sample ID: C11050219-001HMSD		Sample Matrix Spike Duplicate				Run: EGG-ORTEC_110518B			05/23/11 14:06	
Thorium 230		9.5	pCi/L		111	70	130	25	45.2	

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

U - Not detected at minimum detectable concentration

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Samples

Report Date: 06/23/11
Work Order: C11040852

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E909.0										Batch: T_13927
Sample ID: C11040852-001HMSD		Sample Matrix Spike Duplicate				Run: SUB-T40610				05/26/11 06:29
Lead 210		74	pCi/L		79	70	130	5.4	17.7	
Sample ID: C11040852-001HMS		Sample Matrix Spike				Run: SUB-T40610				05/26/11 04:17
Lead 210		70	pCi/L		75	70	130			
Sample ID: LCS-13927		Laboratory Control Sample				Run: SUB-T40610				05/25/11 23:54
Lead 210		220	pCi/L		64	70	130			S
- LCS response is outside of the acceptance range for this analysis due to interference from excess HCl in the sample. Since the MB, MS, and MSD are acceptable the batch is approved.										
Sample ID: MB-13927	3	Method Blank				Run: SUB-T40610				05/25/11 21:43
Lead 210		ND	pCi/L	1.0						U
Lead 210 precision (±)		7.2	pCi/L							
Lead 210 MDC		12	pCi/L							
Method: E909.0										Batch: T_PB-210-0109A
Sample ID: C11040738-018DMSD		Sample Matrix Spike Duplicate				Run: SUB-T40864				06/19/11 19:08
Lead 210		160	pCi/L		88	70	130	4.9	15.3	
Sample ID: C11040738-018DMS		Sample Matrix Spike				Run: SUB-T40864				06/19/11 17:29
Lead 210		150	pCi/L		83	70	130			
Sample ID: LCS-PB-210-0109		Laboratory Control Sample				Run: SUB-T40864				06/19/11 14:11
Lead 210		48	pCi/L		89	70	130			
Sample ID: MB-PB-210-0109	3	Method Blank				Run: SUB-T40864				06/19/11 12:33
Lead 210		ND	pCi/L	1.0						U
Lead 210 precision (±)		0.71	pCi/L							
Lead 210 MDC		1.2	pCi/L							

Qualifiers:

RL - Analyte reporting limit.
MDC - Minimum detectable concentration
U - Not detected at minimum detectable concentration
ND - Not detected at the reporting limit.
S - Spike recovery outside of advisory limits.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Samples

Report Date: 06/23/11
Work Order: C11040852

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E912.0										Batch: PO210-0370
Sample ID: C11040911-001BMS		Sample Matrix Spike				Run: EGG-ORTEC_110505C				05/09/11 11:18
Polonium 210		13	pCi/L		100	70	130			
Sample ID: C11040911-001BMSD		Sample Matrix Spike Duplicate				Run: EGG-ORTEC_110505C				05/09/11 11:18
Polonium 210		9.7	pCi/L		73	70	130	30	84.5	
Sample ID: MB-PO210-0370	3	Method Blank				Run: EGG-ORTEC_110505C				05/13/11 08:49
Polonium 210		ND	pCi/L	0.20						U
Polonium 210 precision (±)		0.35	pCi/L							
Polonium 210 MDC		0.99	pCi/L							
Sample ID: LCS-PO210-0370		Laboratory Control Sample				Run: EGG-ORTEC_110505C				05/10/11 08:41
Polonium 210		4.8	pCi/L		77	70	130			
Method: E912.0										Batch: PO210-0371
Sample ID: C11040296-002HMS		Sample Matrix Spike				Run: EGG-ORTEC_110516A				05/23/11 14:03
Polonium 210		4.8	pCi/L		89	70	130			
Sample ID: C11040296-002HMSD		Sample Matrix Spike Duplicate				Run: EGG-ORTEC_110516A				05/23/11 14:03
Polonium 210		5.1	pCi/L		96	70	130	7.2	66.9	
Sample ID: LCS-29539		Laboratory Control Sample				Run: EGG-ORTEC_110516A				05/19/11 09:04
Polonium 210		40	pCi/L		132	70	130			S
- LCS response is outside of the acceptance range for this analysis. Since the MB, MS, MSD, other LCSs, and all tracer recoveries are acceptable the batch is approved.										
Sample ID: MB-29539	3	Method Blank				Run: EGG-ORTEC_110516A				05/19/11 09:04
Polonium 210		0.48	pCi/L	0.20						U
Polonium 210 precision (±)		1.2	pCi/L							
Polonium 210 MDC		2.1	pCi/L							

Qualifiers:

RL - Analyte reporting limit.
MDC - Minimum detectable concentration
U - Not detected at minimum detectable concentration
ND - Not detected at the reporting limit.
S - Spike recovery outside of advisory limits.

Workorder Receipt Checklist

C11040852

Crow Butte Resources

Login completed by: Tabitha Edwards
Reviewed by: BL2000\cwagner
Reviewed Date: 4/29/2011

Date Received: 4/28/2011
Received by: em
Carrier name: Ground

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature:	5.8°C On Ice		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Contact and Corrective Action Comments:

None

Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: Crow Butte Resources, Inc.	Project Name: Marsland Baseline Samples	Sample Origin: State:	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: P.O. Box 169, Crawford, NE 69339	Contact Name: Larry Teahon; Phone/Fax: 308-665-2341	Email: daxmynus@msn.com	Sampler: (Please Print) Brooke Bass, Rhonda Pelton
Invoice Address: P.O. Box 169, Crawford, NE 69339	Invoice Contact & Phone: Larry Teahon, 308-665-2215 ext 114	Purchase Order: 1125	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

- ☐ DW
- ☐ GSA
- ☐ POTW/WWTP
- ☐ State: _____
- ☐ Other: _____
- ☐ A2LA
- ☐ EDD/EDT (Electronic Data) Format: _____
- ☐ LEVEL IV
- ☐ NELAC

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX (Number of Containers; Sample Type: A W S V B O; Air Water Soils/Solids Vegetation Bioassay Other)	HNO3-F, Metals	RAW-F, Common Ions	RAW-UF, Alkalinity	H2SO4-F, NO2, NO3, NH4	Raw-UF, Ra226, Po210 dis, sus	Raw-UF, Pb210 dis and sus	Rau-UF, Th230, U-nat dis and sus			SEE ATTACHED	Normal Turnaround (TAT)	RUSH	Comments
1	Well 747	4/25/11		Water	.5	1	1	.5	1 G	1 G	1 G					x	Please report 5/30/11
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Contact ELI prior to RUSH sample submittal for charges and scheduling – See Instruction Page

Comments: NDEQ parameters for baseline sampling. Report on separate sheets. Analyze as per WDEQ Guideline 8 and NRC Reg. Guide 4.14 requirements. Record U as mg/L and µCi/ml and radiometrics as pCi/L.

LABORATORY USE ONLY

Shipped by: CUH
Cooler ID(s): Cuut
Receipt Temp: 5.8 °C
On Ice: (Yes) No
Custody Seal: Y (N)
Intact: Y N
Signature Match: Y N
L1040858

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Brooke Bass	4/26/11	Brooke Bass			
			Received by Laboratory: CUH	4/28/11 7:40	

Sample Disposal: Return to Client: No Lab Disposal: YES

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.

CROW BUTTE RESOURCES, INC.
CROW BUTTE PROJECT

NO_2^-

DATE: 4·26·11

ANALYST: MO

STANDARD CURVE DATA

	BL	.01	.05	.1			
Abs	.000	.037	.173	.341			
Abs							

SAMPLE #	VOLUME	Df	Abs	NO_2^- mg/L
1 747	10ml	1	.004	<1
2 DUP 747	10ml	1	.005	<1
3				
4				
5				
Dup				
6				
7				
8				
9				
10				
Dup				
11				
12				
13				
14				
15				
Dup				
16				
17				
18				
19				
20				
Dup				
21				
22				
23				
24				
25				
Dup				

ANALYTICAL SUMMARY REPORT

June 27, 2011

Crow Butte Resources
86 Crow Butte Rd
Crawford, NE 69339

Workorder No.: C11050219 Quote ID: C1125 - Crow Butte Uranium

Project Name: Marsland Baseline Samples

Energy Laboratories, Inc. Casper WY received the following 3 samples for Crow Butte Resources on 5/6/2011 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C11050219-001	BOW 4-A	05/03/11 00:00	05/06/11	Aqueous	Metals by ICP/ICPMS, Dissolved Alkalinity QA Calculations Conductivity Sample Filtering Fluoride E300.0 Anions Uranium, Suspended Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Digestion, Total Metals Lead 210, Dissolved Lead 210, Suspended Polonium 210, Dissolved Polonium 210, Suspended Radium 226, Dissolved Radium 226, Suspended Thorium, Isotopic Thorium, Suspended Isotopic Solids, Total Dissolved
C11050219-002	BOW 7	05/03/11 00:00	05/06/11	Aqueous	Same As Above
C11050219-003	BOW 8	05/03/11 00:00	05/06/11	Aqueous	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:

CLIENT: Crow Butte Resources
Project: Marsland Baseline Samples
Sample Delivery Group: C11050219

Report Date: 06/27/11

CASE NARRATIVE

RADIOCHEMISTRY ANALYSIS
Per client request, results less than MDC (or precision if no MDC), are reported as <MDC (or <precision). Actual instrument results are available by request.

BRANCH LABORATORY SUBCONTRACT ANALYSIS
Tests associated with analyst identified as ELI-CS were subcontracted to Energy Laboratories, 415 Graham Rd., College Station, TX, EPA Number TX01520.

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.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Samples
Lab ID: C11050219-001
Client Sample ID: BOW 4-A

Report Date: 06/27/11
Collection Date: 05/03/11
DateReceived: 05/06/11
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Alkalinity, Total as CaCO3	125	mg/L		1		A2320 B	05/06/11 19:42 / jba
Carbonate as CO3	19	mg/L		1		A2320 B	05/06/11 19:42 / jba
Bicarbonate as HCO3	114	mg/L		1		A2320 B	05/06/11 19:42 / jba
Calcium	6	mg/L		1		E200.8	05/10/11 04:40 / sml
Chloride	28	mg/L		1		E300.0	05/07/11 16:50 / ljl
Fluoride	0.5	mg/L		0.1		A4500-F C	05/09/11 10:15 / jba
Magnesium	ND	mg/L		1		E200.8	05/10/11 04:40 / sml
Nitrogen, Ammonia as N	ND	mg/L		0.05		A4500-NH3 G	05/19/11 14:40 / dc
Nitrogen, Nitrate+Nitrite as N	1.1	mg/L		0.1		E353.2	05/09/11 14:11 / dc
Potassium	8	mg/L		1		E200.8	05/10/11 04:40 / sml
Silica	75.6	mg/L		0.2		E200.7	05/13/11 16:11 / cp
Sodium	84	mg/L		1		E200.8	05/10/11 04:40 / sml
Sulfate	49	mg/L		1		E300.0	05/07/11 16:50 / ljl
PHYSICAL PROPERTIES							
Conductivity @ 25 C	446	umhos/cm		1		A2510 B	05/06/11 16:00 / lmc
pH	9.31	s.u.		0.01		A4500-H B	05/06/11 16:00 / lmc
Solids, Total Dissolved TDS @ 180 C	316	mg/L		10		A2540 C	05/09/11 12:54 / lmc
METALS - DISSOLVED							
Aluminum	ND	mg/L		0.1		E200.8	05/10/11 04:40 / sml
Arsenic	0.015	mg/L		0.001		E200.8	05/10/11 04:40 / sml
Barium	ND	mg/L		0.1		E200.8	05/10/11 04:40 / sml
Boron	0.1	mg/L		0.1		E200.8	05/10/11 04:40 / sml
Cadmium	ND	mg/L		0.005		E200.8	05/10/11 04:40 / sml
Chromium	ND	mg/L		0.05		E200.8	05/10/11 04:40 / sml
Copper	ND	mg/L		0.01		E200.8	05/10/11 04:40 / sml
Iron	ND	mg/L		0.03		E200.8	05/10/11 04:40 / sml
Lead	ND	mg/L		0.001		E200.8	05/10/11 04:40 / sml
Manganese	ND	mg/L		0.01		E200.8	05/10/11 04:40 / sml
Mercury	ND	mg/L		0.001		E200.8	05/10/11 04:40 / sml
Molybdenum	ND	mg/L		0.1		E200.8	05/10/11 04:40 / sml
Nickel	ND	mg/L		0.05		E200.8	05/10/11 04:40 / sml
Selenium	0.012	mg/L		0.001		E200.8	05/10/11 04:40 / sml
Uranium	0.0061	mg/L		0.0003		E200.8	05/10/11 04:40 / sml
Uranium, Activity	4.1E-09	uCi/mL		2.0E-10		E200.8	05/10/11 04:40 / sml
Vanadium	ND	mg/L		0.1		E200.8	05/10/11 04:40 / sml
Zinc	ND	mg/L		0.01		E200.8	05/10/11 04:40 / sml
METALS - SUSPENDED							
Uranium	ND	mg/L		0.0003		E200.8	05/11/11 19:22 / sml
Uranium, Activity	ND	uCi/mL		2.0E-10		E200.8	05/11/11 19:22 / sml

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Samples
Lab ID: C11050219-001
Client Sample ID: BOW 4-A

Report Date: 06/27/11
Collection Date: 05/03/11
DateReceived: 05/06/11
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES - DISSOLVED							
Lead 210	<0.8	pCi/L	U	0.8		E909.0	05/31/11 05:42 / eli-cs
Lead 210 precision (±)	0.5	pCi/L				E909.0	05/31/11 05:42 / eli-cs
Lead 210 MDC	0.8	pCi/L				E909.0	05/31/11 05:42 / eli-cs
Polonium 210	<0.5	pCi/L	U	0.5		E912.0	05/19/11 09:05 / ep
Polonium 210 precision (±)	0.5	pCi/L				E912.0	05/19/11 09:05 / ep
Polonium 210 MDC	0.5	pCi/L				E912.0	05/19/11 09:05 / ep
Radium 226	<0.1	pCi/L	U	0.1		E903.0	05/24/11 10:54 / trs
Radium 226 precision (±)	0.09	pCi/L				E903.0	05/24/11 10:54 / trs
Radium 226 MDC	0.1	pCi/L				E903.0	05/24/11 10:54 / trs
Thorium 230	<0.1	pCi/L	U	0.1		E908.0	05/13/11 08:50 / dmf
Thorium 230 precision (±)	0.09	pCi/L				E908.0	05/13/11 08:50 / dmf
Thorium 230 MDC	0.1	pCi/L				E908.0	05/13/11 08:50 / dmf
RADIONUCLIDES - SUSPENDED							
Lead 210	<1.1	pCi/L	U	1.1		E909.0	06/23/11 16:51 / eli-cs
Lead 210 precision (±)	0.6	pCi/L				E909.0	06/23/11 16:51 / eli-cs
Lead 210 MDC	1.1	pCi/L				E909.0	06/23/11 16:51 / eli-cs
Polonium 210	<0.3	pCi/L	U	0.3		E912.0	05/19/11 11:22 / ep
Polonium 210 precision (±)	0.1	pCi/L				E912.0	05/19/11 11:22 / ep
Polonium 210 MDC	0.3	pCi/L				E912.0	05/19/11 11:22 / ep
Radium 226	<0.1	pCi/L	U	0.1		E903.0	05/18/11 11:14 / trs
Radium 226 precision (±)	0.07	pCi/L				E903.0	05/18/11 11:14 / trs
Radium 226 MDC	0.1	pCi/L				E903.0	05/18/11 11:14 / trs
Thorium 230	<0.1	pCi/L	U	0.1		E908.0	05/23/11 09:12 / dmf
Thorium 230 precision (±)	0.06	pCi/L				E908.0	05/23/11 09:12 / dmf
Thorium 230 MDC	0.1	pCi/L				E908.0	05/23/11 09:12 / dmf
DATA QUALITY							
A/C Balance (± 5)	-1.89	%				Calculation	05/13/11 13:22 / kbh
Anions	4.40	meq/L				Calculation	05/13/11 13:22 / kbh
Cations	4.24	meq/L				Calculation	05/13/11 13:22 / kbh
Solids, Total Dissolved Calculated	256	mg/L				Calculation	05/13/11 13:22 / kbh
TDS Balance (0.80 - 1.20)	1.23					Calculation	05/13/11 13:22 / kbh

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Samples
Lab ID: C11050219-002
Client Sample ID: BOW 7

Report Date: 06/27/11
Collection Date: 05/03/11
DateReceived: 05/06/11
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Alkalinity, Total as CaCO3	180	mg/L		1		A2320 B	05/06/11 19:51 / jba
Carbonate as CO3	14	mg/L		1		A2320 B	05/06/11 19:51 / jba
Bicarbonate as HCO3	191	mg/L		1		A2320 B	05/06/11 19:51 / jba
Calcium	6	mg/L		1		E200.8	05/10/11 04:47 / sml
Chloride	25	mg/L		1		E300.0	05/07/11 17:05 / ljl
Fluoride	0.6	mg/L		0.1		A4500-F C	05/09/11 10:27 / jba
Magnesium	ND	mg/L		1		E200.8	05/10/11 04:47 / sml
Nitrogen, Ammonia as N	ND	mg/L		0.05		A4500-NH3 G	05/19/11 14:42 / dc
Nitrogen, Nitrate+Nitrite as N	1.0	mg/L		0.1		E353.2	05/09/11 14:14 / dc
Potassium	9	mg/L		1		E200.8	05/10/11 04:47 / sml
Silica	80.1	mg/L		0.2		E200.7	05/13/11 16:15 / cp
Sodium	106	mg/L		1		E200.8	05/10/11 04:47 / sml
Sulfate	52	mg/L	D	2		E300.0	05/07/11 17:05 / ljl
PHYSICAL PROPERTIES							
Conductivity @ 25 C	535	umhos/cm		1		A2510 B	05/06/11 16:02 / lmc
pH	8.93	s.u.		0.01		A4500-H B	05/06/11 16:02 / lmc
Solids, Total Dissolved TDS @ 180 C	376	mg/L		10		A2540 C	05/09/11 12:54 / lmc
METALS - DISSOLVED							
Aluminum	ND	mg/L		0.1		E200.8	05/10/11 04:47 / sml
Arsenic	0.030	mg/L		0.001		E200.8	05/10/11 04:47 / sml
Barium	ND	mg/L		0.1		E200.8	05/10/11 04:47 / sml
Boron	0.1	mg/L		0.1		E200.8	05/10/11 04:47 / sml
Cadmium	ND	mg/L		0.005		E200.8	05/10/11 04:47 / sml
Chromium	ND	mg/L		0.05		E200.8	05/10/11 04:47 / sml
Copper	ND	mg/L		0.01		E200.8	05/10/11 04:47 / sml
Iron	ND	mg/L		0.03		E200.8	05/10/11 04:47 / sml
Lead	ND	mg/L		0.001		E200.8	05/10/11 04:47 / sml
Manganese	ND	mg/L		0.01		E200.8	05/10/11 04:47 / sml
Mercury	ND	mg/L		0.001		E200.8	05/10/11 04:47 / sml
Molybdenum	ND	mg/L		0.1		E200.8	05/10/11 04:47 / sml
Nickel	ND	mg/L		0.05		E200.8	05/10/11 04:47 / sml
Selenium	0.235	mg/L		0.001		E200.8	05/10/11 04:47 / sml
Uranium	0.0049	mg/L		0.0003		E200.8	05/10/11 04:47 / sml
Uranium, Activity	3.3E-09	uCi/mL		2.0E-10		E200.8	05/10/11 04:47 / sml
Vanadium	ND	mg/L		0.1		E200.8	05/10/11 04:47 / sml
Zinc	ND	mg/L		0.01		E200.8	05/10/11 04:47 / sml
METALS - SUSPENDED							
Uranium	ND	mg/L		0.0003		E200.8	05/11/11 19:27 / sml
Uranium, Activity	ND	uCi/mL		2.0E-10		E200.8	05/11/11 19:27 / sml

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Samples
Lab ID: C11050219-002
Client Sample ID: BOW 7

Report Date: 06/27/11
Collection Date: 05/03/11
DateReceived: 05/06/11
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES - DISSOLVED							
Lead 210	<0.8	pCi/L	U	0.8		E909.0	05/31/11 07:53 / eli-cs
Lead 210 precision (±)	0.5	pCi/L				E909.0	05/31/11 07:53 / eli-cs
Lead 210 MDC	0.8	pCi/L				E909.0	05/31/11 07:53 / eli-cs
Polonium 210	<0.9	pCi/L	U	0.9		E912.0	05/19/11 09:05 / ep
Polonium 210 precision (±)	0.7	pCi/L				E912.0	05/19/11 09:05 / ep
Polonium 210 MDC	0.9	pCi/L				E912.0	05/19/11 09:05 / ep
Radium 226	0.6	pCi/L		0.2		E903.0	05/24/11 10:54 / trs
Radium 226 precision (±)	0.2	pCi/L				E903.0	05/24/11 10:54 / trs
Radium 226 MDC	0.2	pCi/L				E903.0	05/24/11 10:54 / trs
Thorium 230	<0.1	pCi/L	U	0.1		E908.0	05/13/11 13:34 / dmf
Thorium 230 precision (±)	0.1	pCi/L				E908.0	05/13/11 13:34 / dmf
Thorium 230 MDC	0.1	pCi/L				E908.0	05/13/11 13:34 / dmf
RADIONUCLIDES - SUSPENDED							
Lead 210	<0.9	pCi/L	U	0.9		E909.0	06/23/11 20:09 / eli-cs
Lead 210 precision (±)	0.5	pCi/L				E909.0	06/23/11 20:09 / eli-cs
Lead 210 MDC	0.9	pCi/L				E909.0	06/23/11 20:09 / eli-cs
Polonium 210	<0.2	pCi/L	U	0.2		E912.0	05/19/11 11:22 / ep
Polonium 210 precision (±)	0.2	pCi/L				E912.0	05/19/11 11:22 / ep
Polonium 210 MDC	0.2	pCi/L				E912.0	05/19/11 11:22 / ep
Radium 226	0.2	pCi/L		0.1		E903.0	05/18/11 11:14 / trs
Radium 226 precision (±)	0.1	pCi/L				E903.0	05/18/11 11:14 / trs
Radium 226 MDC	0.1	pCi/L				E903.0	05/18/11 11:14 / trs
Thorium 230	<0.1	pCi/L	U	0.1		E908.0	05/23/11 14:06 / dmf
Thorium 230 precision (±)	0.08	pCi/L				E908.0	05/23/11 14:06 / dmf
Thorium 230 MDC	0.1	pCi/L				E908.0	05/23/11 14:06 / dmf
DATA QUALITY							
A/C Balance (± 5)	-2.68	%				Calculation	05/13/11 13:22 / kbh
Anions	5.48	meq/L				Calculation	05/13/11 13:22 / kbh
Cations	5.20	meq/L				Calculation	05/13/11 13:22 / kbh
Solids, Total Dissolved Calculated	312	mg/L				Calculation	05/13/11 13:22 / kbh
TDS Balance (0.80 - 1.20)	1.21					Calculation	05/13/11 13:22 / kbh

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Samples
Lab ID: C11050219-003
Client Sample ID: BOW 8

Report Date: 06/27/11
Collection Date: 05/03/11
DateReceived: 05/06/11
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Alkalinity, Total as CaCO3	179	mg/L		1		A2320 B	05/06/11 20:00 / jba
Carbonate as CO3	14	mg/L		1		A2320 B	05/06/11 20:00 / jba
Bicarbonate as HCO3	189	mg/L		1		A2320 B	05/06/11 20:00 / jba
Calcium	9	mg/L		1		E200.8	05/10/11 04:53 / sml
Chloride	9	mg/L		1		E300.0	05/07/11 17:51 / ljl
Fluoride	0.5	mg/L		0.1		A4500-F C	05/09/11 10:34 / jba
Magnesium	ND	mg/L		1		E200.8	05/10/11 04:53 / sml
Nitrogen, Ammonia as N	ND	mg/L		0.05		A4500-NH3 G	05/19/11 14:44 / dc
Nitrogen, Nitrate+Nitrite as N	0.7	mg/L		0.1		E353.2	05/09/11 14:16 / dc
Potassium	10	mg/L		1		E200.8	05/10/11 04:53 / sml
Silica	80.2	mg/L		0.2		E200.7	05/13/11 16:40 / cp
Sodium	79	mg/L		1		E200.8	05/10/11 04:53 / sml
Sulfate	24	mg/L		1		E300.0	05/07/11 17:51 / ljl
PHYSICAL PROPERTIES							
Conductivity @ 25 C	410	umhos/cm		1		A2510 B	05/06/11 16:03 / lmc
pH	8.93	s.u.		0.01		A4500-H B	05/06/11 16:03 / lmc
Solids, Total Dissolved TDS @ 180 C	299	mg/L		10		A2540 C	05/09/11 12:54 / lmc
METALS - DISSOLVED							
Aluminum	ND	mg/L		0.1		E200.8	05/10/11 04:53 / sml
Arsenic	0.006	mg/L		0.001		E200.8	05/10/11 04:53 / sml
Barium	ND	mg/L		0.1		E200.8	05/10/11 04:53 / sml
Boron	ND	mg/L		0.1		E200.8	05/10/11 04:53 / sml
Cadmium	ND	mg/L		0.005		E200.8	05/10/11 04:53 / sml
Chromium	ND	mg/L		0.05		E200.8	05/10/11 04:53 / sml
Copper	ND	mg/L		0.01		E200.8	05/10/11 04:53 / sml
Iron	ND	mg/L		0.03		E200.8	05/10/11 04:53 / sml
Lead	ND	mg/L		0.001		E200.8	05/10/11 04:53 / sml
Manganese	ND	mg/L		0.01		E200.8	05/10/11 04:53 / sml
Mercury	ND	mg/L		0.001		E200.8	05/10/11 04:53 / sml
Molybdenum	ND	mg/L		0.1		E200.8	05/10/11 04:53 / sml
Nickel	ND	mg/L		0.05		E200.8	05/10/11 04:53 / sml
Selenium	ND	mg/L		0.001		E200.8	05/10/11 04:53 / sml
Uranium	0.0069	mg/L		0.0003		E200.8	05/10/11 04:53 / sml
Uranium, Activity	4.7E-09	uCi/mL		2.0E-10		E200.8	05/10/11 04:53 / sml
Vanadium	ND	mg/L		0.1		E200.8	05/10/11 04:53 / sml
Zinc	ND	mg/L		0.01		E200.8	05/10/11 04:53 / sml
METALS - SUSPENDED							
Uranium	ND	mg/L		0.0003		E200.8	05/11/11 19:33 / sml
Uranium, Activity	ND	uCi/mL		2.0E-10		E200.8	05/11/11 19:33 / sml

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Samples
Lab ID: C11050219-003
Client Sample ID: BOW 8

Report Date: 06/27/11
Collection Date: 05/03/11
DateReceived: 05/06/11
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES - DISSOLVED							
Lead 210	<0.8	pCi/L	U	0.8		E909.0	05/31/11 10:05 / eli-cs
Lead 210 precision (±)	0.5	pCi/L				E909.0	05/31/11 10:05 / eli-cs
Lead 210 MDC	0.8	pCi/L				E909.0	05/31/11 10:05 / eli-cs
Polonium 210	<0.6	pCi/L	U	0.6		E912.0	05/19/11 09:05 / ep
Polonium 210 precision (±)	0.3	pCi/L				E912.0	05/19/11 09:05 / ep
Polonium 210 MDC	0.6	pCi/L				E912.0	05/19/11 09:05 / ep
Radium 226	<0.1	pCi/L	U	0.1		E903.0	05/24/11 10:54 / trs
Radium 226 precision (±)	0.1	pCi/L				E903.0	05/24/11 10:54 / trs
Radium 226 MDC	0.1	pCi/L				E903.0	05/24/11 10:54 / trs
Thorium 230	<0.2	pCi/L	U	0.2		E908.0	05/13/11 13:34 / dmf
Thorium 230 precision (±)	0.09	pCi/L				E908.0	05/13/11 13:34 / dmf
Thorium 230 MDC	0.2	pCi/L				E908.0	05/13/11 13:34 / dmf
RADIONUCLIDES - SUSPENDED							
Lead 210	<0.9	pCi/L	U	0.9		E909.0	06/23/11 21:15 / eli-cs
Lead 210 precision (±)	0.5	pCi/L				E909.0	06/23/11 21:15 / eli-cs
Lead 210 MDC	0.9	pCi/L				E909.0	06/23/11 21:15 / eli-cs
Polonium 210	<0.2	pCi/L	U	0.2		E912.0	05/19/11 11:22 / ep
Polonium 210 precision (±)	0.07	pCi/L				E912.0	05/19/11 11:22 / ep
Polonium 210 MDC	0.2	pCi/L				E912.0	05/19/11 11:22 / ep
Radium 226	<0.1	pCi/L	U	0.1		E903.0	05/18/11 11:14 / trs
Radium 226 precision (±)	0.07	pCi/L				E903.0	05/18/11 11:14 / trs
Radium 226 MDC	0.1	pCi/L				E903.0	05/18/11 11:14 / trs
Thorium 230	0.3	pCi/L		0.1		E908.0	05/24/11 09:54 / dmf
Thorium 230 precision (±)	0.1	pCi/L				E908.0	05/24/11 09:54 / dmf
Thorium 230 MDC	0.1	pCi/L				E908.0	05/24/11 09:54 / dmf
DATA QUALITY							
A/C Balance (± 5)	-2.91	%				Calculation	05/13/11 13:23 / kbh
Anions	4.39	meq/L				Calculation	05/13/11 13:23 / kbh
Cations	4.14	meq/L				Calculation	05/13/11 13:23 / kbh
Solids, Total Dissolved Calculated	241	mg/L				Calculation	05/13/11 13:23 / kbh
TDS Balance (0.80 - 1.20)	1.24					Calculation	05/13/11 13:23 / kbh

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 06/27/11

Project: Marsland Baseline Samples **Work Order:** C11050219

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2320 B										Batch: R145591
Sample ID: MBLK	3	Method Blank				Run: MANTECH_110506A				05/06/11 14:43
Alkalinity, Total as CaCO3		2	mg/L	1						
Carbonate as CO3		ND	mg/L	1						
Bicarbonate as HCO3		3	mg/L	1						
Sample ID: LCS		Laboratory Control Sample				Run: MANTECH_110506A				05/06/11 14:58
Alkalinity, Total as CaCO3		211	mg/L	5.0	105	90	110			
Sample ID: C11050176-001ADUP		Sample Duplicate				Run: MANTECH_110506A				05/06/11 16:14
Alkalinity, Total as CaCO3		278	mg/L	5.0				0.9	10	
Sample ID: C11050204-009AMS		Sample Matrix Spike				Run: MANTECH_110506A				05/06/11 19:04
Alkalinity, Total as CaCO3		404	mg/L	5.0	105	80	120			

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 06/27/11

Project: Marsland Baseline Samples **Work Order:** C11050219

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2510 B								Analytical Run: ORION555A-2_110506B		
Sample ID: ICV2_110506_2		Initial Calibration Verification Standard							05/06/11 14:51	
Conductivity @ 25 C		1380	umhos/cm	1.0	98	90	110			
Method: A2510 B								Batch: 110506_2_PH-W_555A-2		
Sample ID: MBLK1_110506_2		Method Blank				Run: ORION555A-2_110506B			05/06/11 14:48	
Conductivity @ 25 C		0.6	umhos/cm	0.2						
Sample ID: C11050227-010ADUP		Sample Duplicate				Run: ORION555A-2_110506B			05/06/11 15:16	
Conductivity @ 25 C		7290	umhos/cm	1.0				0.1	10	

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 06/27/11

Project: Marsland Baseline Samples **Work Order:** C11050219

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 C										Batch: R145727
Sample ID: MBLK1_		Method Blank				Run: BAL-1_110509A				05/09/11 12:52
Solids, Total Dissolved TDS @ 180 C		ND	mg/L	4						
Sample ID: LCS1_		Laboratory Control Sample				Run: BAL-1_110509A				05/09/11 12:53
Solids, Total Dissolved TDS @ 180 C		998	mg/L	10	100	90	110			
Sample ID: C11050219-003ADUP		Sample Duplicate				Run: BAL-1_110509A				05/09/11 12:55
Solids, Total Dissolved TDS @ 180 C		299	mg/L	10				0.1	10	
Sample ID: C11050227-004AMS		Sample Matrix Spike				Run: BAL-1_110509A				05/09/11 12:57
Solids, Total Dissolved TDS @ 180 C		4950	mg/L	10	104	90	110			

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Report Date: 06/27/11
Project: Marsland Baseline Samples
Work Order: C11050219

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-F C										Batch: R145635
Sample ID: MBLK		Method Blank				Run: MANTECH_110509A				05/09/11 10:07
Fluoride		0.02	mg/L	0.008						
Sample ID: LCS		Laboratory Control Sample				Run: MANTECH_110509A				05/09/11 10:09
Fluoride		1.00	mg/L	0.10	98	90	110			
Sample ID: C11050219-001BMS		Sample Matrix Spike				Run: MANTECH_110509A				05/09/11 10:17
Fluoride		1.53	mg/L	0.10	102	80	120			
Sample ID: C11050219-001BMSD		Sample Matrix Spike Duplicate				Run: MANTECH_110509A				05/09/11 10:20
Fluoride		1.53	mg/L	0.10	102	80	120	0.0	10	

Qualifiers:

RL - Analyte reporting limit.
MDC - Minimum detectable concentration
ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Report Date: 06/27/11
Project: Marsland Baseline Samples
Work Order: C11050219

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-H B								Analytical Run: ORION555A-2_110506B		
Sample ID: ICV1_110506_2		Initial Calibration Verification Standard							05/06/11 14:49	
pH		6.91	s.u.	0.010	101	98	102			
Method: A4500-H B								Batch: 110506_2_PH-W_555A-2		
Sample ID: C11050227-010ADUP		Sample Duplicate				Run: ORION555A-2_110506B			05/06/11 15:16	
pH		7.03	s.u.	0.010				0.4	3	

Qualifiers:

RL - Analyte reporting limit.
MDC - Minimum detectable concentration
ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 06/27/11

Project: Marsland Baseline Samples **Work Order:** C11050219

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-NH3 G										Batch: R146051
Sample ID: MBLK-1		Method Blank				Run: TECHNICON_110519A				05/19/11 14:02
Nitrogen, Ammonia as N		ND	mg/L	0.02						
Sample ID: LCS-2		Laboratory Control Sample				Run: TECHNICON_110519A				05/19/11 14:04
Nitrogen, Ammonia as N		2.04	mg/L	0.050	101	90	110			
Sample ID: C11050219-003GMS		Sample Matrix Spike				Run: TECHNICON_110519A				05/19/11 14:46
Nitrogen, Ammonia as N		1.78	mg/L	0.050	91	80	120			
Sample ID: C11050219-003GMSD		Sample Matrix Spike Duplicate				Run: TECHNICON_110519A				05/19/11 14:48
Nitrogen, Ammonia as N		1.75	mg/L	0.050	89	80	120	1.7	10	

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Samples

Report Date: 06/27/11
Work Order: C11050219

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7										Batch: R145849
Sample ID: MB-110513A		Method Blank				Run: ICP2-C_110513A				05/13/11 12:21
Silicon		0.1	mg/L	0.007						
Sample ID: LFB-110513A		Laboratory Fortified Blank				Run: ICP2-C_110513A				05/13/11 12:25
Silicon		0.484	mg/L	0.10	108	85	115			
Sample ID: C11050219-002CMS2		Sample Matrix Spike				Run: ICP2-C_110513A				05/13/11 16:20
Silicon		36.5	mg/L	0.10		70	130			A
Sample ID: C11050219-002CMSD		Sample Matrix Spike Duplicate				Run: ICP2-C_110513A				05/13/11 16:24
Silicon		37.0	mg/L	0.10		70	130	1.1	20	A

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

MDC - Minimum detectable concentration

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Samples

Report Date: 06/27/11
Work Order: C11050219

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: 29809A
Sample ID: C11050219-003HMS		Sample Matrix Spike				Run: ICPMS2-C_110511B				05/11/11 19:38
Uranium		0.00456	mg/L	0.00030	101	70	130			
Sample ID: C11050219-003HMSD		Sample Matrix Spike Duplicate				Run: ICPMS2-C_110511B				05/11/11 19:43
Uranium		0.00441	mg/L	0.00030	97	70	130	3.5	20	
Sample ID: MB-29809		Method Blank				Run: ICPMS2-C_110511B				05/11/11 18:25
Uranium		0.0002	pCi/Filter	6E-05						
Sample ID: LCS2-29809		Laboratory Control Sample				Run: ICPMS2-C_110511B				05/11/11 18:30
Uranium		0.105	pCi/Filter	0.00030	105	85	115			

Qualifiers:

RL - Analyte reporting limit.
MDC - Minimum detectable concentration
ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 06/27/11

Project: Marsland Baseline Samples **Work Order:** C11050219

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Batch: R145652A	
Sample ID: C11050206-001BMS4	21	Sample Matrix Spike				Run: ICPMS4-C_110509A			05/10/11 03:59	
Aluminum		0.121	mg/L	0.10	102	70	130			
Arsenic		0.0552	mg/L	0.0010	110	70	130			
Barium		0.0759	mg/L	0.0010	105	70	130			
Boron		0.0562	mg/L	0.0010	105	70	130			
Cadmium		0.0564	mg/L	0.010	107	70	130			
Calcium		70.4	mg/L	1.0		70	130			A
Chromium		0.0533	mg/L	0.050	107	70	130			
Copper		0.0583	mg/L	0.010	105	70	130			
Iron		1.36	mg/L	0.030	102	70	130			
Lead		0.0530	mg/L	0.050	106	70	130			
Magnesium		15.4	mg/L	1.0	95	70	130			
Manganese		3.37	mg/L	0.010		70	130			A
Mercury		0.00505	mg/L	0.0010	101	70	130			
Molybdenum		0.0537	mg/L	0.0010	105	70	130			
Nickel		0.0550	mg/L	0.050	106	70	130			
Potassium		13.1	mg/L	1.0	99	70	130			
Selenium		0.0557	mg/L	0.0010	111	70	130			
Sodium		14.1	mg/L	1.0	94	70	130			
Uranium		0.0516	mg/L	0.00030	100	70	130			
Vanadium		0.0530	mg/L	0.0010	106	70	130			
Zinc		0.926	mg/L	0.010		70	130			A
Sample ID: C11050206-001BMSD	21	Sample Matrix Spike Duplicate				Run: ICPMS4-C_110509A			05/10/11 04:05	
Aluminum		0.119	mg/L	0.10	99	70	130	1.1	20	
Arsenic		0.0549	mg/L	0.0010	110	70	130	0.5	20	
Barium		0.0749	mg/L	0.0010	103	70	130	1.4	20	
Boron		0.0557	mg/L	0.0010	104	70	130	0.8	20	
Cadmium		0.0553	mg/L	0.010	105	70	130	1.9	20	
Calcium		69.9	mg/L	1.0		70	130	0.7	20	A
Chromium		0.0532	mg/L	0.050	106	70	130	0.0	20	
Copper		0.0583	mg/L	0.010	105	70	130	0.0	20	
Iron		1.33	mg/L	0.030	100	70	130	1.8	20	
Lead		0.0521	mg/L	0.050	104	70	130	1.8	20	
Magnesium		15.2	mg/L	1.0	93	70	130	1.5	20	
Manganese		3.40	mg/L	0.010		70	130	1.0	20	A
Mercury		0.00496	mg/L	0.0010	99	70	130	1.8	20	
Molybdenum		0.0528	mg/L	0.0010	104	70	130	1.6	20	
Nickel		0.0549	mg/L	0.050	105	70	130	0.3	20	
Potassium		13.0	mg/L	1.0	98	70	130	0.8	20	
Selenium		0.0550	mg/L	0.0010	110	70	130	1.3	20	
Sodium		13.8	mg/L	1.0	92	70	130	1.9	20	
Uranium		0.0506	mg/L	0.00030	98	70	130	2.0	20	
Vanadium		0.0525	mg/L	0.0010	105	70	130	0.8	20	
Zinc		0.925	mg/L	0.010		70	130	0.1	20	A

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

MDC - Minimum detectable concentration

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 06/27/11

Project: Marsland Baseline Samples **Work Order:** C11050219

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: R145652A
Sample ID: LRB	21	Method Blank				Run: ICPMS4-C_110509A				05/09/11 13:43
Aluminum		0.005	mg/L	8E-05						
Arsenic		ND	mg/L	4E-05						
Barium		ND	mg/L	3E-05						
Boron		0.001	mg/L							
Cadmium		ND	mg/L	7E-05						
Calcium		0.01	mg/L	0.004						
Chromium		ND	mg/L	5E-05						
Copper		ND	mg/L	6E-05						
Iron		0.0007	mg/L	0.0001						
Lead		ND	mg/L	2E-05						
Magnesium		ND	mg/L	0.001						
Manganese		ND	mg/L	2E-05						
Mercury		ND	mg/L	2E-05						
Molybdenum		0.0001	mg/L	8E-05						
Nickel		ND	mg/L	5E-05						
Potassium		ND	mg/L	0.007						
Selenium		ND	mg/L	5E-05						
Sodium		0.005	mg/L	0.004						
Uranium		2E-05	mg/L	8E-06						
Vanadium		ND	mg/L	1E-05						
Zinc		ND	mg/L	0.0001						
Sample ID: LFB	21	Laboratory Fortified Blank				Run: ICPMS4-C_110509A				05/09/11 13:50
Aluminum		0.0520	mg/L	0.0010	94	85	115			
Arsenic		0.0533	mg/L	0.0010	107	85	115			
Barium		0.0519	mg/L	0.0010	104	85	115			
Boron		0.0530	mg/L	0.0010	103	85	115			
Cadmium		0.0526	mg/L	0.0010	105	85	115			
Calcium		11.8	mg/L	0.12	94	85	115			
Chromium		0.0520	mg/L	0.0010	104	85	115			
Copper		0.0528	mg/L	0.0010	105	85	115			
Iron		1.26	mg/L	0.012	101	85	115			
Lead		0.0524	mg/L	0.0010	105	85	115			
Magnesium		12.2	mg/L	0.12	98	85	115			
Manganese		0.0524	mg/L	0.0010	105	85	115			
Mercury		0.00520	mg/L	0.0010	104	85	115			
Molybdenum		0.0504	mg/L	0.0010	100	85	115			
Nickel		0.0520	mg/L	0.0010	104	85	115			
Potassium		12.0	mg/L	0.12	96	85	115			
Selenium		0.0545	mg/L	0.0010	109	85	115			
Sodium		12.2	mg/L	0.12	98	85	115			
Uranium		0.0517	mg/L	0.00030	103	85	115			
Vanadium		0.0519	mg/L	0.0010	104	85	115			
Zinc		0.0554	mg/L	0.0010	111	85	115			

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Samples

Report Date: 06/27/11
Work Order: C11050219

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E300.0									Analytical Run: IC2-C_110507A	
Sample ID: ICV-110407	2	Initial Calibration Verification Standard							05/07/11 16:03	
Chloride		9.77	mg/L	1.0	98	90	110			
Sulfate		39.8	mg/L	1.0	99	90	110			
Method: E300.0									Batch: R145613	
Sample ID: ICB-110407	2	Method Blank				Run: IC2-C_110507A			05/07/11 16:19	
Chloride		0.07	mg/L	0.04						
Sulfate		0.2	mg/L	0.1						
Sample ID: LFB-110407	2	Laboratory Fortified Blank				Run: IC2-C_110507A			05/07/11 16:34	
Chloride		9.72	mg/L	1.0	96	90	110			
Sulfate		39.2	mg/L	1.0	97	90	110			
Sample ID: C11050219-002BMS	2	Sample Matrix Spike				Run: IC2-C_110507A			05/07/11 17:21	
Chloride		44.6	mg/L	1.0	103	80	120			
Sulfate		130	mg/L	1.6	101	80	120			
Sample ID: C11050219-002BMSD	2	Sample Matrix Spike Duplicate				Run: IC2-C_110507A			05/07/11 17:36	
Chloride		44.7	mg/L	1.0	103	80	120	0.1	10	
Sulfate		131	mg/L	1.6	103	80	120	0.7	10	
Sample ID: LFB-110508	2	Laboratory Fortified Blank				Run: IC2-C_110507A			05/08/11 10:54	
Chloride		9.82	mg/L	1.0	98	90	110			
Sulfate		39.4	mg/L	1.0	98	90	110			

Qualifiers:

RL - Analyte reporting limit.
MDC - Minimum detectable concentration
ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Report Date: 06/27/11
Project: Marsland Baseline Samples
Work Order: C11050219

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E353.2										Batch: R145640
Sample ID: MBLK-1		Method Blank				Run: TECHNICON_110509A				05/09/11 12:56
Nitrogen, Nitrate+Nitrite as N		ND	mg/L	0.06						
Sample ID: LCS-2		Laboratory Control Sample				Run: TECHNICON_110509A				05/09/11 12:59
Nitrogen, Nitrate+Nitrite as N		2.69	mg/L	0.10	108	90	110			
Sample ID: C11050204-008DMS		Sample Matrix Spike				Run: TECHNICON_110509A				05/09/11 13:59
Nitrogen, Nitrate+Nitrite as N		1.84	mg/L	0.10	94	90	110			
Sample ID: C11050204-008DMSD		Sample Matrix Spike Duplicate				Run: TECHNICON_110509A				05/09/11 14:01
Nitrogen, Nitrate+Nitrite as N		1.91	mg/L	0.10	97	90	110	3.7	10	

Qualifiers:

RL - Analyte reporting limit.
MDC - Minimum detectable concentration
ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Samples

Report Date: 06/27/11
Work Order: C11050219

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E903.0										Batch: 29809
Sample ID: C11050219-002HMS		Sample Matrix Spike				Run: BERTHOLD 770-1_110512A				05/18/11 11:14
Radium 226		11	pCi/L		108	70	130			
Sample ID: C11050219-002HMSD		Sample Matrix Spike Duplicate				Run: BERTHOLD 770-1_110512A				05/18/11 11:14
Radium 226		11	pCi/L		104	70	130	3.1	25.1	
Sample ID: LCS-29809		Laboratory Control Sample				Run: BERTHOLD 770-1_110512A				05/18/11 11:14
Radium 226		13	pCi/L		107	85	115			
Sample ID: MB-29809	3	Method Blank				Run: BERTHOLD 770-1_110512A				05/18/11 11:14
Radium 226		-0.2	pCi/L							U
Radium 226 precision (±)		0.1	pCi/L							
Radium 226 MDC		0.3	pCi/L							
Method: E903.0										Batch: RA226-5365
Sample ID: C11050570-001FMS		Sample Matrix Spike				Run: G542M_110518B				05/24/11 12:53
Radium 226		12	pCi/L		88	70	130			
Sample ID: C11050570-001FMSD		Sample Matrix Spike Duplicate				Run: G542M_110518B				05/24/11 12:53
Radium 226		12	pCi/L		90	70	130	1.0	23.9	
Sample ID: MB-RA226-5365	3	Method Blank				Run: G542M_110518B				05/24/11 12:53
Radium 226		0.05	pCi/L							U
Radium 226 precision (±)		0.09	pCi/L							
Radium 226 MDC		0.1	pCi/L							
Sample ID: LCS-RA226-5365		Laboratory Control Sample				Run: G542M_110518B				05/24/11 12:53
Radium 226		5.9	pCi/L		92	85	115			

Qualifiers:

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MDC - Minimum detectable concentration
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U - Not detected at minimum detectable concentration

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 06/27/11

Project: Marsland Baseline Samples **Work Order:** C11050219

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E908.0									Batch: RA-TH-ISO-1388	
Sample ID: LCS-RA-TH-ISO-1388		Laboratory Control Sample				Run: EGG-ORTEC_110511A			05/13/11 08:50	
Thorium 230		5.3	pCi/L		93	70	130			
Sample ID: C11050219-001DMS		Sample Matrix Spike				Run: EGG-ORTEC_110511A			05/13/11 08:50	
Thorium 230		12	pCi/L		101	70	130			
Sample ID: C11050219-001DMSD		Sample Matrix Spike Duplicate				Run: EGG-ORTEC_110511A			05/13/11 08:50	
Thorium 230		12	pCi/L		107	70	130	4.1	36.5	
Sample ID: MB-RA-TH-ISO-1388	3	Method Blank				Run: EGG-ORTEC_110511A			05/13/11 13:34	
Thorium 230		0.02	pCi/L							U
Thorium 230 precision (±)		0.07	pCi/L							
Thorium 230 MDC		0.1	pCi/L							
Method: E908.0									Batch: R146383	
Sample ID: LCS-29764		Laboratory Control Sample				Run: EGG-ORTEC_110518B			05/23/11 09:12	
Thorium 230		11	pCi/L		108	70	130			
Sample ID: MB-29764	3	Method Blank				Run: EGG-ORTEC_110518B			05/23/11 09:12	
Thorium 230		0.07	pCi/L							U
Thorium 230 precision (±)		0.2	pCi/L							
Thorium 230 MDC		0.3	pCi/L							
Sample ID: C11050219-001HMS		Sample Matrix Spike				Run: EGG-ORTEC_110518B			05/23/11 14:06	
Thorium 230		7.4	pCi/L		86	70	130			
Sample ID: C11050219-001HMSD		Sample Matrix Spike Duplicate				Run: EGG-ORTEC_110518B			05/23/11 14:06	
Thorium 230		9.5	pCi/L		111	70	130	25	45.2	

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

U - Not detected at minimum detectable concentration

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Samples

Report Date: 06/27/11
Work Order: C11050219

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E909.0									Batch: T_PB-210-0104	
Sample ID: T11040111-001DMSD		Sample Matrix Spike Duplicate				Run: SUB-T40681			05/31/11 16:39	
Lead 210		140	pCi/L		101	70	130	7.6	16	
Sample ID: T11040111-001DMS		Sample Matrix Spike				Run: SUB-T40681			05/31/11 14:28	
Lead 210		130	pCi/L		92	70	130			
Sample ID: LCS-PB-210-0104		Laboratory Control Sample				Run: SUB-T40681			05/31/11 03:31	
Lead 210		53	pCi/L		100	70	130			
Sample ID: MB-PB-210-0104	3	Method Blank				Run: SUB-T40681			05/31/11 01:19	
Lead 210		-0.7	pCi/L							U
Lead 210 precision (±)		0.9	pCi/L							
Lead 210 MDC		2	pCi/L							
Method: E909.0									Batch: T_14124	
Sample ID: T11050054-001HMSD		Sample Matrix Spike Duplicate				Run: SUB-T40969			06/23/11 19:03	
Lead 210		870	pCi/L		81	70	130	8.9	17.3	
Sample ID: T11050054-001HMS		Sample Matrix Spike				Run: SUB-T40969			06/23/11 17:57	
Lead 210		950	pCi/L		90	70	130			
Sample ID: LCS-14124		Laboratory Control Sample				Run: SUB-T40969			06/23/11 15:45	
Lead 210		301	pCi/Filter		83	70	130			
Sample ID: MB-14124	3	Method Blank				Run: SUB-T40969			06/23/11 14:39	
Lead 210		5	pCi/Filter							U
Lead 210 precision (±)		6	pCi/Filter							
Lead 210 MDC		10	pCi/Filter							

Qualifiers:

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MDC - Minimum detectable concentration
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QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 06/27/11

Project: Marsland Baseline Samples **Work Order:** C11050219

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E912.0									Batch: PO210-0372	
Sample ID: C11050219-003EMS		Sample Matrix Spike				Run: EGG-ORTEC_110516B			05/19/11 09:05	
Polonium 210		12	pCi/L		96	70	130			
Sample ID: C11050219-003EMSD		Sample Matrix Spike Duplicate				Run: EGG-ORTEC_110516B			05/19/11 11:21	
Polonium 210		14	pCi/L		107	70	130	11	69.5	
Sample ID: MB-PO210-0372	3	Method Blank				Run: EGG-ORTEC_110516B			05/19/11 11:21	
Polonium 210		-0.02	pCi/L							U
Polonium 210 precision (±)		0.2	pCi/L							
Polonium 210 MDC		0.5	pCi/L							
Sample ID: LCS-PO210-0372		Laboratory Control Sample				Run: EGG-ORTEC_110516B			05/19/11 11:21	
Polonium 210		5.6	pCi/L		88	70	130			
Method: E912.0									Batch: 29809	
Sample ID: C11050187-001AMS		Sample Matrix Spike				Run: EGG-ORTEC_110516C			05/19/11 11:22	
Polonium 210		70	pCi/Filter		108	70	130			
Sample ID: C11050187-001AMSD		Sample Matrix Spike Duplicate				Run: EGG-ORTEC_110516C			05/19/11 11:22	
Polonium 210		71	pCi/Filter		110	70	130	1.8	65.3	
Sample ID: LCS-29809		Laboratory Control Sample				Run: EGG-ORTEC_110516C			05/19/11 11:22	
Polonium 210		31	pCi/Filter		105	70	130			
Sample ID: MB-29809	3	Method Blank				Run: EGG-ORTEC_110516C			05/19/11 11:22	
Polonium 210		-0.1	pCi/Filter							U
Polonium 210 precision (±)		0.9	pCi/Filter							
Polonium 210 MDC		2	pCi/Filter							

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

U - Not detected at minimum detectable concentration

Workorder Receipt Checklist

C11050219

Crow Butte Resources

Login completed by: Edith McPike
Date Received: 5/6/2011
Reviewed by: BL2000\hackerman
Received by: dw
Reviewed Date: 5/9/2011
Carrier name: Ground

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature:	9.2°C Melted Ice		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Contact and Corrective Action Comments:

Samples filtered and preserved as necessary for dissolved radionuclides per quote.

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: Crow Butte Resources, Inc.	Project Name: Marsland Baseline Samples	Sample Origin State:	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: P.O. Box 169, Crawford, NE 69339	Contact Name: Larry Teahon; Phone/Fax: 308-665-2341	Email: daxmynus@msn.com	Sampler: (Please Print) Brooke Bass, Rhonda Pelton
Invoice Address: P.O. Box 169, Crawford, NE 69339	Invoice Contact & Phone: Larry Teahon, 308-665-2215 ext 114	Purchase Order: 1125	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ GSA ☐ POTW/WWTP ☐ State: _____ ☐ Other: _____

☐ A2LA ☐ EDD/EDT (Electronic Data) Format: _____ ☐ LEVEL IV ☐ NELAC

Number of Containers; Sample Type: A W S V B O; Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	HNO3-F, Metals	RAW-F, Common Ions	RAW-UF, Alkalinity	H2SO4-F, NO2, NO3, NH4	Raw-UF, Ra226, Po210 dis, sus	Raw-UF, Pb210 dis and sus	Rau-UF, Th230, U-nat dis and sus			SEE ATTACHED	Normal Turnaround (TAT)	RUSH	Contact ELI prior to RUSH sample submittal for charges and scheduling – See Instruction Page
1	BOW 4-A	5/3/11		Water	.5	1	1	.5	1 G	1 G	1 G					x	Please report 6/6/11
2	BOW 7	5/3/11		Water	.5	1	1	.5	1 G	1 G	1 G					x	Please report 6/6/11
3	BOW 8	5/3/11		Water	.5	1	1	.5	1 G	1 G	1 G					x	Please report 6/6/11
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Comments: NDEQ parameters for baseline sampling. Report on separate sheets. Analyze as per WDEQ Guideline 8 and NRC Reg. Guide 4.14 requirements. Record U as mg/L and µCi/ml and radiometrics as pCi/L.

Shipped by: UPS Ground
Cooler ID(s): Client
Receipt Temp: 9.2 °C
On Ice: (Yes) No mellow
Custody Seal Y (N)
Intact Y N
Signature Match (Y) N

LABORATORY USE ONLY

C11050219

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Rhonda Pelton	5-4-11 955 am	Rhonda Pelton	UPS		

Received by Laboratory: Date/Time: 5-6-11 0945 Signature:

Sample Disposal: Return to Client: No Lab Disposal: YES

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 subcontract 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.

CROW BUTTE RESOURCES, INC.
CROW BUTTE PROJECT

NO 2

DATE: 5/3/11

ANALYST: _____

STANDARD CURVE DATA

	BL	0.01	0.05	0.1			
Abs	0	.0366	.171	.338			
Abs							

SAMPLE #	VOLUME	Df	Abs	
1 Bow 4A	10ml	1	.146	.04
2 Bow 7	10ml	1	.242	.07
3 Bow 8	10ml	1	.005	<0.01
4 Dup Bow7	10ml	1	.244	.07
5				
Dup				
6				
7				
8				
9				
10				
Dup				
11				
12				
13				
14				
15				
Dup				
16				
17				
18				
19				
20				
Dup				
21				
22				
23				
24				
25				
Dup				

ANALYTICAL SUMMARY REPORT

November 10, 2011

Crow Butte Resources
86 Crow Butte Rd
Crawford, NE 69339

Workorder No.: C11090996 Quote ID: C1125 - Crow Butte Uranium

Project Name: Marsland Baseline Private Well Samples

Energy Laboratories, Inc. Casper WY received the following 6 samples for Crow Butte Resources on 9/27/2011 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C11090996-001	Well #741	09/22/11 00:00	09/27/11	Aqueous	Metals by ICP/ICPMS, Dissolved Alkalinity QA Calculations Conductivity Sample Filtering Fluoride E300.0 Anions Uranium, Suspended Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Digestion, Total Metals Lead 210, Dissolved Lead 210, Suspended Polonium 210, Dissolved Polonium 210, Suspended Radium 226, Dissolved Radium 226, Suspended Thorium, Isotopic Thorium, Suspended Isotopic Solids, Total Dissolved
C11090996-002	Well #759	09/22/11 00:00	09/27/11	Aqueous	Same As Above
C11090996-003	Well #703	09/22/11 00:00	09/27/11	Aqueous	Same As Above
C11090996-004	Well #723	09/22/11 00:00	09/27/11	Aqueous	Same As Above
C11090996-005	Well #745	09/22/11 00:00	09/27/11	Aqueous	Same As Above
C11090996-006	Well #727	09/22/11 00:00	09/27/11	Aqueous	Same As Above

The analyses presented in this report were performed at Energy Laboratories, Inc., 2393 Salt Creek Hwy., Casper, WY 82601, unless otherwise noted. Radiochemistry analyses were performed at Energy Laboratories, Inc., 2325 Kerzell Lane, Casper, WY 82601, unless otherwise noted. 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. All samples are reported on an as received basis unless otherwise indicated.

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

Report Approved By:

CLIENT: Crow Butte Resources
Project: Marsland Baseline Private Well Samples
Sample Delivery Group: C11090996

Report Date: 11/10/11

CASE NARRATIVE

BRANCH LABORATORY SUBCONTRACT ANALYSIS
Tests associated with analyst identified as ELI-CS were subcontracted to Energy Laboratories, 415 Graham Rd., College Station, TX, EPA Number TX01520.

RADIOCHEMISTRY ANALYSIS
Per client request, results less than MDC (or precision if no MDC), are reported as <MDC (or <precision). Actual instrument results are available by request.

PREP COMMENTS
The prep hold time for the filtration of Dissolved Radiochemistry was exceeded by up to 3.33 days.

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.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Private Well Samples
Lab ID: C11090996-001
Client Sample ID: Well #741

Report Date: 11/10/11
Collection Date: 09/22/11
DateReceived: 09/27/11
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Alkalinity, Total as CaCO3	179	mg/L		1		A2320 B	09/27/11 16:48 / jba
Carbonate as CO3	ND	mg/L		1		A2320 B	09/27/11 16:48 / jba
Bicarbonate as HCO3	218	mg/L		1		A2320 B	09/27/11 16:48 / jba
Calcium	50	mg/L		1		E200.7	10/26/11 17:07 / cp
Chloride	5	mg/L		1		E300.0	10/05/11 01:57 / ljl
Fluoride	0.6	mg/L		0.1		A4500-F C	09/28/11 10:12 / jba
Magnesium	8	mg/L		1		E200.7	10/26/11 17:07 / cp
Nitrogen, Ammonia as N	ND	mg/L		0.05		A4500-NH3 G	10/11/11 15:44 / dc
Nitrogen, Nitrate+Nitrite as N	3.2	mg/L	D	0.2		E353.2	10/20/11 11:38 / ljl
Potassium	5	mg/L		1		E200.7	10/26/11 17:07 / cp
Silica	66.2	mg/L		0.2		E200.7	10/26/11 17:07 / cp
Sodium	22	mg/L		1		E200.7	10/26/11 17:07 / cp
Sulfate	13	mg/L		1		E300.0	10/05/11 01:57 / ljl
PHYSICAL PROPERTIES							
Conductivity @ 25 C	403	umhos/cm		1		A2510 B	09/27/11 15:25 / lmc
pH	7.99	s.u.		0.01		A4500-H B	09/27/11 15:25 / lmc
Solids, Total Dissolved TDS @ 180 C	277	mg/L		10		A2540 C	09/27/11 17:18 / lmc
METALS - DISSOLVED							
Aluminum	ND	mg/L		0.1		E200.7	10/26/11 17:07 / cp
Arsenic	0.006	mg/L		0.001		E200.8	10/11/11 04:17 / sml
Barium	0.2	mg/L		0.1		E200.8	10/11/11 04:17 / sml
Boron	0.1	mg/L		0.1		E200.7	10/26/11 17:07 / cp
Cadmium	ND	mg/L		0.005		E200.8	10/11/11 04:17 / sml
Chromium	ND	mg/L		0.05		E200.7	10/26/11 17:07 / cp
Copper	ND	mg/L		0.01		E200.8	10/11/11 04:17 / sml
Iron	ND	mg/L		0.03		E200.7	10/26/11 17:07 / cp
Lead	ND	mg/L		0.001		E200.8	10/11/11 04:17 / sml
Manganese	ND	mg/L		0.01		E200.7	10/31/11 10:52 / cp
Mercury	ND	mg/L		0.001		E200.8	10/11/11 04:17 / sml
Molybdenum	ND	mg/L		0.1		E200.8	10/11/11 04:17 / sml
Nickel	ND	mg/L		0.05		E200.8	10/11/11 04:17 / sml
Selenium	0.002	mg/L		0.001		E200.8	10/11/11 04:17 / sml
Uranium	0.0091	mg/L		0.0003		E200.8	10/11/11 04:17 / sml
Uranium, Activity	6.2E-09	uCi/mL		2.0E-10		E200.8	10/11/11 04:17 / sml
Vanadium	ND	mg/L		0.1		E200.7	10/31/11 10:52 / cp
Zinc	0.03	mg/L		0.01		E200.7	10/26/11 17:07 / cp
METALS - SUSPENDED							
Uranium	ND	mg/L		0.0003		E200.8	10/01/11 17:24 / sml
Uranium, Activity	ND	uCi/mL		2.0E-10		E200.8	10/01/11 17:24 / sml

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Private Well Samples
Lab ID: C11090996-001
Client Sample ID: Well #741

Report Date: 11/10/11
Collection Date: 09/22/11
DateReceived: 09/27/11
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES - DISSOLVED							
Lead 210	<0.7	pCi/L	U	0.7		E909.0	10/19/11 04:40 / eli-cs
Lead 210 precision (±)	0.4	pCi/L				E909.0	10/19/11 04:40 / eli-cs
Lead 210 MDC	0.7	pCi/L				E909.0	10/19/11 04:40 / eli-cs
Polonium 210	0.6	pCi/L		0.5		E912.0	10/27/11 13:23 / ep
Polonium 210 precision (±)	0.5	pCi/L				E912.0	10/27/11 13:23 / ep
Polonium 210 MDC	0.5	pCi/L				E912.0	10/27/11 13:23 / ep
Radium 226	2.4	pCi/L		0.2		E903.0	10/17/11 12:13 / js
Radium 226 precision (±)	0.3	pCi/L				E903.0	10/17/11 12:13 / js
Radium 226 MDC	0.2	pCi/L				E903.0	10/17/11 12:13 / js
Thorium 230	<0.2	pCi/L	U	0.2		E908.0	11/04/11 08:39 / dmf
Thorium 230 precision (±)	0.06	pCi/L				E908.0	11/04/11 08:39 / dmf
Thorium 230 MDC	0.2	pCi/L				E908.0	11/04/11 08:39 / dmf
RADIONUCLIDES - SUSPENDED							
Lead 210	<0.6	pCi/L	U	0.6		E909.0	10/10/11 09:53 / eli-cs
Lead 210 precision (±)	0.3	pCi/L				E909.0	10/10/11 09:53 / eli-cs
Lead 210 MDC	0.6	pCi/L				E909.0	10/10/11 09:53 / eli-cs
Polonium 210	<0.2	pCi/L	U	0.2		E912.0	10/28/11 13:25 / ep
Polonium 210 precision (±)	0.08	pCi/L				E912.0	10/28/11 13:25 / ep
Polonium 210 MDC	0.2	pCi/L				E912.0	10/28/11 13:25 / ep
Radium 226	<0.1	pCi/L	U	0.1		E903.0	10/11/11 17:37 / js
Radium 226 precision (±)	0.03	pCi/L				E903.0	10/11/11 17:37 / js
Radium 226 MDC	0.1	pCi/L				E903.0	10/11/11 17:37 / js
Thorium 230	0.2	pCi/L		0.1		E908.0	10/22/11 15:09 / dmf
Thorium 230 precision (±)	0.1	pCi/L				E908.0	10/22/11 15:09 / dmf
Thorium 230 MDC	0.1	pCi/L				E908.0	10/22/11 15:09 / dmf
DATA QUALITY							
A/C Balance (± 5)	0.0941	%				Calculation	11/02/11 12:37 / kbh
Anions	4.24	meq/L				Calculation	11/02/11 12:37 / kbh
Cations	4.25	meq/L				Calculation	11/02/11 12:37 / kbh
Solids, Total Dissolved Calculated	308	mg/L				Calculation	11/02/11 12:37 / kbh
TDS Balance (0.80 - 1.20)	0.900					Calculation	11/02/11 12:37 / kbh

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Private Well Samples
Lab ID: C11090996-002
Client Sample ID: Well #759

Report Date: 11/10/11
Collection Date: 09/22/11
DateReceived: 09/27/11
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Alkalinity, Total as CaCO3	144	mg/L		1		A2320 B	09/27/11 17:04 / jba
Carbonate as CO3	ND	mg/L		1		A2320 B	09/27/11 17:04 / jba
Bicarbonate as HCO3	175	mg/L		1		A2320 B	09/27/11 17:04 / jba
Calcium	31	mg/L		1		E200.7	10/26/11 17:19 / cp
Chloride	2	mg/L		1		E300.0	10/05/11 02:50 / ljl
Fluoride	0.6	mg/L		0.1		A4500-F C	09/28/11 10:25 / jba
Magnesium	6	mg/L		1		E200.7	10/26/11 17:19 / cp
Nitrogen, Ammonia as N	ND	mg/L		0.05		A4500-NH3 G	10/11/11 15:46 / dc
Nitrogen, Nitrate+Nitrite as N	0.8	mg/L		0.1		E353.2	10/20/11 11:41 / ljl
Potassium	5	mg/L		1		E200.7	10/26/11 17:19 / cp
Silica	75.3	mg/L		0.2		E200.7	10/26/11 17:19 / cp
Sodium	23	mg/L		1		E200.7	10/26/11 17:19 / cp
Sulfate	8	mg/L		1		E300.0	10/05/11 02:50 / ljl
PHYSICAL PROPERTIES							
Conductivity @ 25 C	299	umhos/cm		1		A2510 B	09/27/11 15:27 / lmc
pH	8.05	s.u.		0.01		A4500-H B	09/27/11 15:27 / lmc
Solids, Total Dissolved TDS @ 180 C	217	mg/L		10		A2540 C	09/27/11 17:18 / lmc
METALS - DISSOLVED							
Aluminum	ND	mg/L		0.1		E200.7	10/26/11 17:19 / cp
Arsenic	0.004	mg/L		0.001		E200.8	10/11/11 04:24 / sml
Barium	0.2	mg/L		0.1		E200.8	10/11/11 04:24 / sml
Boron	0.1	mg/L		0.1		E200.7	10/26/11 17:19 / cp
Cadmium	ND	mg/L		0.005		E200.8	10/11/11 04:24 / sml
Chromium	ND	mg/L		0.05		E200.7	10/26/11 17:19 / cp
Copper	ND	mg/L		0.01		E200.8	10/11/11 04:24 / sml
Iron	ND	mg/L		0.03		E200.7	10/26/11 17:19 / cp
Lead	ND	mg/L		0.001		E200.8	10/11/11 04:24 / sml
Manganese	ND	mg/L		0.01		E200.7	10/31/11 11:04 / cp
Mercury	ND	mg/L		0.001		E200.8	10/11/11 04:24 / sml
Molybdenum	ND	mg/L		0.1		E200.8	10/11/11 04:24 / sml
Nickel	ND	mg/L		0.05		E200.8	10/11/11 04:24 / sml
Selenium	0.001	mg/L		0.001		E200.8	10/11/11 04:24 / sml
Uranium	0.0075	mg/L		0.0003		E200.8	10/11/11 04:24 / sml
Uranium, Activity	5.1E-09	uCi/mL		2.0E-10		E200.8	10/11/11 04:24 / sml
Vanadium	ND	mg/L		0.1		E200.7	10/31/11 11:04 / cp
Zinc	0.04	mg/L		0.01		E200.7	10/26/11 17:19 / cp
METALS - SUSPENDED							
Uranium	ND	mg/L		0.0003		E200.8	10/01/11 17:25 / sml
Uranium, Activity	ND	uCi/mL		2.0E-10		E200.8	10/01/11 17:25 / sml

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Private Well Samples
Lab ID: C11090996-002
Client Sample ID: Well #759

Report Date: 11/10/11
Collection Date: 09/22/11
DateReceived: 09/27/11
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES - DISSOLVED							
Lead 210	<0.8	pCi/L	U	0.8		E909.0	10/19/11 08:00 / eli-cs
Lead 210 precision (±)	0.5	pCi/L				E909.0	10/19/11 08:00 / eli-cs
Lead 210 MDC	0.8	pCi/L				E909.0	10/19/11 08:00 / eli-cs
Polonium 210	<0.5	pCi/L	U	0.5		E912.0	10/27/11 13:23 / ep
Polonium 210 precision (±)	0.4	pCi/L				E912.0	10/27/11 13:23 / ep
Polonium 210 MDC	0.5	pCi/L				E912.0	10/27/11 13:23 / ep
Radium 226	0.7	pCi/L		0.2		E903.0	10/17/11 12:13 / js
Radium 226 precision (±)	0.2	pCi/L				E903.0	10/17/11 12:13 / js
Radium 226 MDC	0.2	pCi/L				E903.0	10/17/11 12:13 / js
Thorium 230	<0.2	pCi/L	U	0.2		E908.0	11/04/11 08:39 / dmf
Thorium 230 precision (±)	0.08	pCi/L				E908.0	11/04/11 08:39 / dmf
Thorium 230 MDC	0.2	pCi/L				E908.0	11/04/11 08:39 / dmf
RADIONUCLIDES - SUSPENDED							
Lead 210	<0.6	pCi/L	U	0.6		E909.0	10/10/11 12:08 / eli-cs
Lead 210 precision (±)	0.3	pCi/L				E909.0	10/10/11 12:08 / eli-cs
Lead 210 MDC	0.6	pCi/L				E909.0	10/10/11 12:08 / eli-cs
Polonium 210	<0.2	pCi/L	U	0.2		E912.0	10/28/11 13:25 / ep
Polonium 210 precision (±)	0.1	pCi/L				E912.0	10/28/11 13:25 / ep
Polonium 210 MDC	0.2	pCi/L				E912.0	10/28/11 13:25 / ep
Radium 226	<0.1	pCi/L	U	0.1		E903.0	10/11/11 17:37 / js
Radium 226 precision (±)	0.04	pCi/L				E903.0	10/11/11 17:37 / js
Radium 226 MDC	0.1	pCi/L				E903.0	10/11/11 17:37 / js
Thorium 230	<0.2	pCi/L	U	0.2		E908.0	10/22/11 15:09 / dmf
Thorium 230 precision (±)	0.1	pCi/L				E908.0	10/22/11 15:09 / dmf
Thorium 230 MDC	0.2	pCi/L				E908.0	10/22/11 15:09 / dmf
DATA QUALITY							
A/C Balance (± 5)	0.123	%				Calculation	11/02/11 12:38 / kbh
Anions	3.17	meq/L				Calculation	11/02/11 12:38 / kbh
Cations	3.18	meq/L				Calculation	11/02/11 12:38 / kbh
Solids, Total Dissolved Calculated	260	mg/L				Calculation	11/02/11 12:38 / kbh
TDS Balance (0.80 - 1.20)	0.830					Calculation	11/02/11 12:38 / kbh

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Private Well Samples
Lab ID: C11090996-003
Client Sample ID: Well #703

Report Date: 11/10/11
Collection Date: 09/22/11
DateReceived: 09/27/11
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Alkalinity, Total as CaCO3	148	mg/L		1		A2320 B	09/27/11 17:11 / jba
Carbonate as CO3	ND	mg/L		1		A2320 B	09/27/11 17:11 / jba
Bicarbonate as HCO3	181	mg/L		1		A2320 B	09/27/11 17:11 / jba
Calcium	41	mg/L		1		E200.7	10/26/11 17:27 / cp
Chloride	3	mg/L		1		E300.0	10/05/11 03:31 / ljl
Fluoride	0.5	mg/L		0.1		A4500-F C	09/28/11 10:28 / jba
Magnesium	8	mg/L		1		E200.7	10/26/11 17:27 / cp
Nitrogen, Ammonia as N	ND	mg/L		0.05		A4500-NH3 G	10/11/11 15:48 / dc
Nitrogen, Nitrate+Nitrite as N	1.7	mg/L		0.1		E353.2	10/20/11 11:43 / ljl
Potassium	3	mg/L		1		E200.7	10/26/11 17:27 / cp
Silica	68.5	mg/L		0.2		E200.7	10/26/11 17:27 / cp
Sodium	13	mg/L		1		E200.7	10/26/11 17:27 / cp
Sulfate	7	mg/L		1		E300.0	10/05/11 03:31 / ljl
PHYSICAL PROPERTIES							
Conductivity @ 25 C	315	umhos/cm		1		A2510 B	09/27/11 15:30 / lmc
pH	7.99	s.u.		0.01		A4500-H B	09/27/11 15:30 / lmc
Solids, Total Dissolved TDS @ 180 C	231	mg/L		10		A2540 C	09/27/11 17:18 / lmc
METALS - DISSOLVED							
Aluminum	ND	mg/L		0.1		E200.7	10/26/11 17:27 / cp
Arsenic	0.004	mg/L		0.001		E200.8	10/11/11 04:31 / sml
Barium	0.1	mg/L		0.1		E200.8	10/11/11 04:31 / sml
Boron	ND	mg/L		0.1		E200.7	10/26/11 17:27 / cp
Cadmium	ND	mg/L		0.005		E200.8	10/11/11 04:31 / sml
Chromium	ND	mg/L		0.05		E200.7	10/26/11 17:27 / cp
Copper	ND	mg/L		0.01		E200.8	10/11/11 04:31 / sml
Iron	ND	mg/L		0.03		E200.7	10/26/11 17:27 / cp
Lead	ND	mg/L		0.001		E200.8	10/11/11 04:31 / sml
Manganese	ND	mg/L		0.01		E200.7	10/31/11 11:12 / cp
Mercury	ND	mg/L		0.001		E200.8	10/11/11 04:31 / sml
Molybdenum	ND	mg/L		0.1		E200.8	10/11/11 04:31 / sml
Nickel	ND	mg/L		0.05		E200.8	10/11/11 04:31 / sml
Selenium	0.002	mg/L		0.001		E200.8	10/11/11 04:31 / sml
Uranium	0.0061	mg/L		0.0003		E200.8	10/11/11 04:31 / sml
Uranium, Activity	4.1E-09	uCi/mL		2.0E-10		E200.8	10/11/11 04:31 / sml
Vanadium	ND	mg/L		0.1		E200.7	10/31/11 11:12 / cp
Zinc	0.07	mg/L		0.01		E200.7	10/26/11 17:27 / cp
METALS - SUSPENDED							
Uranium	ND	mg/L		0.0003		E200.8	10/01/11 17:26 / sml
Uranium, Activity	ND	uCi/mL		2.0E-10		E200.8	10/01/11 17:26 / sml

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Private Well Samples
Lab ID: C11090996-003
Client Sample ID: Well #703

Report Date: 11/10/11
Collection Date: 09/22/11
DateReceived: 09/27/11
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES - DISSOLVED							
Lead 210	<0.7	pCi/L	U	0.7		E909.0	10/19/11 11:20 / eli-cs
Lead 210 precision (±)	0.4	pCi/L				E909.0	10/19/11 11:20 / eli-cs
Lead 210 MDC	0.7	pCi/L				E909.0	10/19/11 11:20 / eli-cs
Polonium 210	0.7	pCi/L		0.6		E912.0	10/27/11 13:23 / ep
Polonium 210 precision (±)	0.6	pCi/L				E912.0	10/27/11 13:23 / ep
Polonium 210 MDC	0.6	pCi/L				E912.0	10/27/11 13:23 / ep
Radium 226	<0.2	pCi/L	U	0.2		E903.0	10/17/11 12:13 / js
Radium 226 precision (±)	0.1	pCi/L				E903.0	10/17/11 12:13 / js
Radium 226 MDC	0.2	pCi/L				E903.0	10/17/11 12:13 / js
Thorium 230	<0.2	pCi/L	U	0.2		E908.0	11/04/11 08:39 / dmf
Thorium 230 precision (±)	0.09	pCi/L				E908.0	11/04/11 08:39 / dmf
Thorium 230 MDC	0.2	pCi/L				E908.0	11/04/11 08:39 / dmf
RADIONUCLIDES - SUSPENDED							
Lead 210	<0.6	pCi/L	U	0.6		E909.0	10/10/11 14:22 / eli-cs
Lead 210 precision (±)	0.3	pCi/L				E909.0	10/10/11 14:22 / eli-cs
Lead 210 MDC	0.6	pCi/L				E909.0	10/10/11 14:22 / eli-cs
Polonium 210	<0.2	pCi/L	U	0.2		E912.0	10/28/11 13:25 / ep
Polonium 210 precision (±)	0.1	pCi/L				E912.0	10/28/11 13:25 / ep
Polonium 210 MDC	0.2	pCi/L				E912.0	10/28/11 13:25 / ep
Radium 226	<0.1	pCi/L	U	0.1		E903.0	10/11/11 17:37 / js
Radium 226 precision (±)	0.05	pCi/L				E903.0	10/11/11 17:37 / js
Radium 226 MDC	0.1	pCi/L				E903.0	10/11/11 17:37 / js
Thorium 230	0.3	pCi/L		0.1		E908.0	10/22/11 15:09 / dmf
Thorium 230 precision (±)	0.2	pCi/L				E908.0	10/22/11 15:09 / dmf
Thorium 230 MDC	0.1	pCi/L				E908.0	10/22/11 15:09 / dmf
DATA QUALITY							
A/C Balance (± 5)	0.341	%				Calculation	11/02/11 12:38 / kbh
Anions	3.33	meq/L				Calculation	11/02/11 12:38 / kbh
Cations	3.36	meq/L				Calculation	11/02/11 12:38 / kbh
Solids, Total Dissolved Calculated	259	mg/L				Calculation	11/02/11 12:38 / kbh
TDS Balance (0.80 - 1.20)	0.890					Calculation	11/02/11 12:38 / kbh

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Private Well Samples
Lab ID: C11090996-004
Client Sample ID: Well #723

Report Date: 11/10/11
Collection Date: 09/22/11
DateReceived: 09/27/11
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Alkalinity, Total as CaCO3	154	mg/L		1		A2320 B	09/27/11 17:20 / jba
Carbonate as CO3	ND	mg/L		1		A2320 B	09/27/11 17:20 / jba
Bicarbonate as HCO3	187	mg/L		1		A2320 B	09/27/11 17:20 / jba
Calcium	34	mg/L		1		E200.7	10/26/11 17:31 / cp
Chloride	3	mg/L		1		E300.0	10/05/11 03:44 / ljl
Fluoride	0.7	mg/L		0.1		A4500-F C	09/28/11 10:30 / jba
Magnesium	8	mg/L		1		E200.7	10/26/11 17:31 / cp
Nitrogen, Ammonia as N	ND	mg/L		0.05		A4500-NH3 G	10/11/11 15:56 / dc
Nitrogen, Nitrate+Nitrite as N	0.8	mg/L		0.1		E353.2	10/20/11 11:46 / ljl
Potassium	3	mg/L		1		E200.7	10/26/11 17:31 / cp
Silica	78.3	mg/L		0.2		E200.7	10/26/11 17:31 / cp
Sodium	17	mg/L		1		E200.7	10/26/11 17:31 / cp
Sulfate	9	mg/L		1		E300.0	10/05/11 03:44 / ljl
PHYSICAL PROPERTIES							
Conductivity @ 25 C	308	umhos/cm		1		A2510 B	09/27/11 15:33 / lmc
pH	7.99	s.u.		0.01		A4500-H B	09/27/11 15:33 / lmc
Solids, Total Dissolved TDS @ 180 C	235	mg/L		10		A2540 C	09/27/11 17:19 / lmc
METALS - DISSOLVED							
Aluminum	ND	mg/L		0.1		E200.7	10/26/11 17:31 / cp
Arsenic	0.007	mg/L		0.001		E200.8	10/11/11 04:58 / sml
Barium	0.1	mg/L		0.1		E200.8	10/11/11 04:58 / sml
Boron	ND	mg/L		0.1		E200.7	10/26/11 17:31 / cp
Cadmium	ND	mg/L		0.005		E200.8	10/11/11 04:58 / sml
Chromium	ND	mg/L		0.05		E200.7	10/26/11 17:31 / cp
Copper	0.04	mg/L		0.01		E200.8	10/11/11 04:58 / sml
Iron	ND	mg/L		0.03		E200.7	10/26/11 17:31 / cp
Lead	ND	mg/L		0.001		E200.8	10/11/11 04:58 / sml
Manganese	ND	mg/L		0.01		E200.7	10/31/11 11:16 / cp
Mercury	ND	mg/L		0.001		E200.8	10/11/11 04:58 / sml
Molybdenum	ND	mg/L		0.1		E200.8	10/11/11 04:58 / sml
Nickel	ND	mg/L		0.05		E200.8	10/11/11 04:58 / sml
Selenium	0.002	mg/L		0.001		E200.8	10/11/11 04:58 / sml
Uranium	0.0073	mg/L		0.0003		E200.8	11/04/11 00:21 / sml
Uranium, Activity	5.0E-09	uCi/mL		2.0E-10		E200.8	11/04/11 00:21 / sml
Vanadium	ND	mg/L		0.1		E200.7	10/31/11 11:16 / cp
Zinc	0.10	mg/L		0.01		E200.7	10/26/11 17:31 / cp
METALS - SUSPENDED							
Uranium	ND	mg/L		0.0003		E200.8	10/01/11 17:27 / sml
Uranium, Activity	ND	uCi/mL		2.0E-10		E200.8	10/01/11 17:27 / sml

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Private Well Samples
Lab ID: C11090996-004
Client Sample ID: Well #723

Report Date: 11/10/11
Collection Date: 09/22/11
DateReceived: 09/27/11
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES - DISSOLVED							
Lead 210	<0.8	pCi/L	U	0.8		E909.0	10/19/11 14:40 / eli-cs
Lead 210 precision (±)	0.4	pCi/L				E909.0	10/19/11 14:40 / eli-cs
Lead 210 MDC	0.8	pCi/L				E909.0	10/19/11 14:40 / eli-cs
Polonium 210	<0.6	pCi/L	U	0.6		E912.0	10/27/11 13:23 / ep
Polonium 210 precision (±)	0.3	pCi/L				E912.0	10/27/11 13:23 / ep
Polonium 210 MDC	0.6	pCi/L				E912.0	10/27/11 13:23 / ep
Radium 226	0.2	pCi/L		0.2		E903.0	10/17/11 12:13 / js
Radium 226 precision (±)	0.1	pCi/L				E903.0	10/17/11 12:13 / js
Radium 226 MDC	0.2	pCi/L				E903.0	10/17/11 12:13 / js
Thorium 230	<0.2	pCi/L	U	0.2		E908.0	11/04/11 08:39 / dmf
Thorium 230 precision (±)	0.08	pCi/L				E908.0	11/04/11 08:39 / dmf
Thorium 230 MDC	0.2	pCi/L				E908.0	11/04/11 08:39 / dmf
RADIONUCLIDES - SUSPENDED							
Lead 210	<0.6	pCi/L	U	0.6		E909.0	10/10/11 16:37 / eli-cs
Lead 210 precision (±)	0.3	pCi/L				E909.0	10/10/11 16:37 / eli-cs
Lead 210 MDC	0.6	pCi/L				E909.0	10/10/11 16:37 / eli-cs
Polonium 210	<0.1	pCi/L	U	0.1		E912.0	10/28/11 13:25 / ep
Polonium 210 precision (±)	0.07	pCi/L				E912.0	10/28/11 13:25 / ep
Polonium 210 MDC	0.1	pCi/L				E912.0	10/28/11 13:25 / ep
Radium 226	<0.1	pCi/L	U	0.1		E903.0	10/11/11 17:37 / js
Radium 226 precision (±)	0.04	pCi/L				E903.0	10/11/11 17:37 / js
Radium 226 MDC	0.1	pCi/L				E903.0	10/11/11 17:37 / js
Thorium 230	<0.1	pCi/L	U	0.1		E908.0	10/22/11 15:09 / dmf
Thorium 230 precision (±)	0.09	pCi/L				E908.0	10/22/11 15:09 / dmf
Thorium 230 MDC	0.1	pCi/L				E908.0	10/22/11 15:09 / dmf
DATA QUALITY							
A/C Balance (± 5)	-3.11	%				Calculation	11/02/11 12:38 / kbh
Anions	3.41	meq/L				Calculation	11/02/11 12:38 / kbh
Cations	3.21	meq/L				Calculation	11/02/11 12:38 / kbh
Solids, Total Dissolved Calculated	269	mg/L				Calculation	11/02/11 12:38 / kbh
TDS Balance (0.80 - 1.20)	0.870					Calculation	11/02/11 12:38 / kbh

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Private Well Samples
Lab ID: C11090996-005
Client Sample ID: Well #745

Report Date: 11/10/11
Collection Date: 09/22/11
DateReceived: 09/27/11
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Alkalinity, Total as CaCO3	172	mg/L		1		A2320 B	09/27/11 17:28 / jba
Carbonate as CO3	ND	mg/L		1		A2320 B	09/27/11 17:28 / jba
Bicarbonate as HCO3	209	mg/L		1		A2320 B	09/27/11 17:28 / jba
Calcium	64	mg/L		1		E200.7	10/26/11 17:35 / cp
Chloride	3	mg/L		1		E300.0	10/05/11 03:58 / ljl
Fluoride	0.4	mg/L		0.1		A4500-F C	09/28/11 10:37 / jba
Magnesium	11	mg/L		1		E200.7	10/26/11 17:35 / cp
Nitrogen, Ammonia as N	ND	mg/L		0.05		A4500-NH3 G	10/11/11 16:02 / dc
Nitrogen, Nitrate+Nitrite as N	6.5	mg/L	DH	0.5		E353.2	10/21/11 10:39 / dc
Potassium	2	mg/L		1		E200.7	10/26/11 17:35 / cp
Silica	70.9	mg/L		0.2		E200.7	10/26/11 17:35 / cp
Sodium	8	mg/L		1		E200.7	10/26/11 17:35 / cp
Sulfate	16	mg/L		1		E300.0	10/05/11 03:58 / ljl
- H-Original analysis was done within hold time. Data is from recheck analysis.							
PHYSICAL PROPERTIES							
Conductivity @ 25 C	419	umhos/cm		1		A2510 B	09/27/11 15:36 / lmc
pH	7.94	s.u.		0.01		A4500-H B	09/27/11 15:36 / lmc
Solids, Total Dissolved TDS @ 180 C	315	mg/L		10		A2540 C	09/27/11 17:19 / lmc
METALS - DISSOLVED							
Aluminum	ND	mg/L		0.1		E200.7	10/26/11 17:35 / cp
Arsenic	0.003	mg/L		0.001		E200.8	10/11/11 05:04 / sml
Barium	ND	mg/L		0.1		E200.8	10/11/11 05:04 / sml
Boron	ND	mg/L		0.1		E200.7	10/26/11 17:35 / cp
Cadmium	ND	mg/L		0.005		E200.8	10/11/11 05:04 / sml
Chromium	ND	mg/L		0.05		E200.7	10/26/11 17:35 / cp
Copper	ND	mg/L		0.01		E200.8	10/11/11 05:04 / sml
Iron	ND	mg/L		0.03		E200.7	10/26/11 17:35 / cp
Lead	0.001	mg/L		0.001		E200.8	10/11/11 05:04 / sml
Manganese	ND	mg/L		0.01		E200.7	10/31/11 11:20 / cp
Mercury	ND	mg/L		0.001		E200.8	10/11/11 05:04 / sml
Molybdenum	ND	mg/L		0.1		E200.8	10/11/11 05:04 / sml
Nickel	ND	mg/L		0.05		E200.8	10/11/11 05:04 / sml
Selenium	0.002	mg/L		0.001		E200.8	10/11/11 05:04 / sml
Uranium	0.0349	mg/L		0.0003		E200.8	10/11/11 05:04 / sml
Uranium, Activity	2.4E-08	uCi/mL		2.0E-10		E200.8	10/11/11 05:04 / sml
Vanadium	ND	mg/L		0.1		E200.7	10/31/11 11:20 / cp
Zinc	0.51	mg/L		0.01		E200.7	10/26/11 17:35 / cp
METALS - SUSPENDED							
Uranium	0.0003	mg/L		0.0003		E200.8	10/01/11 17:28 / sml
Uranium, Activity	2.1E-10	uCi/mL		2.0E-10		E200.8	10/01/11 17:28 / sml

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
H - Analysis performed past recommended holding time.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Private Well Samples
Lab ID: C11090996-005
Client Sample ID: Well #745

Report Date: 11/10/11
Collection Date: 09/22/11
DateReceived: 09/27/11
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES - DISSOLVED							
Lead 210	<0.7	pCi/L	U	0.7		E909.0	10/19/11 18:00 / eli-cs
Lead 210 precision (±)	0.4	pCi/L				E909.0	10/19/11 18:00 / eli-cs
Lead 210 MDC	0.7	pCi/L				E909.0	10/19/11 18:00 / eli-cs
Polonium 210	0.5	pCi/L		0.4		E912.0	10/28/11 09:11 / ep
Polonium 210 precision (±)	0.4	pCi/L				E912.0	10/28/11 09:11 / ep
Polonium 210 MDC	0.4	pCi/L				E912.0	10/28/11 09:11 / ep
Radium 226	0.4	pCi/L		0.2		E903.0	10/17/11 12:13 / js
Radium 226 precision (±)	0.1	pCi/L				E903.0	10/17/11 12:13 / js
Radium 226 MDC	0.2	pCi/L				E903.0	10/17/11 12:13 / js
Thorium 230	<0.2	pCi/L	U	0.2		E908.0	11/04/11 08:39 / dmf
Thorium 230 precision (±)	0.06	pCi/L				E908.0	11/04/11 08:39 / dmf
Thorium 230 MDC	0.2	pCi/L				E908.0	11/04/11 08:39 / dmf
RADIONUCLIDES - SUSPENDED							
Lead 210	<0.6	pCi/L	U	0.6		E909.0	10/10/11 18:52 / eli-cs
Lead 210 precision (±)	0.3	pCi/L				E909.0	10/10/11 18:52 / eli-cs
Lead 210 MDC	0.6	pCi/L				E909.0	10/10/11 18:52 / eli-cs
Polonium 210	0.3	pCi/L		0.1		E912.0	10/28/11 13:25 / ep
Polonium 210 precision (±)	0.2	pCi/L				E912.0	10/28/11 13:25 / ep
Polonium 210 MDC	0.1	pCi/L				E912.0	10/28/11 13:25 / ep
Radium 226	0.2	pCi/L		0.1		E903.0	10/11/11 17:37 / js
Radium 226 precision (±)	0.08	pCi/L				E903.0	10/11/11 17:37 / js
Radium 226 MDC	0.1	pCi/L				E903.0	10/11/11 17:37 / js
Thorium 230	0.2	pCi/L		0.2		E908.0	10/22/11 15:09 / dmf
Thorium 230 precision (±)	0.1	pCi/L				E908.0	10/22/11 15:09 / dmf
Thorium 230 MDC	0.2	pCi/L				E908.0	10/22/11 15:09 / dmf
DATA QUALITY							
A/C Balance (± 5)	2.15	%				Calculation	11/02/11 12:39 / kbh
Anions	4.35	meq/L				Calculation	11/02/11 12:39 / kbh
Cations	4.54	meq/L				Calculation	11/02/11 12:39 / kbh
Solids, Total Dissolved Calculated	327	mg/L				Calculation	11/02/11 12:39 / kbh
TDS Balance (0.80 - 1.20)	0.960					Calculation	11/02/11 12:39 / kbh

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Private Well Samples
Lab ID: C11090996-006
Client Sample ID: Well #727

Report Date: 11/10/11
Collection Date: 09/22/11
DateReceived: 09/27/11
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Alkalinity, Total as CaCO3	150	mg/L		1		A2320 B	09/27/11 17:36 / jba
Carbonate as CO3	ND	mg/L		1		A2320 B	09/27/11 17:36 / jba
Bicarbonate as HCO3	182	mg/L		1		A2320 B	09/27/11 17:36 / jba
Calcium	31	mg/L		1		E200.7	10/26/11 17:39 / cp
Chloride	5	mg/L		1		E300.0	10/05/11 04:11 / ljl
Fluoride	0.5	mg/L		0.1		A4500-F C	09/28/11 10:42 / jba
Magnesium	13	mg/L		1		E200.7	10/26/11 17:39 / cp
Nitrogen, Ammonia as N	ND	mg/L		0.05		A4500-NH3 G	10/11/11 16:04 / dc
Nitrogen, Nitrate+Nitrite as N	1.4	mg/L	H	0.1		E353.2	10/21/11 10:47 / dc
Potassium	4	mg/L		1		E200.7	10/26/11 17:39 / cp
Silica	81.8	mg/L		0.2		E200.7	10/26/11 17:39 / cp
Sodium	17	mg/L		1		E200.7	10/26/11 17:39 / cp
Sulfate	9	mg/L		1		E300.0	10/05/11 04:11 / ljl
- H-Original analysis was done within hold time. Data is from recheck analysis.							
PHYSICAL PROPERTIES							
Conductivity @ 25 C	325	umhos/cm		1		A2510 B	09/27/11 15:38 / lmc
pH	8.01	s.u.		0.01		A4500-H B	09/27/11 15:38 / lmc
Solids, Total Dissolved TDS @ 180 C	244	mg/L		10		A2540 C	09/27/11 17:19 / lmc
METALS - DISSOLVED							
Aluminum	ND	mg/L		0.1		E200.7	10/26/11 17:39 / cp
Arsenic	0.003	mg/L		0.001		E200.8	10/11/11 05:11 / sml
Barium	0.1	mg/L		0.1		E200.8	10/11/11 05:11 / sml
Boron	ND	mg/L		0.1		E200.7	10/26/11 17:39 / cp
Cadmium	ND	mg/L		0.005		E200.8	10/11/11 05:11 / sml
Chromium	ND	mg/L		0.05		E200.7	10/26/11 17:39 / cp
Copper	ND	mg/L		0.01		E200.8	10/11/11 05:11 / sml
Iron	ND	mg/L		0.03		E200.7	10/26/11 17:39 / cp
Lead	ND	mg/L		0.001		E200.8	10/11/11 05:11 / sml
Manganese	ND	mg/L		0.01		E200.7	10/31/11 11:25 / cp
Mercury	ND	mg/L		0.001		E200.8	10/11/11 05:11 / sml
Molybdenum	ND	mg/L		0.1		E200.8	10/11/11 05:11 / sml
Nickel	ND	mg/L		0.05		E200.8	10/11/11 05:11 / sml
Selenium	0.003	mg/L		0.001		E200.8	10/11/11 05:11 / sml
Uranium	0.0119	mg/L		0.0003		E200.8	10/11/11 05:11 / sml
Uranium, Activity	8.0E-09	uCi/mL		2.0E-10		E200.8	10/11/11 05:11 / sml
Vanadium	ND	mg/L		0.1		E200.7	10/31/11 11:25 / cp
Zinc	0.30	mg/L		0.01		E200.7	10/26/11 17:39 / cp
METALS - SUSPENDED							
Uranium	ND	mg/L		0.0003		E200.8	10/01/11 17:29 / sml
Uranium, Activity	ND	uCi/mL		2.0E-10		E200.8	10/01/11 17:29 / sml

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Private Well Samples
Lab ID: C11090996-006
Client Sample ID: Well #727

Report Date: 11/10/11
Collection Date: 09/22/11
DateReceived: 09/27/11
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES - DISSOLVED							
Lead 210	<0.8	pCi/L	U	0.8		E909.0	10/19/11 21:20 / eli-cs
Lead 210 precision (±)	0.5	pCi/L				E909.0	10/19/11 21:20 / eli-cs
Lead 210 MDC	0.8	pCi/L				E909.0	10/19/11 21:20 / eli-cs
Polonium 210	<0.5	pCi/L	U	0.5		E912.0	10/28/11 09:11 / ep
Polonium 210 precision (±)	0.2	pCi/L				E912.0	10/28/11 09:11 / ep
Polonium 210 MDC	0.5	pCi/L				E912.0	10/28/11 09:11 / ep
Radium 226	0.2	pCi/L		0.2		E903.0	10/17/11 12:13 / js
Radium 226 precision (±)	0.1	pCi/L				E903.0	10/17/11 12:13 / js
Radium 226 MDC	0.2	pCi/L				E903.0	10/17/11 12:13 / js
Thorium 230	<0.1	pCi/L	U	0.1		E908.0	11/04/11 08:39 / dmf
Thorium 230 precision (±)	0.04	pCi/L				E908.0	11/04/11 08:39 / dmf
Thorium 230 MDC	0.1	pCi/L				E908.0	11/04/11 08:39 / dmf
RADIONUCLIDES - SUSPENDED							
Lead 210	<0.6	pCi/L	U	0.6		E909.0	10/10/11 21:06 / eli-cs
Lead 210 precision (±)	0.3	pCi/L				E909.0	10/10/11 21:06 / eli-cs
Lead 210 MDC	0.6	pCi/L				E909.0	10/10/11 21:06 / eli-cs
Polonium 210	<0.2	pCi/L	U	0.2		E912.0	10/28/11 13:25 / ep
Polonium 210 precision (±)	0.07	pCi/L				E912.0	10/28/11 13:25 / ep
Polonium 210 MDC	0.2	pCi/L				E912.0	10/28/11 13:25 / ep
Radium 226	<0.1	pCi/L	U	0.1		E903.0	10/11/11 17:37 / js
Radium 226 precision (±)	0.04	pCi/L				E903.0	10/11/11 17:37 / js
Radium 226 MDC	0.1	pCi/L				E903.0	10/11/11 17:37 / js
Thorium 230	<0.2	pCi/L	U	0.2		E908.0	10/22/11 15:09 / dmf
Thorium 230 precision (±)	0.1	pCi/L				E908.0	10/22/11 15:09 / dmf
Thorium 230 MDC	0.2	pCi/L				E908.0	10/22/11 15:09 / dmf
DATA QUALITY							
A/C Balance (± 5)	0.00487	%				Calculation	11/02/11 12:39 / kbh
Anions	3.44	meq/L				Calculation	11/02/11 12:39 / kbh
Cations	3.44	meq/L				Calculation	11/02/11 12:39 / kbh
Solids, Total Dissolved Calculated	279	mg/L				Calculation	11/02/11 12:39 / kbh
TDS Balance (0.80 - 1.20)	0.870					Calculation	11/02/11 12:39 / kbh

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 11/10/11

Project: Marsland Baseline Private Well Samples **Work Order:** C11090996

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2320 B										Batch: R151186
Sample ID: MBLK	3	Method Blank				Run: MANTECH_110927B				09/27/11 11:17
Alkalinity, Total as CaCO3		4	mg/L	2						
Carbonate as CO3		ND	mg/L	1						
Bicarbonate as HCO3		5	mg/L	1						
Sample ID: LCS		Laboratory Control Sample				Run: MANTECH_110927B				09/27/11 11:33
Alkalinity, Total as CaCO3		194	mg/L	5.0	95	90	110			
Sample ID: C11090984-002AMS		Sample Matrix Spike				Run: MANTECH_110927B				09/27/11 15:36
Alkalinity, Total as CaCO3		369	mg/L	5.0	99	80	120			
Sample ID: C11090996-001BDUP		Sample Duplicate				Run: MANTECH_110927B				09/27/11 16:56
Alkalinity, Total as CaCO3		178	mg/L	5.0				0.2	10	

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 11/10/11

Project: Marsland Baseline Private Well Samples **Work Order:** C11090996

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2510 B								Analytical Run: ORION555A_110927B		
Sample ID: ICV2_110927_2		Initial Calibration Verification Standard							09/27/11 13:52	
Conductivity @ 25 C		1380	umhos/cm	1.0	98	90	110			
Method: A2510 B								Batch: 110927_2_PH-W_555A-1		
Sample ID: MBLK1_110927_2		Method Blank				Run: ORION555A_110927B			09/27/11 13:48	
Conductivity @ 25 C		0.5	umhos/cm	0.2						
Sample ID: C11090985-001ADUP		Sample Duplicate				Run: ORION555A_110927B			09/27/11 15:17	
Conductivity @ 25 C		2610	umhos/cm	1.0				0.1	10	

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 11/10/11

Project: Marsland Baseline Private Well Samples **Work Order:** C11090996

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 C								Batch: 110927_1_SLDS-TDS-W		
Sample ID: MBLK1_110927		Method Blank				Run: BAL-1_110927C			09/27/11 17:07	
Solids, Total Dissolved TDS @ 180 C		ND	mg/L	4						
Sample ID: LCS1_110927		Laboratory Control Sample				Run: BAL-1_110927C			09/27/11 17:07	
Solids, Total Dissolved TDS @ 180 C		991	mg/L	10	99	90	110			
Sample ID: C11090930-008AMS		Sample Matrix Spike				Run: BAL-1_110927C			09/27/11 17:17	
Solids, Total Dissolved TDS @ 180 C		2260	mg/L	10	100	90	110			
Sample ID: C11090996-006ADUP		Sample Duplicate				Run: BAL-1_110927C			09/27/11 17:19	
Solids, Total Dissolved TDS @ 180 C		238	mg/L	10				2.6	5	

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Report Date: 11/10/11
Project: Marsland Baseline Private Well Samples
Work Order: C11090996

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-F C										Batch: R151228
Sample ID: MBLK		Method Blank				Run: MANTECH_110928A				09/28/11 09:58
Fluoride		0.01	mg/L	0.008						
Sample ID: LCS		Laboratory Control Sample				Run: MANTECH_110928A				09/28/11 10:00
Fluoride		1.96	mg/L	0.10	98	90	110			
Sample ID: C11090996-001BMS		Sample Matrix Spike				Run: MANTECH_110928A				09/28/11 10:17
Fluoride		2.52	mg/L	0.10	98	80	120			
Sample ID: C11090996-001BMSD		Sample Matrix Spike Duplicate				Run: MANTECH_110928A				09/28/11 10:22
Fluoride		2.57	mg/L	0.10	100	80	120	2.0	10	

Qualifiers:

RL - Analyte reporting limit.
MDC - Minimum detectable concentration
ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 11/10/11

Project: Marsland Baseline Private Well Samples **Work Order:** C11090996

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-H B								Analytical Run: ORION555A_110927B		
Sample ID: ICV1_110927_2		Initial Calibration Verification Standard							09/27/11 13:49	
pH		6.88	s.u.	0.010	100	98	102			
Method: A4500-H B								Batch: 110927_2_PH-W_555A-1		
Sample ID: C11090985-001ADUP		Sample Duplicate				Run: ORION555A_110927B			09/27/11 15:17	
pH		7.85	s.u.	0.010				1.2	3	

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 11/10/11

Project: Marsland Baseline Private Well Samples **Work Order:** C11090996

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-NH3 G										Batch: R151821
Sample ID: MBLK-1		Method Blank				Run: TECHNICON_111011A				10/11/11 11:52
Nitrogen, Ammonia as N		ND	mg/L	0.02						
Sample ID: LCS-2		Laboratory Control Sample				Run: TECHNICON_111011A				10/11/11 11:54
Nitrogen, Ammonia as N		2.10	mg/L	0.050	105	90	110			
Sample ID: LFB-20		Laboratory Fortified Blank				Run: TECHNICON_111011A				10/11/11 12:30
Nitrogen, Ammonia as N		2.05	mg/L	0.050	105	80	120			
Sample ID: C11090996-004DMS		Sample Matrix Spike				Run: TECHNICON_111011A				10/11/11 15:58
Nitrogen, Ammonia as N		1.95	mg/L	0.050	99	90	110			
Sample ID: C11090996-004DMSD		Sample Matrix Spike Duplicate				Run: TECHNICON_111011A				10/11/11 16:00
Nitrogen, Ammonia as N		1.98	mg/L	0.050	101	90	110	1.5	10	

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 11/10/11

Project: Marsland Baseline Private Well Samples **Work Order:** C11090996

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7									Analytical Run: ICP2-C_111026A	
Sample ID: ICV	10	Initial Calibration Verification Standard							10/26/11 14:37	
Aluminum		2.42	mg/L	0.10	97	95	105			
Boron		2.40	mg/L	0.10	96	95	105			
Calcium		25.5	mg/L	0.50	102	95	105			
Chromium		2.49	mg/L	0.050	100	95	105			
Iron		2.54	mg/L	0.030	101	95	105			
Magnesium		25.1	mg/L	0.50	100	95	105			
Potassium		24.0	mg/L	0.50	96	95	105			
Silicon		5.09	mg/L	0.10	102	95	105			
Sodium		24.4	mg/L	0.50	98	95	105			
Zinc		2.49	mg/L	0.010	99	95	105			
Sample ID: ICSA	10	Interference Check Sample A							10/26/11 15:03	
Aluminum		506	mg/L	0.10	101	80	120			
Boron		0.00500	mg/L	0.10		0	0			
Calcium		488	mg/L	0.50	98	80	120			
Chromium		0.00570	mg/L	0.050		0	0			
Iron		194	mg/L	0.030	97	80	120			
Magnesium		503	mg/L	0.50	101	80	120			
Potassium		0.00670	mg/L	0.50		0	0			
Silicon		-0.0863	mg/L	0.10		0	0			
Sodium		0.120	mg/L	0.50		0	0			
Zinc		0.0138	mg/L	0.010		0	0			
Sample ID: ICSAB	10	Interference Check Sample AB							10/26/11 15:07	
Aluminum		520	mg/L	0.10	104	80	120			
Boron		0.358	mg/L	0.10		0	0			
Calcium		497	mg/L	0.50	99	80	120			
Chromium		0.508	mg/L	0.050	102	80	120			
Iron		196	mg/L	0.030	98	80	120			
Magnesium		515	mg/L	0.50	103	80	120			
Potassium		0.0147	mg/L	0.50		0	0			
Silicon		-0.0835	mg/L	0.10		0	0			
Sodium		0.931	mg/L	0.50		0	0			
Zinc		1.07	mg/L	0.010	107	80	120			
Method: E200.7									Batch: R152562	
Sample ID: MB-111026A	10	Method Blank				Run: ICP2-C_111026A			10/26/11 15:40	
Aluminum		0.01	mg/L	0.01						
Boron		ND	mg/L	0.01						
Calcium		ND	mg/L	0.1						
Chromium		ND	mg/L	0.002						
Iron		0.002	mg/L	0.001						
Magnesium		ND	mg/L	0.05						
Potassium		ND	mg/L	0.05						
Silicon		ND	mg/L	0.007						

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 11/10/11

Project: Marsland Baseline Private Well Samples **Work Order:** C11090996

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7									Batch: R152562	
Sample ID: MB-111026A	10	Method Blank				Run: ICP2-C_111026A			10/26/11 15:40	
Sodium		ND	mg/L	0.2						
Zinc		ND	mg/L	0.001						
Sample ID: LFB-111026A	10	Laboratory Fortified Blank				Run: ICP2-C_111026A			10/26/11 15:44	
Aluminum		0.912	mg/L	0.10	90	85	115			
Boron		0.899	mg/L	0.10	90	85	115			
Calcium		46.8	mg/L	0.50	94	85	115			
Chromium		0.928	mg/L	0.050	93	85	115			
Iron		0.949	mg/L	0.030	95	85	115			
Magnesium		46.6	mg/L	0.50	93	85	115			
Potassium		44.7	mg/L	0.50	89	85	115			
Silicon		0.431	mg/L	0.10	96	85	115			
Sodium		42.6	mg/L	0.50	85	85	115			
Zinc		0.946	mg/L	0.010	95	85	115			
Sample ID: C11090996-001CMS2	10	Sample Matrix Spike				Run: ICP2-C_111026A			10/26/11 17:11	
Aluminum		1.83	mg/L	0.10	90	70	130			
Boron		1.93	mg/L	0.10	89	70	130			
Calcium		148	mg/L	1.0	96	70	130			
Chromium		1.91	mg/L	0.050	93	70	130			
Iron		1.99	mg/L	0.030	98	70	130			
Magnesium		107	mg/L	1.0	97	70	130			
Potassium		94.0	mg/L	1.0	87	70	130			
Silicon		30.8	mg/L	0.10		70	130			A
Sodium		112	mg/L	1.0	89	70	130			
Zinc		1.99	mg/L	0.010	96	70	130			
Sample ID: C11090996-001CMSD	10	Sample Matrix Spike Duplicate				Run: ICP2-C_111026A			10/26/11 17:15	
Aluminum		1.84	mg/L	0.10	90	70	130	0.5	20	
Boron		1.96	mg/L	0.10	90	70	130	1.2	20	
Calcium		150	mg/L	1.0	98	70	130	1.3	20	
Chromium		1.92	mg/L	0.050	94	70	130	0.3	20	
Iron		2.00	mg/L	0.030	98	70	130	0.3	20	
Magnesium		108	mg/L	1.0	98	70	130	0.6	20	
Potassium		97.3	mg/L	1.0	90	70	130	3.5	20	
Silicon		30.8	mg/L	0.10		70	130	0.2	20	A
Sodium		113	mg/L	1.0	90	70	130	1.2	20	
Zinc		1.99	mg/L	0.010	96	70	130	0.1	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

MDC - Minimum detectable concentration

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 11/10/11

Project: Marsland Baseline Private Well Samples **Work Order:** C11090996

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7									Analytical Run: ICP2-C_111029A	
Sample ID: ICV	2	Initial Calibration Verification Standard							10/31/11 08:57	
Manganese		2.48	mg/L	0.010	99	95	105			
Vanadium		2.41	mg/L	0.10	96	95	105			
Sample ID: ICSA	2	Interference Check Sample A							10/31/11 09:17	
Manganese		-0.00400	mg/L	0.010		0	0			
Vanadium		-0.00480	mg/L	0.10		0	0			
Sample ID: ICSAB	2	Interference Check Sample AB							10/31/11 09:21	
Manganese		0.495	mg/L	0.010	99	80	120			
Vanadium		0.507	mg/L	0.10	101	80	120			
Method: E200.7									Batch: R152670	
Sample ID: MB-111031A	2	Method Blank				Run: ICP2-C_111029A			10/31/11 09:48	
Manganese		ND	mg/L	0.0003						
Vanadium		-0.001	mg/L							
Sample ID: LFB-111031A	2	Laboratory Fortified Blank				Run: ICP2-C_111029A			10/31/11 09:52	
Manganese		0.990	mg/L	0.010	99	85	115			
Vanadium		0.962	mg/L	0.10	96	85	115			
Sample ID: C11090996-001CMS2	2	Sample Matrix Spike				Run: ICP2-C_111029A			10/31/11 10:56	
Manganese		1.89	mg/L	0.010	93	70	130			
Vanadium		1.96	mg/L	0.10	96	70	130			
Sample ID: C11090996-001CMSD	2	Sample Matrix Spike Duplicate				Run: ICP2-C_111029A			10/31/11 11:00	
Manganese		1.93	mg/L	0.010	94	70	130	1.7	20	
Vanadium		1.96	mg/L	0.10	96	70	130	0.2	20	

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 11/10/11

Project: Marsland Baseline Private Well Samples **Work Order:** C11090996

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8								Analytical Run: ICPMS2-C_111010A		
Sample ID: ICV	10	Initial Calibration Verification Standard								10/11/11 00:53
Arsenic		0.0488	mg/L	0.0010	98	90	110			
Barium		0.0497	mg/L	0.0010	99	90	110			
Cadmium		0.0493	mg/L	0.0010	99	90	110			
Copper		0.0487	mg/L	0.0010	97	90	110			
Lead		0.0496	mg/L	0.0010	99	90	110			
Mercury		0.00526	mg/L	0.0010	105	90	110			
Molybdenum		0.0506	mg/L	0.0010	101	90	110			
Nickel		0.0491	mg/L	0.0010	98	90	110			
Selenium		0.0492	mg/L	0.0010	98	90	110			
Uranium		0.0511	mg/L	0.00030	102	90	110			
Method: E200.8										Batch: R151789
Sample ID: LRB	10	Method Blank				Run: ICPMS2-C_111010A				10/10/11 12:35
Arsenic		0.0002	mg/L	0.0001						
Barium		ND	mg/L	0.0001						
Cadmium		ND	mg/L	0.0001						
Copper		ND	mg/L	7E-05						
Lead		ND	mg/L	9E-05						
Mercury		ND	mg/L	2E-05						
Molybdenum		ND	mg/L	2E-05						
Nickel		ND	mg/L	4E-05						
Selenium		ND	mg/L	0.0003						
Uranium		ND	mg/L	0.0001						
Sample ID: LFB	10	Laboratory Fortified Blank				Run: ICPMS2-C_111010A				10/10/11 12:42
Arsenic		0.0501	mg/L	0.0010	100	85	115			
Barium		0.0505	mg/L	0.0010	101	85	115			
Cadmium		0.0496	mg/L	0.0010	99	85	115			
Copper		0.0492	mg/L	0.0010	98	85	115			
Lead		0.0491	mg/L	0.0010	98	85	115			
Mercury		0.00497	mg/L	0.0010	99	85	115			
Molybdenum		0.0517	mg/L	0.0010	103	85	115			
Nickel		0.0490	mg/L	0.0010	98	85	115			
Selenium		0.0485	mg/L	0.0010	97	85	115			
Uranium		0.0497	mg/L	0.00030	99	85	115			
Sample ID: C11090996-003CMS4	10	Sample Matrix Spike				Run: ICPMS2-C_111010A				10/11/11 04:37
Arsenic		0.0619	mg/L	0.0010	116	70	130			
Barium		0.185	mg/L	0.10	117	70	130			
Cadmium		0.0573	mg/L	0.010	114	70	130			
Copper		0.0568	mg/L	0.010	108	70	130			
Lead		0.0574	mg/L	0.050	114	70	130			
Mercury		0.00554	mg/L	0.0010	111	70	130			
Molybdenum		0.0576	mg/L	0.0010	113	70	130			
Nickel		0.0581	mg/L	0.050	115	70	130			

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 11/10/11

Project: Marsland Baseline Private Well Samples **Work Order:** C11090996

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: R151789
Sample ID: C11090996-003CMS4	10	Sample Matrix Spike				Run: ICPMS2-C_111010A				10/11/11 04:37
Selenium		0.0566	mg/L	0.0010	110	70	130			
Uranium		0.0642	mg/L	0.00030	116	70	130			
Sample ID: C11090996-003CMSD	10	Sample Matrix Spike Duplicate				Run: ICPMS2-C_111010A				10/11/11 04:44
Arsenic		0.0599	mg/L	0.0010	111	70	130	3.4	20	
Barium		0.183	mg/L	0.10	113	70	130	1.0	20	
Cadmium		0.0553	mg/L	0.010	110	70	130	3.4	20	
Copper		0.0547	mg/L	0.010	104	70	130	3.9	20	
Lead		0.0550	mg/L	0.050	109	70	130	4.4	20	
Mercury		0.00534	mg/L	0.0010	107	70	130	3.6	20	
Molybdenum		0.0564	mg/L	0.0010	111	70	130	2.0	20	
Nickel		0.0563	mg/L	0.050	111	70	130	3.0	20	
Selenium		0.0540	mg/L	0.0010	105	70	130	4.8	20	
Uranium		0.0615	mg/L	0.00030	111	70	130	4.3	20	
Method: E200.8										Analytical Run: ICPMS4-C_111001A
Sample ID: ICV		Initial Calibration Verification Standard								10/01/11 13:26
Uranium		0.0496	mg/L	0.00030	99	90	110			
Method: E200.8										Batch: 31331
Sample ID: MB-31331		Method Blank				Run: ICPMS4-C_111001A				10/01/11 16:38
Uranium		ND	mg/L	7E-05						
Sample ID: LCS2-31331		Laboratory Control Sample				Run: ICPMS4-C_111001A				10/01/11 16:44
Uranium		0.108	mg/L	0.00030	108	85	115			
Sample ID: C11091005-002DMS		Sample Matrix Spike				Run: ICPMS4-C_111001A				10/01/11 17:38
Uranium		0.00574	mg/L	0.00030	121	70	130			
Sample ID: C11091005-002DMSD		Sample Matrix Spike Duplicate				Run: ICPMS4-C_111001A				10/01/11 17:39
Uranium		0.00579	mg/L	0.00030	122	70	130	0.8	20	

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 11/10/11

Project: Marsland Baseline Private Well Samples **Work Order:** C11090996

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Analytical Run: ICPMS4-C_111103A	
Sample ID: ICV		Initial Calibration Verification Standard							11/03/11 11:50	
Uranium		0.0469	mg/L	0.00030	94	90	110			
Method: E200.8									Batch: R152827A	
Sample ID: LRB		Method Blank				Run: ICPMS4-C_111103A			11/03/11 12:54	
Uranium		ND	mg/L	9E-06						
Sample ID: LFB		Laboratory Fortified Blank				Run: ICPMS4-C_111103A			11/03/11 13:00	
Uranium		0.0523	mg/L	0.00030	105	85	115			
Sample ID: C11091139-001BMS4		Sample Matrix Spike				Run: ICPMS4-C_111103A			11/04/11 00:35	
Uranium		0.109	mg/L	0.0010	112	70	130			
Sample ID: C11091139-001BMSD		Sample Matrix Spike Duplicate				Run: ICPMS4-C_111103A			11/04/11 01:00	
Uranium		0.108	mg/L	0.00030	111	70	130	0.6	20	

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 11/10/11

Project: Marsland Baseline Private Well Samples **Work Order:** C11090996

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E300.0									Analytical Run: IC2-C_111004A	
Sample ID: ICV100411-20	2	Initial Calibration Verification Standard							10/04/11 15:26	
Chloride		10.1	mg/L	1.0	101	90	110			
Sulfate		41.2	mg/L	1.0	103	90	110			
Method: E300.0									Batch: R151566	
Sample ID: ICB100411-11	2	Method Blank				Run: IC2-C_111004A			10/04/11 13:25	
Chloride		ND	mg/L	0.10						
Sulfate		0.3	mg/L	0.08						
Sample ID: LFB100411-12	2	Laboratory Fortified Blank				Run: IC2-C_111004A			10/04/11 13:39	
Chloride		10.1	mg/L	1.0	101	90	110			
Sulfate		40.6	mg/L	1.0	101	90	110			
Sample ID: LFB	2	Laboratory Fortified Blank				Run: IC2-C_111004A			10/05/11 02:37	
Chloride		10.0	mg/L	1.0	100	90	110			
Sulfate		40.3	mg/L	1.0	100	90	110			
Sample ID: C11090996-002BMS	2	Sample Matrix Spike				Run: IC2-C_111004A			10/05/11 03:04	
Chloride		11.1	mg/L	1.0	98	90	110			
Sulfate		45.9	mg/L	1.0	100	90	110			
Sample ID: C11090996-002BMSD	2	Sample Matrix Spike Duplicate				Run: IC2-C_111004A			10/05/11 03:17	
Chloride		11.4	mg/L	1.0	100	90	110	2.2	10	
Sulfate		46.9	mg/L	1.0	102	90	110	2.1	10	

Qualifiers:

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MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 11/10/11

Project: Marsland Baseline Private Well Samples **Work Order:** C11090996

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E353.2										Batch: R152220
Sample ID: MBLK-1		Method Blank				Run: TECHNICON_111020A				10/20/11 10:36
Nitrogen, Nitrate+Nitrite as N		ND	mg/L	0.06						
Sample ID: LCS-2		Laboratory Control Sample				Run: TECHNICON_111020A				10/20/11 10:38
Nitrogen, Nitrate+Nitrite as N		2.35	mg/L	0.10	94	90	110			
Sample ID: LFB-3		Laboratory Fortified Blank				Run: TECHNICON_111020A				10/20/11 10:41
Nitrogen, Nitrate+Nitrite as N		1.95	mg/L	0.10	99	90	110			
Sample ID: C11090996-005DMS		Sample Matrix Spike				Run: TECHNICON_111020A				10/20/11 11:58
Nitrogen, Nitrate+Nitrite as N		16.7	mg/L	0.50	104	90	110			
Sample ID: C11090996-005DMSD		Sample Matrix Spike Duplicate				Run: TECHNICON_111020A				10/20/11 12:01
Nitrogen, Nitrate+Nitrite as N		16.9	mg/L	0.50	106	90	110	1.2	10	
Method: E353.2										Batch: R152301
Sample ID: MBLK-1		Method Blank				Run: TECHNICON_111021A				10/21/11 10:32
Nitrogen, Nitrate+Nitrite as N		ND	mg/L	0.06						
Sample ID: LCS-2		Laboratory Control Sample				Run: TECHNICON_111021A				10/21/11 10:34
Nitrogen, Nitrate+Nitrite as N		2.34	mg/L	0.10	94	90	110			
Sample ID: LFB-3		Laboratory Fortified Blank				Run: TECHNICON_111021A				10/21/11 10:37
Nitrogen, Nitrate+Nitrite as N		1.85	mg/L	0.10	94	90	110			
Sample ID: C11090996-005DMS		Sample Matrix Spike				Run: TECHNICON_111021A				10/21/11 10:42
Nitrogen, Nitrate+Nitrite as N		16.3	mg/L	0.50	101	90	110			
Sample ID: C11090996-005DMSD		Sample Matrix Spike Duplicate				Run: TECHNICON_111021A				10/21/11 10:44
Nitrogen, Nitrate+Nitrite as N		16.3	mg/L	0.50	101	90	110	0.0	10	

Qualifiers:

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MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 11/10/11

Project: Marsland Baseline Private Well Samples **Work Order:** C11090996

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E903.0										Batch: 31331
Sample ID: C11090839-007HMS		Sample Matrix Spike				Run: BERTHOLD 770-1_111005A			10/11/11 15:59	
Radium 226		10	pCi/L		102	70	130			
Sample ID: C11090839-007HMSD		Sample Matrix Spike Duplicate				Run: BERTHOLD 770-1_111005A			10/11/11 15:59	
Radium 226		9.6	pCi/L		98	70	130	4.2	26.8	
Sample ID: LCS-31331		Laboratory Control Sample				Run: BERTHOLD 770-1_111005A			10/11/11 22:26	
Radium 226		11	pCi/L		90	85	115			
Sample ID: MB-31331	3	Method Blank				Run: BERTHOLD 770-1_111005A			10/11/11 22:26	
Radium 226		-0.01	pCi/L							U
Radium 226 precision (±)		0.2	pCi/L							
Radium 226 MDC		0.4	pCi/L							
Method: E903.0										Batch: RA226-5656
Sample ID: C11090996-002EMS		Sample Matrix Spike				Run: G542M_111007A			10/17/11 12:13	
Radium 226		13	pCi/L		102	70	130			
Sample ID: C11090996-002EMSD		Sample Matrix Spike Duplicate				Run: G542M_111007A			10/17/11 12:13	
Radium 226		14	pCi/L		109	70	130	7.0	24.5	
Sample ID: MB-RA226-5656	3	Method Blank				Run: G542M_111007A			10/17/11 12:13	
Radium 226		0.02	pCi/L							U
Radium 226 precision (±)		0.10	pCi/L							
Radium 226 MDC		0.2	pCi/L							
Sample ID: LCS-RA226-5656		Laboratory Control Sample				Run: G542M_111007A			10/17/11 12:13	
Radium 226		6.3	pCi/L		100	80	120			

Qualifiers:

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ND - Not detected at the reporting limit.

U - Not detected at minimum detectable concentration

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 11/10/11

Project: Marsland Baseline Private Well Samples **Work Order:** C11090996

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E908.0										Batch: 31331
Sample ID: C11090996-003HMS		Sample Matrix Spike				Run: ALPHANALYST_111019A				10/22/11 15:09
Thorium 230		10.0	pCi/L		112	70	130			
Sample ID: C11090996-003HMSD		Sample Matrix Spike Duplicate				Run: ALPHANALYST_111019A				10/22/11 15:09
Thorium 230		10	pCi/L		112	70	130	0.8	48.3	
Sample ID: LCS-31331		Laboratory Control Sample				Run: ALPHANALYST_111019A				10/22/11 15:10
Thorium 230		9.8	pCi/L		97	70	130			
Sample ID: MB-31331	3	Method Blank				Run: ALPHANALYST_111019A				10/22/11 15:10
Thorium 230		0.4	pCi/L							U
Thorium 230 precision (±)		0.3	pCi/L							
Thorium 230 MDC		0.4	pCi/L							
Method: E908.0										Batch: RA-TH-ISO-1504
Sample ID: LCS-RA-TH-ISO-1504		Laboratory Control Sample				Run: ALPHANALYST_111031A				11/04/11 08:39
Thorium 230		6.5	pCi/L		114	70	130			
Sample ID: C11091177-001DMS		Sample Matrix Spike				Run: ALPHANALYST_111031A				11/04/11 08:40
Thorium 230		12	pCi/L		103	70	130			
Sample ID: C11091177-001DMSD		Sample Matrix Spike Duplicate				Run: ALPHANALYST_111031A				11/04/11 08:40
Thorium 230		10	pCi/L		89	70	130	13	38.7	
Sample ID: MB-RA-TH-ISO-1504	3	Method Blank				Run: ALPHANALYST_111031A				11/04/11 08:40
Thorium 230		0.03	pCi/L							U
Thorium 230 precision (±)		0.07	pCi/L							
Thorium 230 MDC		0.2	pCi/L							

Qualifiers:

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QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 11/10/11

Project: Marsland Baseline Private Well Samples **Work Order:** C11090996

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E909.0									Batch: T_14957	
Sample ID: T11090088-001HMSD		Sample Matrix Spike Duplicate				Run: SUB-T42549			10/09/11 11:26	
Lead 210		160	pCi/L		92	70	130	0.1	14.5	
Sample ID: MB-14957	3	Method Blank				Run: SUB-T42549			10/08/11 21:57	
Lead 210		-4	pCi/L							U
Lead 210 precision (±)		4	pCi/L							
Lead 210 MDC		6	pCi/L							
Sample ID: LCS-14957		Laboratory Control Sample				Run: SUB-T42549			10/09/11 00:12	
Lead 210		310	pCi/L		89	70	130			
Sample ID: T11090088-001HMS		Sample Matrix Spike				Run: SUB-T42549			10/09/11 09:11	
Lead 210		160	pCi/L		92	70	130			
Method: E909.0									Batch: T_PB-210-0162	
Sample ID: T11090087-002BDUP	3	Sample Duplicate				Run: SUB-T42612			10/18/11 18:40	
Lead 210		-0.29	pCi/L					18	291	U
Lead 210 precision (±)		0.47	pCi/L							
Lead 210 MDC		0.79	pCi/L							
Sample ID: MB-PB-210-0162	3	Method Blank				Run: SUB-T42612			10/17/11 19:20	
Lead 210		0.2	pCi/L							U
Lead 210 precision (±)		0.4	pCi/L							
Lead 210 MDC		0.7	pCi/L							
Sample ID: LCS-PB-210-0162		Laboratory Control Sample				Run: SUB-T42612			10/17/11 22:40	
Lead 210		46	pCi/L		87	70	130			
Sample ID: T11100011-008AMS		Sample Matrix Spike				Run: SUB-T42612			10/18/11 05:20	
Lead 210		9.37	pCi/g-dry		93	70	130			
Sample ID: T11100011-008AMSD		Sample Matrix Spike Duplicate				Run: SUB-T42612			10/18/11 08:40	
Lead 210		9.25	pCi/g-dry		93	70	130	1.2	13.2	

Qualifiers:

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QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 11/10/11

Project: Marsland Baseline Private Well Samples **Work Order:** C11090996

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E912.0										Batch: R152616
Sample ID: C11090839-001FMS		Sample Matrix Spike				Run: EGG-ORTEC_111019A				10/27/11 09:27
Polonium 210		13	pCi/L		102	70	130			
Sample ID: C11090839-001FMSD		Sample Matrix Spike Duplicate				Run: EGG-ORTEC_111019A				10/27/11 09:27
Polonium 210		11	pCi/L		85	70	130	18	64.7	
Sample ID: MB-PO210-0399	3	Method Blank				Run: EGG-ORTEC_111019A				10/28/11 09:11
Polonium 210		0.7	pCi/L							U
Polonium 210 precision (±)		0.7	pCi/L							
Polonium 210 MDC		0.7	pCi/L							
Sample ID: LCS-PO210-0399		Laboratory Control Sample				Run: EGG-ORTEC_111019A				10/28/11 09:11
Polonium 210		5.5	pCi/L		77	70	130			
Method: E912.0										Batch: R152619
Sample ID: C11091005-002DMS		Sample Matrix Spike				Run: EGG-ORTEC_111019B				10/28/11 16:56
Polonium 210		5.5	pCi/L		99	70	130			
Sample ID: C11091005-002DMSD		Sample Matrix Spike Duplicate				Run: EGG-ORTEC_111019B				10/28/11 16:56
Polonium 210		4.5	pCi/L		78	70	130	22	63.3	
Sample ID: LCS-31331		Laboratory Control Sample				Run: EGG-ORTEC_111019B				10/28/11 16:56
Polonium 210		27	pCi/L		90	70	130			
Sample ID: MB-31331	3	Method Blank				Run: EGG-ORTEC_111019B				10/28/11 16:56
Polonium 210		ND	pCi/L							U
Polonium 210 precision (±)		0.7	pCi/L							
Polonium 210 MDC		2	pCi/L							

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

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U - Not detected at minimum detectable concentration

Workorder Receipt Checklist

Crow Butte Resources

C11090996

Login completed by: Debra Williams
Date Received: 9/27/2011
Reviewed by: BL2000\cwagner
Received by: kg
Reviewed Date: 9/28/2011
Carrier name: NDA

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Container/Temp Blank temperature:	10.2°C Melted ice		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Contact and Corrective Action Comments:

Sample split and preserved as necessary for dissolved and suspended Radiochemistry

Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: Crow Butte Resources, Inc.	Project Name: Marsland Baseline Private Well Samples	Sample Origin State:	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: P.O. Box 169, Crawford, NE 69339	Contact Name: Larry Teahon; Phone/Fax: 308-665-2341	Email: daxmynus@msn.com	Sampler: (Please Print) Brooke Bass, Rhonda Pelton
Invoice Address: P.O. Box 169, Crawford, NE 69339	Invoice Contact & Phone: Larry Teahon, 308-665-2215 ext 114	Purchase Order: 1125	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

- ☐ DW
- ☐ GSA
- ☐ POTW/WWTP
- ☐ State: _____
- ☐ Other: _____
- ☐ A2LA
- ☐ EDD/EDT (Electronic Data) Format: _____
- ☐ LEVEL IV
- ☐ NELAC

RUSH: Contact ELI prior to RUSH sample submittal for charges and scheduling – See Instruction Page

Comments: NDEQ parameters for baseline sampling. Report on separate sheets. Analyze as per WDEQ Guideline 8 and NRC Reg. Guide 4.14 requirements. Record U as mg/L and µCi/ml and radiometrics as pCi/L.

Shipped by: UPS-NDA
Cooler ID(s): 3851 3641 3596 - 2 client
Receipt Temp: 10.2 °C
On Ice: Yes (circled) No
Custody Seal: Y (circled) N
Intact: Y N
Signature Match: Y N

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX (Number of Containers; Sample Type: A W S V B O; Air Water Soils/Solids Vegetation Bioassay Other)	HNO3-F, Metals	RAW-F, Common Ions	RAW-UF, Alkalinity	H2SO4-F, NO2, NO3, NH4	Raw-UF, Ra226, Po210 dis, sus	Raw-UF, Pb210 dis and sus	Rau-UF, Th230, U-nat dis and sus			SEE ATTACHED	Normal Turnaround (TAT)	RUSH	Comments	LABORATORY USE ONLY
1	Well #741	9/22/11		Water	.5	1	1	.5	1 G	1 G	1 G						Please Report 10/30/11	
2	Well #759	9/22/11		Water	.5	1	1	.5	1 G	1 G	1 G						Please Report 10/30/11	
3	Well #703	9/22/11		Water	.5	1	1	.5	1 G	1 G	1 G						Please Report 10/30/11	
4	Well #723	9/22/11		Water	.5	1	1	.5	1 G	1 G	1 G						Please Report 10/30/11	
5	Well #745	9/22/11		Water	.5	1	1	.5	1 G	1 G	1 G						Please Report 10/30/11	
6	Well #727	9/22/11		Water	.5	1	1	.5	1 G	1 G	1 G						Please Report 10/30/11	
7																		
8																		
9																		
10																		L1109C996

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Brooke Bass	9-26-11	Brooke Bass			

Received by Laboratory: Date/Time: 9-27-11 9:25 Signature: Kr-3 6:55e

Sample Disposal: Return to Client: No Lab Disposal: YES

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

CROW BUTTE RESOURCES, INC.
CROW BUTTE PROJECT

NO_2^-

DATE: 9.23.11 ANALYST: MO

STANDARD CURVE DATA

	BL	0.01	.05	.10			
Abs	.000	.035	.163	.327			
Abs							

SAMPLE #	VOLUME	Df	Abs	NO_2^- mg/L
1 703	10ml	1	.004	<.01
2 723	10ml	1	-.001	<.01
3 727	10ml	1	.005	<.01
4 727 Dup	10ml	1	.006	<.01
5 741	10ml	1	.003	<.01
745	10ml	1	.001	<.01
6 759	10ml	1	000	<.01
7 759 Dup	10ml	1	.002	<.01
8				
9				
10				
Dup				
11				
12				
13				
14				
15				
Dup				
16				
17				
18				
19				
20				
Dup				
21				
22				
23				
24				
25				
Dup				

ANALYTICAL SUMMARY REPORT

November 11, 2011

Crow Butte Resources
86 Crow Butte Rd
Crawford, NE 69339

Workorder No.: C11091177 Quote ID: C1125 - Crow Butte Uranium

Project Name: Marsland Baseline Private Well Samples

Energy Laboratories, Inc. Casper WY received the following 1 sample for Crow Butte Resources on 9/30/2011 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C11091177-001	Well #725	09/29/11 00:00	09/30/11	Aqueous	Metals by ICP/ICPMS, Dissolved Alkalinity QA Calculations Conductivity Sample Filtering Fluoride E300.0 Anions Uranium, Suspended Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Digestion, Total Metals Lead 210, Dissolved Lead 210, Suspended Polonium 210, Dissolved Polonium 210, Suspended Radium 226, Dissolved Radium 226, Suspended Thorium, Isotopic Thorium, Suspended Isotopic Solids, Total Dissolved

The analyses presented in this report were performed at Energy Laboratories, Inc., 2393 Salt Creek Hwy., Casper, WY 82601, unless otherwise noted. Radiochemistry analyses were performed at Energy Laboratories, Inc., 2325 Kerzell Lane, Casper, WY 82601, unless otherwise noted. 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. All samples are reported on an as received basis unless otherwise indicated.

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

Report Approved By:

CLIENT: Crow Butte Resources
Project: Marsland Baseline Private Well Samples
Sample Delivery Group: C11091177

Report Date: 11/11/11

CASE NARRATIVE

BRANCH LABORATORY SUBCONTRACT ANALYSIS
Tests associated with analyst identified as ELI-CS were subcontracted to Energy Laboratories, 415 Graham Rd., College Station, TX, EPA Number TX01520.

RADIOCHEMISTRY ANALYSIS
Per client request, results less than MDC (or precision if no MDC), are reported as <MDC (or <precision). Actual instrument results are available by request.

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.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Private Well Samples
Lab ID: C11091177-001
Client Sample ID: Well #725

Report Date: 11/11/11
Collection Date: 09/29/11
DateReceived: 09/30/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Alkalinity, Total as CaCO3	156	mg/L		1		A2320 B	10/01/11 04:39 / jba
Carbonate as CO3	4	mg/L		1		A2320 B	10/01/11 04:39 / jba
Bicarbonate as HCO3	182	mg/L		1		A2320 B	10/01/11 04:39 / jba
Calcium	30	mg/L		1		E200.8	11/04/11 03:03 / sml
Chloride	3	mg/L		1		E300.0	10/09/11 06:26 / ljl
Fluoride	0.7	mg/L		0.1		A4500-F C	10/03/11 10:53 / jba
Magnesium	7	mg/L		1		E200.8	11/04/11 03:03 / sml
Nitrogen, Ammonia as N	ND	mg/L		0.05		A4500-NH3 G	10/14/11 17:07 / dc
Nitrogen, Nitrate+Nitrite as N	0.8	mg/L		0.1		E353.2	10/21/11 23:25 / ljl
Potassium	4	mg/L		1		E200.8	11/04/11 03:03 / sml
Silica	72.0	mg/L		0.2		E200.7	10/26/11 17:59 / cp
Sodium	25	mg/L		1		E200.8	11/04/11 03:03 / sml
Sulfate	13	mg/L		1		E300.0	10/09/11 06:26 / ljl
PHYSICAL PROPERTIES							
Conductivity @ 25 C	309	umhos/cm		1		A2510 B	10/03/11 09:21 / lmc
pH	8.00	s.u.		0.01		A4500-H B	10/03/11 09:21 / lmc
Solids, Total Dissolved TDS @ 180 C	248	mg/L		10		A2540 C	10/03/11 16:35 / lmc
METALS - DISSOLVED							
Aluminum	ND	mg/L		0.1		E200.7	10/26/11 17:59 / cp
Arsenic	0.005	mg/L		0.001		E200.8	11/04/11 03:03 / sml
Barium	ND	mg/L		0.1		E200.7	10/26/11 17:59 / cp
Boron	ND	mg/L		0.1		E200.7	10/26/11 17:59 / cp
Cadmium	ND	mg/L		0.005		E200.7	10/26/11 17:59 / cp
Chromium	ND	mg/L		0.05		E200.7	10/26/11 17:59 / cp
Copper	ND	mg/L		0.01		E200.8	11/04/11 03:03 / sml
Iron	0.04	mg/L		0.03		E200.7	10/26/11 17:59 / cp
Lead	ND	mg/L		0.001		E200.8	11/04/11 03:03 / sml
Manganese	ND	mg/L		0.01		E200.8	11/04/11 03:03 / sml
Mercury	ND	mg/L		0.001		E200.8	11/04/11 03:03 / sml
Molybdenum	ND	mg/L		0.1		E200.7	10/26/11 17:59 / cp
Nickel	ND	mg/L		0.05		E200.8	11/04/11 03:03 / sml
Selenium	ND	mg/L		0.001		E200.8	11/04/11 03:03 / sml
Uranium	0.0061	mg/L		0.0003		E200.8	11/04/11 03:03 / sml
Uranium, Activity	4.1E-09	uCi/mL		2.0E-10		E200.8	11/04/11 03:03 / sml
Vanadium	ND	mg/L		0.1		E200.8	11/04/11 03:03 / sml
Zinc	0.18	mg/L		0.01		E200.7	10/26/11 17:59 / cp
METALS - SUSPENDED							
Uranium	ND	mg/L		0.0003		E200.8	10/08/11 01:41 / sml
Uranium, Activity	ND	uCi/mL		2.0E-10		E200.8	10/08/11 01:41 / sml

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Private Well Samples
Lab ID: C11091177-001
Client Sample ID: Well #725

Report Date: 11/11/11
Collection Date: 09/29/11
DateReceived: 09/30/11
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES - DISSOLVED							
Lead 210	<0.8	pCi/L	U	0.8		E909.0	10/20/11 00:40 / eli-cs
Lead 210 precision (±)	0.4	pCi/L				E909.0	10/20/11 00:40 / eli-cs
Lead 210 MDC	0.8	pCi/L				E909.0	10/20/11 00:40 / eli-cs
Polonium 210	1	pCi/L		0.5		E912.0	10/14/11 11:17 / ep
Polonium 210 precision (±)	0.6	pCi/L				E912.0	10/14/11 11:17 / ep
Polonium 210 MDC	0.5	pCi/L				E912.0	10/14/11 11:17 / ep
Radium 226	0.3	pCi/L		0.1		E903.0	10/17/11 17:31 / js
Radium 226 precision (±)	0.1	pCi/L				E903.0	10/17/11 17:31 / js
Radium 226 MDC	0.1	pCi/L				E903.0	10/17/11 17:31 / js
Thorium 230	<0.2	pCi/L	U	0.2		E908.0	11/04/11 08:40 / dmf
Thorium 230 precision (±)	0.09	pCi/L				E908.0	11/04/11 08:40 / dmf
Thorium 230 MDC	0.2	pCi/L				E908.0	11/04/11 08:40 / dmf
RADIONUCLIDES - SUSPENDED							
Lead 210	<0.6	pCi/L	U	0.6		E909.0	10/29/11 01:07 / eli-cs
Lead 210 precision (±)	0.4	pCi/L				E909.0	10/29/11 01:07 / eli-cs
Lead 210 MDC	0.6	pCi/L				E909.0	10/29/11 01:07 / eli-cs
Polonium 210	<0.2	pCi/L	U	0.2		E912.0	10/28/11 16:56 / ep
Polonium 210 precision (±)	0.09	pCi/L				E912.0	10/28/11 16:56 / ep
Polonium 210 MDC	0.2	pCi/L				E912.0	10/28/11 16:56 / ep
Radium 226	<0.1	pCi/L	U	0.1		E903.0	10/18/11 00:00 / js
Radium 226 precision (±)	0.03	pCi/L				E903.0	10/18/11 00:00 / js
Radium 226 MDC	0.1	pCi/L				E903.0	10/18/11 00:00 / js
Thorium 230	<0.1	pCi/L	U	0.1		E908.0	11/04/11 13:16 / dmf
Thorium 230 precision (±)	0.04	pCi/L				E908.0	11/04/11 13:16 / dmf
Thorium 230 MDC	0.1	pCi/L				E908.0	11/04/11 13:16 / dmf
DATA QUALITY							
A/C Balance (± 5)	-5.17	%				Calculation	11/09/11 09:00 / kbh
Anions	3.56	meq/L				Calculation	11/09/11 09:00 / kbh
Cations	3.21	meq/L				Calculation	11/09/11 09:00 / kbh
Solids, Total Dissolved Calculated	270	mg/L				Calculation	11/09/11 09:00 / kbh
TDS Balance (0.80 - 1.20)	0.920					Calculation	11/09/11 09:00 / kbh

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 11/11/11

Project: Marsland Baseline Private Well Samples **Work Order:** C11091177

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2320 B										Batch: R151375
Sample ID: MBLK	3	Method Blank				Run: MANTECH_110930B				09/30/11 14:09
Alkalinity, Total as CaCO3		3	mg/L	2						
Carbonate as CO3		ND	mg/L	1						
Bicarbonate as HCO3		3	mg/L	1						
Sample ID: LCS		Laboratory Control Sample				Run: MANTECH_110930B				09/30/11 14:25
Alkalinity, Total as CaCO3		196	mg/L	5.0	97	90	110			
Sample ID: C11091168-019AMS		Sample Matrix Spike				Run: MANTECH_110930B				10/01/11 01:48
Alkalinity, Total as CaCO3		729	mg/L	5.0	110	80	120			
Sample ID: C11091168-026ADUP		Sample Duplicate				Run: MANTECH_110930B				10/01/11 02:58
Alkalinity, Total as CaCO3		249	mg/L	5.0				2.8	10	

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 11/11/11

Project: Marsland Baseline Private Well Samples **Work Order:** C11091177

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2510 B								Analytical Run: ORION555A_111003A		
Sample ID: ICV2_111003_1		Initial Calibration Verification Standard							10/03/11 07:51	
Conductivity @ 25 C		1400	umhos/cm	1.0	99	90	110			
Method: A2510 B								Batch: 111003_1_PH-W_555A-1		
Sample ID: MBLK1_111003_1		Method Blank				Run: ORION555A_111003A			10/03/11 07:48	
Conductivity @ 25 C		0.7	umhos/cm	0.2						
Sample ID: C11091181-004ADUP		Sample Duplicate				Run: ORION555A_111003A			10/03/11 09:35	
Conductivity @ 25 C		4490	umhos/cm	1.0				0.0	10	

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Report Date: 11/11/11
Project: Marsland Baseline Private Well Samples
Work Order: C11091177

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 C									Batch: 111003_2_SLDS-TDS-W	
Sample ID: MBLK1_111003		Method Blank				Run: BAL-1_111003C			10/03/11 16:20	
Solids, Total Dissolved TDS @ 180 C		8	mg/L	4						
Sample ID: LCS1_111003		Laboratory Control Sample				Run: BAL-1_111003C			10/03/11 16:20	
Solids, Total Dissolved TDS @ 180 C		1020	mg/L	10	101	90	110			
Sample ID: C11091168-032AMS		Sample Matrix Spike				Run: BAL-1_111003C			10/03/11 16:33	
Solids, Total Dissolved TDS @ 180 C		2520	mg/L	10	95	90	110			
Sample ID: C11091177-001ADUP		Sample Duplicate				Run: BAL-1_111003C			10/03/11 16:35	
Solids, Total Dissolved TDS @ 180 C		244	mg/L	10				1.6	5	

Qualifiers:

RL - Analyte reporting limit.
MDC - Minimum detectable concentration
ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 11/11/11

Project: Marsland Baseline Private Well Samples **Work Order:** C11091177

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-F C										Batch: R151458
Sample ID: MBLK		Method Blank				Run: MANTECH_111003A			10/03/11 10:29	
Fluoride		0.01	mg/L	0.008						
Sample ID: LCS		Laboratory Control Sample				Run: MANTECH_111003A			10/03/11 10:36	
Fluoride		1.82	mg/L	0.10	91	90	110			
Sample ID: C11091177-001BMS		Sample Matrix Spike				Run: MANTECH_111003A			10/03/11 10:55	
Fluoride		2.38	mg/L	0.10	85	80	120			
Sample ID: C11091177-001BMSD		Sample Matrix Spike Duplicate				Run: MANTECH_111003A			10/03/11 10:59	
Fluoride		2.43	mg/L	0.10	88	80	120	2.1	10	

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 11/11/11

Project: Marsland Baseline Private Well Samples **Work Order:** C11091177

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-H B								Analytical Run: ORION555A_111003A		
Sample ID: ICV1_111003_1		Initial Calibration Verification Standard							10/03/11 07:50	
pH		6.89	s.u.	0.010	100	98	102			
Method: A4500-H B								Batch: 111003_1_PH-W_555A-1		
Sample ID: C11091181-004ADUP		Sample Duplicate				Run: ORION555A_111003A			10/03/11 09:35	
pH		8.69	s.u.	0.010				0.0	3	

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Private Well Samples

Report Date: 11/11/11
Work Order: C11091177

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-NH3 G										Batch: R151991
Sample ID: MBLK-1		Method Blank				Run: TECHNICON_111014B				10/14/11 15:51
Nitrogen, Ammonia as N		ND	mg/L	0.02						
Sample ID: LCS-2		Laboratory Control Sample				Run: TECHNICON_111014B				10/14/11 15:53
Nitrogen, Ammonia as N		2.00	mg/L	0.050	100	90	110			
Sample ID: LFB-3		Laboratory Fortified Blank				Run: TECHNICON_111014B				10/14/11 15:55
Nitrogen, Ammonia as N		1.96	mg/L	0.050	100	80	120			
Sample ID: C11091139-001EMS		Sample Matrix Spike				Run: TECHNICON_111014B				10/14/11 16:57
Nitrogen, Ammonia as N		2.01	mg/L	0.050	98	90	110			
Sample ID: C11091139-001EMSD		Sample Matrix Spike Duplicate				Run: TECHNICON_111014B				10/14/11 16:59
Nitrogen, Ammonia as N		1.99	mg/L	0.050	97	90	110	1.0	10	

Qualifiers:

RL - Analyte reporting limit.
MDC - Minimum detectable concentration
ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 11/11/11

Project: Marsland Baseline Private Well Samples **Work Order:** C11091177

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7									Analytical Run: ICP2-C_111026A	
Sample ID: ICV	9	Initial Calibration Verification Standard							10/26/11 14:37	
Aluminum		2.42	mg/L	0.10	97	95	105			
Barium		2.50	mg/L	0.10	100	95	105			
Boron		2.40	mg/L	0.10	96	95	105			
Cadmium		2.49	mg/L	0.010	100	95	105			
Chromium		2.49	mg/L	0.050	100	95	105			
Iron		2.54	mg/L	0.030	101	95	105			
Molybdenum		2.48	mg/L	0.10	99	95	105			
Silicon		5.09	mg/L	0.10	102	95	105			
Zinc		2.49	mg/L	0.010	99	95	105			
Sample ID: ICSA	9	Interference Check Sample A							10/26/11 15:03	
Aluminum		506	mg/L	0.10	101	80	120			
Barium		0.00200	mg/L	0.10		0	0			
Boron		0.00500	mg/L	0.10		0	0			
Cadmium		0.0164	mg/L	0.010		0	0			
Chromium		0.00570	mg/L	0.050		0	0			
Iron		194	mg/L	0.030	97	80	120			
Molybdenum		-0.0152	mg/L	0.10		0	0			
Silicon		-0.0863	mg/L	0.10		0	0			
Zinc		0.0138	mg/L	0.010		0	0			
Sample ID: ICSAB	9	Interference Check Sample AB							10/26/11 15:07	
Aluminum		520	mg/L	0.10	104	80	120			
Barium		0.538	mg/L	0.10	108	80	120			
Boron		0.358	mg/L	0.10		0	0			
Cadmium		1.03	mg/L	0.010	103	80	120			
Chromium		0.508	mg/L	0.050	102	80	120			
Iron		196	mg/L	0.030	98	80	120			
Molybdenum		-0.0174	mg/L	0.10		0	0			
Silicon		-0.0835	mg/L	0.10		0	0			
Zinc		1.07	mg/L	0.010	107	80	120			
Method: E200.7									Batch: R152562	
Sample ID: MB-111026A	9	Method Blank				Run: ICP2-C_111026A			10/26/11 15:40	
Aluminum		0.01	mg/L	0.01						
Barium		ND	mg/L	0.0006						
Boron		ND	mg/L	0.01						
Cadmium		ND	mg/L	0.0005						
Chromium		ND	mg/L	0.002						
Iron		0.002	mg/L	0.001						
Molybdenum		ND	mg/L	0.001						
Silicon		ND	mg/L	0.007						
Zinc		ND	mg/L	0.001						

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 11/11/11

Project: Marsland Baseline Private Well Samples **Work Order:** C11091177

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7										Batch: R152562
Sample ID: LFB-111026A	9	Laboratory Fortified Blank				Run: ICP2-C_111026A				10/26/11 15:44
Aluminum		0.912	mg/L	0.10	90	85	115			
Barium		0.943	mg/L	0.10	94	85	115			
Boron		0.899	mg/L	0.10	90	85	115			
Cadmium		0.946	mg/L	0.010	95	85	115			
Chromium		0.928	mg/L	0.050	93	85	115			
Iron		0.949	mg/L	0.030	95	85	115			
Molybdenum		0.938	mg/L	0.10	94	85	115			
Silicon		0.431	mg/L	0.10	96	85	115			
Zinc		0.946	mg/L	0.010	95	85	115			
Sample ID: C11100595-001BMS2	9	Sample Matrix Spike				Run: ICP2-C_111026A				10/26/11 18:15
Aluminum		1.80	mg/L	0.10	78	70	130			
Barium		1.80	mg/L	0.10	88	70	130			
Boron		1.76	mg/L	0.10	86	70	130			
Cadmium		1.81	mg/L	0.010	89	70	130			
Chromium		1.80	mg/L	0.050	88	70	130			
Iron		1.86	mg/L	0.030	91	70	130			
Molybdenum		1.79	mg/L	0.10	88	70	130			
Silicon		0.679	mg/L	0.10	83	70	130			
Zinc		1.84	mg/L	0.010	88	70	130			
Sample ID: C11100595-001BMSD	9	Sample Matrix Spike Duplicate				Run: ICP2-C_111026A				10/26/11 18:19
Aluminum		1.87	mg/L	0.10	82	70	130	3.8	20	
Barium		1.88	mg/L	0.10	92	70	130	4.6	20	
Boron		1.84	mg/L	0.10	90	70	130	4.7	20	
Cadmium		1.87	mg/L	0.010	92	70	130	3.4	20	
Chromium		1.87	mg/L	0.050	92	70	130	4.1	20	
Iron		1.94	mg/L	0.030	95	70	130	4.0	20	
Molybdenum		1.88	mg/L	0.10	92	70	130	4.8	20	
Silicon		0.694	mg/L	0.10	85	70	130	2.1	20	
Zinc		1.90	mg/L	0.010	92	70	130	3.4	20	

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 11/11/11

Project: Marsland Baseline Private Well Samples **Work Order:** C11091177

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Analytical Run: ICPMS4-C_111007A	
Sample ID: ICV		Initial Calibration Verification Standard							10/07/11 13:50	
Uranium		0.0496	mg/L	0.00030	99	90	110			
Method: E200.8									Batch: 31450A	
Sample ID: MB-31450		Method Blank				Run: ICPMS4-C_111007A			10/08/11 01:07	
Uranium		0.0005	pCi/Filter							
Sample ID: LCS2-31450		Laboratory Control Sample				Run: ICPMS4-C_111007A			10/08/11 01:10	
Uranium		0.123	pCi/Filter	0.00030	123	85	115			S
- Response is above standard QA limit. This could indicate a high bias for the sample results. Since there were no detectable analyte responses, and the remainder of the ru QA is within acceptance range, this batch is approved. Due to the samples being filters, a re-preparation/reanalysis is not possible.										
Sample ID: C11100147-003AMS		Sample Matrix Spike				Run: ICPMS4-C_111007A			10/08/11 02:28	
Uranium		0.0628	pCi/Filter	0.00030	116	70	130			
Sample ID: C11100147-003AMSD		Sample Matrix Spike Duplicate				Run: ICPMS4-C_111007A			10/08/11 02:31	
Uranium		0.0618	pCi/Filter	0.00030	114	70	130	1.6	20	

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 11/11/11

Project: Marsland Baseline Private Well Samples **Work Order:** C11091177

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Analytical Run: ICPMS4-C_111103A	
Sample ID: ICV	13	Initial Calibration Verification Standard							11/03/11 21:26	
Arsenic		0.0490	mg/L	0.0010	98	90	110			
Calcium		9.94	mg/L	0.0066	99	90	110			
Copper		0.0503	mg/L	0.0010	101	90	110			
Lead		0.0488	mg/L	0.0010	98	90	110			
Magnesium		9.85	mg/L	0.0027	98	90	110			
Manganese		0.0500	mg/L	0.0010	100	90	110			
Mercury		0.00506	mg/L	0.0010	101	90	110			
Nickel		0.0499	mg/L	0.0010	100	90	110			
Potassium		9.90	mg/L	0.0041	99	90	110			
Selenium		0.0499	mg/L	0.0010	100	90	110			
Sodium		9.64	mg/L	0.0043	96	90	110			
Uranium		0.0504	mg/L	0.00030	101	90	110			
Vanadium		0.0467	mg/L	0.0010	93	90	110			
Method: E200.8										Batch: R152827A
Sample ID: LRB	13	Method Blank				Run: ICPMS4-C_111103A			11/03/11 12:54	
Arsenic		ND	mg/L	5E-05						
Calcium		ND	mg/L	0.007						
Copper		ND	mg/L	3E-05						
Lead		ND	mg/L	2E-05						
Magnesium		ND	mg/L	0.003						
Manganese		ND	mg/L	3E-05						
Mercury		ND	mg/L	5E-05						
Nickel		ND	mg/L	9E-05						
Potassium		ND	mg/L	0.004						
Selenium		ND	mg/L	7E-05						
Sodium		ND	mg/L	0.004						
Uranium		ND	mg/L	9E-06						
Vanadium		ND	mg/L	4E-05						
Sample ID: LFB	13	Laboratory Fortified Blank				Run: ICPMS4-C_111103A			11/03/11 13:00	
Arsenic		0.0523	mg/L	0.0010	105	85	115			
Calcium		12.9	mg/L	0.0066	103	85	115			
Copper		0.0530	mg/L	0.0010	106	85	115			
Lead		0.0514	mg/L	0.0010	103	85	115			
Magnesium		12.6	mg/L	0.0027	101	85	115			
Manganese		0.0531	mg/L	0.0010	106	85	115			
Mercury		0.00541	mg/L	0.0010	108	85	115			
Nickel		0.0530	mg/L	0.0010	106	85	115			
Potassium		12.8	mg/L	0.0041	102	85	115			
Selenium		0.0511	mg/L	0.0010	102	85	115			
Sodium		12.6	mg/L	0.0043	101	85	115			
Uranium		0.0523	mg/L	0.00030	105	85	115			
Vanadium		0.0522	mg/L	0.0010	104	85	115			

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 11/11/11

Project: Marsland Baseline Private Well Samples **Work Order:** C11091177

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Batch: R152827A	
Sample ID: C11100040-023BMS4	13	Sample Matrix Spike				Run: ICPMS4-C_111103A			11/04/11 05:28	
Arsenic		0.0545	mg/L	0.0010	106	70	130			
Calcium		523	mg/L	1.0		70	130			A
Copper		0.0511	mg/L	0.010	91	70	130			
Lead		0.0508	mg/L	0.050	95	70	130			
Magnesium		83.4	mg/L	1.0		70	130			A
Manganese		9.28	mg/L	0.010		70	130			A
Mercury		0.00504	mg/L	0.0010	101	70	130			
Nickel		0.101	mg/L	0.050	91	70	130			
Potassium		21.1	mg/L	1.0	99	70	130			
Selenium		0.0673	mg/L	0.0010	101	70	130			
Sodium		51.2	mg/L	1.0	93	70	130			
Uranium		2.49	mg/L	0.00030		70	130			A
Vanadium		0.0455	mg/L	0.0010	90	70	130			
Sample ID: C11100040-023BMSD	13	Sample Matrix Spike Duplicate				Run: ICPMS4-C_111103A			11/04/11 05:33	
Arsenic		0.0605	mg/L	0.0010	118	70	130	11	20	
Calcium		540	mg/L	1.0		70	130	3.1	20	A
Copper		0.0567	mg/L	0.010	102	70	130	10	20	
Lead		0.0503	mg/L	0.050	94	70	130	0.8	20	
Magnesium		84.3	mg/L	1.0		70	130	1.0	20	A
Manganese		7.88	mg/L	0.010		70	130	16	20	A
Mercury		0.00562	mg/L	0.0010	112	70	130	11	20	
Nickel		0.108	mg/L	0.050	105	70	130	6.8	20	
Potassium		22.9	mg/L	1.0	113	70	130	8.2	20	
Selenium		0.0677	mg/L	0.0010	102	70	130	0.6	20	
Sodium		52.4	mg/L	1.0	102	70	130	2.1	20	
Uranium		2.11	mg/L	0.00030		70	130	17	20	A
Vanadium		0.0511	mg/L	0.0010	102	70	130	12	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

MDC - Minimum detectable concentration

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 11/11/11

Project: Marsland Baseline Private Well Samples **Work Order:** C11091177

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E300.0									Analytical Run: IC2-C_111007A	
Sample ID: ICV100711-10	2	Initial Calibration Verification Standard							10/07/11 18:38	
Chloride		10.0	mg/L	1.0	100	90	110			
Sulfate		40.8	mg/L	1.0	102	90	110			
Sample ID: ICB2100711-12	2	Initial Calibration Blank, Instrument Blank							10/07/11 19:05	
Chloride		-0.0170	mg/L	1.0		0	0			
Sulfate		0.268	mg/L	1.0		0	0			
Method: E300.0									Batch: R151722	
Sample ID: ICB100711-11	2	Method Blank				Run: IC2-C_111007A			10/07/11 18:52	
Chloride		ND	mg/L	0.10						
Sulfate		0.3	mg/L	0.08						
Sample ID: LFB100711-13	2	Laboratory Fortified Blank				Run: IC2-C_111007A			10/07/11 19:18	
Chloride		9.99	mg/L	1.0	100	90	110			
Sulfate		40.7	mg/L	1.0	101	90	110			
Sample ID: LFBD100711-14	2	Laboratory Fortified Blank Duplicate				Run: IC2-C_111007A			10/07/11 19:32	
Chloride		10.0	mg/L	1.0	100	90	110	0.3	10	
Sulfate		40.8	mg/L	1.0	101	90	110	0.3	10	
Sample ID: C11091170-001AMS	2	Sample Matrix Spike				Run: IC2-C_111007A			10/09/11 05:05	
Chloride		56.2	mg/L	1.0	99	90	110			
Sulfate		626	mg/L	4.0	89	90	110			S
- Matrix spike recoveries outside the acceptance range are considered matrix-related.										
Sample ID: C11091170-001AMSD	2	Sample Matrix Spike Duplicate				Run: IC2-C_111007A			10/09/11 05:18	
Chloride		56.2	mg/L	1.0	99	90	110	0.1	10	
Sulfate		624	mg/L	4.0	88	90	110	0.4	10	S
- Matrix spike recoveries outside the acceptance range are considered matrix-related.										

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Private Well Samples

Report Date: 11/11/11
Work Order: C11091177

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E353.2										Batch: R152322
Sample ID: MBLK-1		Method Blank				Run: TECHNICON_111021C				10/21/11 21:03
Nitrogen, Nitrate+Nitrite as N		ND	mg/L	0.06						
Sample ID: LCS-2		Laboratory Control Sample				Run: TECHNICON_111021C				10/21/11 21:05
Nitrogen, Nitrate+Nitrite as N		2.47	mg/L	0.10	99	90	110			
Sample ID: LFB-3		Laboratory Fortified Blank				Run: TECHNICON_111021C				10/21/11 21:08
Nitrogen, Nitrate+Nitrite as N		2.01	mg/L	0.10	103	90	110			
Sample ID: C11091093-011DMS		Sample Matrix Spike				Run: TECHNICON_111021C				10/21/11 23:00
Nitrogen, Nitrate+Nitrite as N		2.01	mg/L	0.10	103	90	110			
Sample ID: C11091093-011DMSD		Sample Matrix Spike Duplicate				Run: TECHNICON_111021C				10/21/11 23:03
Nitrogen, Nitrate+Nitrite as N		2.07	mg/L	0.10	106	90	110	2.9	10	

Qualifiers:

RL - Analyte reporting limit.
MDC - Minimum detectable concentration
ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Private Well Samples

Report Date: 11/11/11
Work Order: C11091177

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E903.0										Batch: RA226-5655
Sample ID: C11091177-001DMS		Sample Matrix Spike				Run: BERTHOLD 770-2_111007A			10/17/11 17:31	
Radium 226		11	pCi/L		85	70	130			
Sample ID: C11091177-001DMSD		Sample Matrix Spike Duplicate				Run: BERTHOLD 770-2_111007A			10/17/11 17:31	
Radium 226		12	pCi/L		95	70	130	11	25.7	
Sample ID: MB-RA226-5655	3	Method Blank				Run: BERTHOLD 770-2_111007A			10/17/11 22:00	
Radium 226		0.04	pCi/L							U
Radium 226 precision (±)		0.08	pCi/L							
Radium 226 MDC		0.1	pCi/L							
Sample ID: LCS-RA226-5655		Laboratory Control Sample				Run: BERTHOLD 770-2_111007A			10/17/11 22:00	
Radium 226		5.2	pCi/L		82	80	120			
Method: E903.0										Batch: 31450
Sample ID: C11100135-002AMS		Sample Matrix Spike				Run: BERTHOLD 770-2_111010A			10/18/11 00:00	
Radium 226		38.0	pCi/Filter		97	70	130			
Sample ID: C11100135-002AMSD		Sample Matrix Spike Duplicate				Run: BERTHOLD 770-2_111010A			10/18/11 00:00	
Radium 226		42.0	pCi/Filter		106	70	130	10	26.5	
Sample ID: LCS-31450		Laboratory Control Sample				Run: BERTHOLD 770-2_111010A			10/18/11 01:38	
Radium 226		11.7	pCi/Filter		100	70	130			
Sample ID: MB-31450	3	Method Blank				Run: BERTHOLD 770-2_111010A			10/18/11 01:38	
Radium 226		-0.1	pCi/Filter							U
Radium 226 precision (±)		0.1	pCi/Filter							
Radium 226 MDC		0.3	pCi/Filter							

Qualifiers:

RL - Analyte reporting limit.
MDC - Minimum detectable concentration
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 11/11/11

Project: Marsland Baseline Private Well Samples **Work Order:** C11091177

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E908.0									Batch: RA-TH-ISO-1504	
Sample ID: LCS-RA-TH-ISO-1504		Laboratory Control Sample				Run: ALPHANALYST_111031A			11/04/11 08:39	
Thorium 230		6.5	pCi/L		114	70	130			
Sample ID: C11091177-001DMS		Sample Matrix Spike				Run: ALPHANALYST_111031A			11/04/11 08:40	
Thorium 230		12	pCi/L		103	70	130			
Sample ID: C11091177-001DMSD		Sample Matrix Spike Duplicate				Run: ALPHANALYST_111031A			11/04/11 08:40	
Thorium 230		10	pCi/L		89	70	130	13	38.7	
Sample ID: MB-RA-TH-ISO-1504	3	Method Blank				Run: ALPHANALYST_111031A			11/04/11 08:40	
Thorium 230		0.03	pCi/L							U
Thorium 230 precision (±)		0.07	pCi/L							
Thorium 230 MDC		0.2	pCi/L							
Method: E908.0									Batch: R153032	
Sample ID: LCS-31450		Laboratory Control Sample				Run: ALPHANALYST_111101A			11/04/11 13:16	
Thorium 230		10.3	pCi/Filter		104	70	130			
Sample ID: MB-31450	3	Method Blank				Run: ALPHANALYST_111101A			11/04/11 13:16	
Thorium 230		0.2	pCi/Filter							
Thorium 230 precision (±)		0.1	pCi/Filter							
Thorium 230 MDC		0.1	pCi/Filter							
Sample ID: C11100045-001AMS		Sample Matrix Spike				Run: ALPHANALYST_111101A			11/04/11 13:16	
Thorium 230		46.8	pCi/Filter		94	70	130			
Sample ID: C11100045-001AMSD		Sample Matrix Spike Duplicate				Run: ALPHANALYST_111101A			11/04/11 13:16	
Thorium 230		49.9	pCi/Filter		101	70	130	6.5	31.9	

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

U - Not detected at minimum detectable concentration

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 11/11/11

Project: Marsland Baseline Private Well Samples **Work Order:** C11091177

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E909.0									Batch: T_PB-210-0162	
Sample ID: T11090087-002BDUP	3	Sample Duplicate				Run: SUB-T42612			10/18/11 18:40	
Lead 210		-0.29	pCi/L					18	291	U
Lead 210 precision (±)		0.47	pCi/L							
Lead 210 MDC		0.79	pCi/L							
Sample ID: MB-PB-210-0162	3	Method Blank				Run: SUB-T42612			10/17/11 19:20	
Lead 210		0.2	pCi/L							U
Lead 210 precision (±)		0.4	pCi/L							
Lead 210 MDC		0.7	pCi/L							
Sample ID: LCS-PB-210-0162		Laboratory Control Sample				Run: SUB-T42612			10/17/11 22:40	
Lead 210		46	pCi/L		87	70	130			
Sample ID: T11100011-008AMS		Sample Matrix Spike				Run: SUB-T42612			10/18/11 05:20	
Lead 210		9.37	pCi/g-dry		93	70	130			
Sample ID: T11100011-008AMSD		Sample Matrix Spike Duplicate				Run: SUB-T42612			10/18/11 08:40	
Lead 210		9.25	pCi/g-dry		93	70	130	1.2	13.2	
Method: E909.0									Batch: T_15019	
Sample ID: T11100041-003AMSD		Sample Matrix Spike Duplicate				Run: SUB-T42695			10/29/11 12:21	
Lead 210		1190	pCi/Filter		89	70	130	7.1	13.4	
Sample ID: T11100041-003AMS		Sample Matrix Spike				Run: SUB-T42695			10/29/11 10:06	
Lead 210		1270	pCi/Filter		96	70	130			
Sample ID: LCS-15019		Laboratory Control Sample				Run: SUB-T42695			10/28/11 22:53	
Lead 210		516	pCi/Filter		92	70	130			
Sample ID: MB-15019	3	Method Blank				Run: SUB-T42695			10/28/11 20:38	
Lead 210		0.09	pCi/Filter							U
Lead 210 precision (±)		4	pCi/Filter							
Lead 210 MDC		7	pCi/Filter							

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

U - Not detected at minimum detectable concentration

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 11/11/11

Project: Marsland Baseline Private Well Samples **Work Order:** C11091177

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E912.0										Batch: PO210-0401
Sample ID: C11090862-008DMS		Sample Matrix Spike				Run: EGG-ORTEC_111005B			10/14/11 13:27	
Polonium 210		9.9	pCi/L		79	70	130			
Sample ID: C11090862-008DMSD		Sample Matrix Spike Duplicate				Run: EGG-ORTEC_111005B			10/14/11 13:27	
Polonium 210		13	pCi/L		103	70	130	27	72.7	
Sample ID: MB-PO210-0401	3	Method Blank				Run: EGG-ORTEC_111005B			10/17/11 10:59	
Polonium 210		0.03	pCi/L							U
Polonium 210 precision (±)		0.2	pCi/L							
Polonium 210 MDC		0.4	pCi/L							
Sample ID: LCS-PO210-0401		Laboratory Control Sample				Run: EGG-ORTEC_111005B			10/17/11 10:59	
Polonium 210		6.4	pCi/L		101	70	130			
Method: E912.0										Batch: R152619
Sample ID: C11091005-002DMS		Sample Matrix Spike				Run: EGG-ORTEC_111019B			10/28/11 16:56	
Polonium 210		5.5	pCi/L		99	70	130			
Sample ID: C11091005-002DMSD		Sample Matrix Spike Duplicate				Run: EGG-ORTEC_111019B			10/28/11 16:56	
Polonium 210		4.5	pCi/L		78	70	130	22	63.3	
Sample ID: LCS-31331		Laboratory Control Sample				Run: EGG-ORTEC_111019B			10/28/11 16:56	
Polonium 210		27	pCi/L		90	70	130			
Sample ID: MB-31331	3	Method Blank				Run: EGG-ORTEC_111019B			10/28/11 16:56	
Polonium 210		ND	pCi/L							U
Polonium 210 precision (±)		0.7	pCi/L							
Polonium 210 MDC		2	pCi/L							

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

U - Not detected at minimum detectable concentration

Workorder Receipt Checklist

C11091177

Crow Butte Resources

Login completed by: Edith McPike
Reviewed by: BL2000\cwagner
Reviewed Date: 10/5/2011

Date Received: 9/30/2011
Received by: kg
Carrier name: NDA

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Container/Temp Blank temperature:	10.8°C Melted Ice		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Contact and Corrective Action Comments:

Samples filtered and preserved as necessary per requested analysis.

Chain of Custody and Analytical Request Record

ENERGY LABORATORIES

PLEASE PRINT- Provide as much information as possible.

Company Name: Crow Butte Resources, Inc.	Project Name: Marsland Baseline Private Well Samples	Sample Origin: State:	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: P.O. Box 169, Crawford, NE 69339	Contact Name: Larry Teahon; Phone/Fax: 308-665-2341	Email: daxmynus@msn.com	Sampler: (Please Print) Brooke Bass, Rhonda Pelton
Invoice Address: P.O. Box 169, Crawford, NE 69339	Invoice Contact & Phone: Larry Teahon, 308-665-2215 ext 114	Purchase Order: 1125	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

- ☐ DW
- ☐ GSA
- ☐ POTW/WWTP
- ☐ State: _____
- ☐ Other: _____
- ☐ A2LA
- ☐ EDD/EDT (Electronic Data) Format: _____
- ☐ LEVEL IV
- ☐ NELAC

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: NDEQ parameters for baseline sampling. Report on separate sheets. Analyze as per WDEQ Guideline 8 and NRC Reg. Guide 4.14 requirements. Record U as mg/L and µCi/ml and radiometrics as pCi/L.

Shipped by: UPS-NDA

Cooler ID(s): Client

Receipt Temp: 10.8 °C

On Ice: (Yes) No melted

Custody Seal: Y (N)

Intact: Y N

Signature Match: Y N

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX (Number of Containers; Sample Type: A W S V B O; Air Water Soils/Solids Vegetation Bioassay Other)	HNO3-F, Metals	RAW-F, Common Ions	RAW-UF, Alkalinity	H2SO4-F, NO2, NO3, NH4	Raw-UF, Ra226, Po210 dis, sus	Raw-UF, Pb210 dis and sus	Rau-UF, Th230, U-nat dis and sus			SEE ATTACHED	Normal Turnaround (TAT)	RUSH	Comments	LABORATORY USE ONLY
1	Well #725	9/29/11		Water	.5	1	1	.5	1 G	1 G	1 G						Please Report 11/05/11	
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		41091177

Custody Record MUST be Signed

Relinquished by (print): Brooke Bass	Date/Time: 9/29/11	Signature: Brooke Bass	Received by (print): / Date/Time: / Signature:
Relinquished by (print):	Date/Time:	Signature:	Received by (print): / Date/Time: / Signature:
Sample Disposal: Return to Client: No	Lab Disposal: YES		Received by Laboratory: / Date/Time: 9/30/11 9:30 / Signature: Kris Gisse

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.

CROW BUTTE RESOURCES, INC.
CROW BUTTE PROJECT

NO2

DATE: 9-29-11 ANALYST: bt

STANDARD CURVE DATA

	BL		0.01	.05	.10		
Abs	0		.033	.164	.320		
Abs							

SAMPLE #	VOLUME	Df	Abs	NO2 mg/L
1 725	10ml	1	.002	<0.01
2 725 DUP	10ml	1	.001	<0.01
3				
4				
5				
Dup				
6				
7				
8				
9				
10				
Dup				
11				
12				
13				
14				
15				
Dup				
16				
17				
18				
19				
20				
Dup				
21				
22				
23				
24				
25				
Dup				

ANALYTICAL SUMMARY REPORT

February 28, 2012

Crow Butte Resources
86 Crow Butte Rd
Crawford, NE 69339

Workorder No.: C11120623 Quote ID: C1125 - Crow Butte Uranium

Project Name: Marsland Baseline Private Well Samples

Energy Laboratories, Inc. Casper WY received the following 6 samples for Crow Butte Resources on 12/20/2011 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C11120623-001	Well #727	12/15/11 0:00	12/20/11	Aqueous	Metals by ICP/ICPMS, Dissolved Alkalinity QA Calculations Conductivity Fluoride E300.0 Anions Uranium, Suspended Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Digestion, Total Metals Lead 210, Dissolved Lead 210, Suspended Polonium 210, Dissolved Polonium 210, Suspended Radium 226, Dissolved Radium 226, Suspended Thorium, Isotopic Thorium, Suspended Isotopic Solids, Total Dissolved
C11120623-002	Well #759	12/15/11 0:00	12/20/11	Aqueous	Same As Above
C11120623-003	Well #703	12/15/11 0:00	12/20/11	Aqueous	Same As Above
C11120623-004	Well #741	12/15/11 0:00	12/20/11	Aqueous	Same As Above
C11120623-005	Well #745	12/15/11 0:00	12/20/11	Aqueous	Same As Above
C11120623-006	Well #725	12/16/11 0:00	12/20/11	Aqueous	Same As Above

The analyses presented in this report were performed at Energy Laboratories, Inc., 2393 Salt Creek Hwy., Casper, WY 82601, unless otherwise noted. Radiochemistry analyses were performed at Energy Laboratories, Inc., 2325 Kerzell Lane, Casper, WY 82601, unless otherwise noted. 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. Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. Data corrected for moisture content are typically noted as - dry on the report. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

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

Report Approved By:

CLIENT: Crow Butte Resources
Project: Marsland Baseline Private Well Samples
Sample Delivery Group: C11120623

Report Date: 02/28/12

CASE NARRATIVE

pH COMMENTS
Per NELAC rule, pH is considered a field parameter with a holding time of 15 minutes. Due to this rule, all pH analyses will be flagged with an H.

BRANCH LABORATORY SUBCONTRACT ANALYSIS
Tests associated with analyst identified as ELI-CS were subcontracted to Energy Laboratories, 415 Graham Rd., College Station, TX, EPA Number TX01520.

RADIOCHEMISTRY ANALYSIS
Per client request, results less than MDC (or precision if no MDC), are reported as <MDC (or <precision). Actual instrument results are available by request.

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.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Private Well Samples
Lab ID: C11120623-001
Client Sample ID: Well #727

Report Date: 02/28/12
Collection Date: 12/15/11
DateReceived: 12/20/11
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Alkalinity, Total as CaCO3	146	mg/L		1		A2320 B	12/20/11 18:46 / jba
Carbonate as CO3	ND	mg/L		1		A2320 B	12/20/11 18:46 / jba
Bicarbonate as HCO3	178	mg/L		1		A2320 B	12/20/11 18:46 / jba
Calcium	34	mg/L		1		E200.8	12/30/11 18:34 / sml
Chloride	5	mg/L		1		E300.0	12/28/11 04:02 / ljl
Fluoride	0.5	mg/L		0.1		A4500-F C	12/22/11 11:45 / jba
Magnesium	13	mg/L		1		E200.8	12/30/11 18:34 / sml
Nitrogen, Ammonia as N	ND	mg/L		0.05		A4500-NH3 G	12/22/11 12:14 / dc
Nitrogen, Nitrate+Nitrite as N	1.6	mg/L		0.1		E353.2	12/21/11 13:10 / dc
Potassium	4	mg/L		1		E200.8	12/30/11 18:34 / sml
Silica	83	mg/L	D	1		E200.7	01/12/12 18:06 / cp
Sodium	19	mg/L		1		E200.8	12/30/11 18:34 / sml
Sulfate	8	mg/L		1		E300.0	12/28/11 04:02 / ljl
PHYSICAL PROPERTIES							
Conductivity @ 25 C	344	umhos/cm		1		A2510 B	12/20/11 16:57 / wc
pH	7.73	s.u.	H	0.01		A4500-H B	12/21/11 10:27 / wc
Solids, Total Dissolved TDS @ 180 C	229	mg/L		10		A2540 C	12/20/11 16:54 / wc
METALS - DISSOLVED							
Aluminum	ND	mg/L		0.1		E200.8	12/30/11 18:34 / sml
Arsenic	0.002	mg/L		0.001		E200.8	12/30/11 18:34 / sml
Barium	ND	mg/L		0.1		E200.8	12/30/11 18:34 / sml
Boron	ND	mg/L		0.1		E200.8	12/30/11 18:34 / sml
Cadmium	ND	mg/L		0.005		E200.8	12/30/11 18:34 / sml
Chromium	ND	mg/L		0.05		E200.8	12/30/11 18:34 / sml
Copper	ND	mg/L		0.01		E200.8	12/30/11 18:34 / sml
Iron	0.03	mg/L		0.03		E200.8	12/30/11 18:34 / sml
Lead	ND	mg/L		0.001		E200.8	12/30/11 18:34 / sml
Manganese	ND	mg/L		0.01		E200.8	12/30/11 18:34 / sml
Mercury	ND	mg/L		0.001		E200.8	12/30/11 18:34 / sml
Molybdenum	ND	mg/L		0.1		E200.7	01/13/12 00:22 / cp
Nickel	ND	mg/L		0.05		E200.8	12/30/11 18:34 / sml
Selenium	0.002	mg/L		0.001		E200.8	12/30/11 18:34 / sml
Uranium	0.0080	mg/L		0.0003		E200.8	12/30/11 18:34 / sml
Uranium, Activity	5.4E-09	uCi/mL		2.0E-10		E200.8	12/30/11 18:34 / sml
Vanadium	ND	mg/L		0.1		E200.8	12/30/11 18:34 / sml
Zinc	0.49	mg/L		0.01		E200.8	12/30/11 18:34 / sml
METALS - SUSPENDED							
Uranium	ND	mg/L		0.0003		E200.8	12/27/11 19:10 / sml
Uranium, Activity	ND	uCi/mL		2.0E-10		E200.8	12/27/11 19:10 / sml

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
H - Analysis performed past recommended holding time.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Private Well Samples
Lab ID: C11120623-001
Client Sample ID: Well #727

Report Date: 02/28/12
Collection Date: 12/15/11
DateReceived: 12/20/11
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES - DISSOLVED							
Lead 210	<0.7	pCi/L	U	0.7		E909.0	01/01/12 01:11 / eli-cs
Lead 210 precision (±)	0.4	pCi/L				E909.0	01/01/12 01:11 / eli-cs
Lead 210 MDC	0.7	pCi/L				E909.0	01/01/12 01:11 / eli-cs
Polonium 210	<0.7	pCi/L	U	0.7		E912.0	01/27/12 08:27 / plj
Polonium 210 precision (±)	0.4	pCi/L				E912.0	01/27/12 08:27 / plj
Polonium 210 MDC	0.7	pCi/L				E912.0	01/27/12 08:27 / plj
Radium 226	1.8	pCi/L		0.1		E903.0	01/03/12 11:35 / js
Radium 226 precision (±)	0.2	pCi/L				E903.0	01/03/12 11:35 / js
Radium 226 MDC	0.1	pCi/L				E903.0	01/03/12 11:35 / js
Thorium 230	<0.1	pCi/L	U	0.1		E908.0	01/03/12 13:19 / dmf
Thorium 230 precision (±)	0.07	pCi/L				E908.0	01/03/12 13:19 / dmf
Thorium 230 MDC	0.1	pCi/L				E908.0	01/03/12 13:19 / dmf
RADIONUCLIDES - SUSPENDED							
Lead 210	<0.8	pCi/L	U	0.8		E909.0	01/07/12 10:00 / eli-cs
Lead 210 precision (±)	0.5	pCi/L				E909.0	01/07/12 10:00 / eli-cs
Lead 210 MDC	0.8	pCi/L				E909.0	01/07/12 10:00 / eli-cs
Polonium 210	<0.6	pCi/L	U	0.6		E912.0	02/23/12 13:35 / ep
Polonium 210 precision (±)	0.3	pCi/L				E912.0	02/23/12 13:35 / ep
Polonium 210 MDC	0.6	pCi/L				E912.0	02/23/12 13:35 / ep
Radium 226	<0.1	pCi/L	U	0.1		E903.0	01/09/12 12:58 / trs
Radium 226 precision (±)	0.05	pCi/L				E903.0	01/09/12 12:58 / trs
Radium 226 MDC	0.1	pCi/L				E903.0	01/09/12 12:58 / trs
Thorium 230	<0.1	pCi/L	U	0.1		E908.0	01/06/12 08:42 / dmf
Thorium 230 precision (±)	0.06	pCi/L				E908.0	01/06/12 08:42 / dmf
Thorium 230 MDC	0.1	pCi/L				E908.0	01/06/12 08:42 / dmf
DATA QUALITY							
A/C Balance (± 5)	5.25	%				Calculation	01/04/12 14:55 / kbh
Anions	3.37	meq/L				Calculation	01/04/12 14:55 / kbh
Cations	3.74	meq/L				Calculation	01/04/12 14:55 / kbh
Solids, Total Dissolved Calculated	179	mg/L				Calculation	01/04/12 14:55 / kbh
TDS Balance (0.80 - 1.20)	1.28					Calculation	01/04/12 14:55 / kbh

- The ion balance is not appropriate for samples having a conductivity less than 300 umhos/cm.

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Private Well Samples
Lab ID: C11120623-002
Client Sample ID: Well #759

Report Date: 02/28/12
Collection Date: 12/15/11
DateReceived: 12/20/11
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Alkalinity, Total as CaCO3	140	mg/L		1		A2320 B	12/20/11 18:54 / jba
Carbonate as CO3	ND	mg/L		1		A2320 B	12/20/11 18:54 / jba
Bicarbonate as HCO3	170	mg/L		1		A2320 B	12/20/11 18:54 / jba
Calcium	32	mg/L		1		E200.8	12/21/11 22:53 / sml
Chloride	2	mg/L		1		E300.0	12/28/11 04:15 / ljl
Fluoride	0.6	mg/L		0.1		A4500-F C	12/22/11 11:56 / jba
Magnesium	6	mg/L		1		E200.8	12/30/11 18:41 / sml
Nitrogen, Ammonia as N	ND	mg/L		0.05		A4500-NH3 G	12/22/11 12:16 / dc
Nitrogen, Nitrate+Nitrite as N	0.8	mg/L		0.1		E353.2	12/21/11 13:13 / dc
Potassium	5	mg/L		1		E200.8	12/21/11 22:53 / sml
Silica	71.9	mg/L		0.2		E200.7	01/12/12 18:18 / cp
Sodium	25	mg/L		1		E200.8	12/30/11 18:41 / sml
Sulfate	7	mg/L		1		E300.0	12/28/11 04:15 / ljl
PHYSICAL PROPERTIES							
Conductivity @ 25 C	307	umhos/cm		1		A2510 B	12/20/11 17:00 / wc
pH	7.76	s.u.	H	0.01		A4500-H B	12/21/11 10:30 / wc
Solids, Total Dissolved TDS @ 180 C	203	mg/L		10		A2540 C	12/20/11 16:54 / wc
METALS - DISSOLVED							
Aluminum	ND	mg/L		0.1		E200.8	12/30/11 18:41 / sml
Arsenic	0.003	mg/L		0.001		E200.8	12/21/11 22:53 / sml
Barium	0.1	mg/L		0.1		E200.8	12/30/11 18:41 / sml
Boron	ND	mg/L		0.1		E200.8	12/30/11 18:41 / sml
Cadmium	ND	mg/L		0.005		E200.8	12/30/11 18:41 / sml
Chromium	ND	mg/L		0.05		E200.8	12/21/11 22:53 / sml
Copper	ND	mg/L		0.01		E200.8	12/21/11 22:53 / sml
Iron	ND	mg/L		0.03		E200.8	12/30/11 18:41 / sml
Lead	ND	mg/L		0.001		E200.8	12/21/11 22:53 / sml
Manganese	ND	mg/L		0.01		E200.8	12/30/11 18:41 / sml
Mercury	ND	mg/L		0.001		E200.8	12/30/11 18:41 / sml
Molybdenum	ND	mg/L		0.1		E200.7	01/12/12 18:18 / cp
Nickel	ND	mg/L		0.05		E200.8	12/21/11 22:53 / sml
Selenium	ND	mg/L		0.001		E200.8	12/30/11 18:41 / sml
Uranium	0.0049	mg/L		0.0003		E200.8	12/30/11 18:41 / sml
Uranium, Activity	3.3E-09	uCi/mL		2.0E-10		E200.8	12/30/11 18:41 / sml
Vanadium	ND	mg/L		0.1		E200.8	12/21/11 22:53 / sml
Zinc	0.10	mg/L		0.01		E200.8	12/21/11 22:53 / sml
METALS - SUSPENDED							
Uranium	ND	mg/L		0.0003		E200.8	12/27/11 19:12 / sml
Uranium, Activity	ND	uCi/mL		2.0E-10		E200.8	12/27/11 19:12 / sml

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Private Well Samples
Lab ID: C11120623-002
Client Sample ID: Well #759

Report Date: 02/28/12
Collection Date: 12/15/11
DateReceived: 12/20/11
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES - DISSOLVED							
Lead 210	<0.7	pCi/L	U	0.7		E909.0	01/01/12 06:42 / eli-cs
Lead 210 precision (±)	0.4	pCi/L				E909.0	01/01/12 06:42 / eli-cs
Lead 210 MDC	0.7	pCi/L				E909.0	01/01/12 06:42 / eli-cs
Polonium 210	<0.6	pCi/L	U	0.6		E912.0	01/27/12 08:27 / plj
Polonium 210 precision (±)	0.2	pCi/L				E912.0	01/27/12 08:27 / plj
Polonium 210 MDC	0.6	pCi/L				E912.0	01/27/12 08:27 / plj
Radium 226	1.0	pCi/L		0.1		E903.0	01/03/12 11:35 / js
Radium 226 precision (±)	0.2	pCi/L				E903.0	01/03/12 11:35 / js
Radium 226 MDC	0.1	pCi/L				E903.0	01/03/12 11:35 / js
Thorium 230	<0.2	pCi/L	U	0.2		E908.0	01/03/12 13:19 / dmf
Thorium 230 precision (±)	0.07	pCi/L				E908.0	01/03/12 13:19 / dmf
Thorium 230 MDC	0.2	pCi/L				E908.0	01/03/12 13:19 / dmf
RADIONUCLIDES - SUSPENDED							
Lead 210	<0.8	pCi/L	U	0.8		E909.0	01/07/12 12:05 / eli-cs
Lead 210 precision (±)	0.5	pCi/L				E909.0	01/07/12 12:05 / eli-cs
Lead 210 MDC	0.8	pCi/L				E909.0	01/07/12 12:05 / eli-cs
Polonium 210	<0.5	pCi/L	U	0.5		E912.0	02/23/12 13:35 / ep
Polonium 210 precision (±)	0.2	pCi/L				E912.0	02/23/12 13:35 / ep
Polonium 210 MDC	0.5	pCi/L				E912.0	02/23/12 13:35 / ep
Radium 226	<0.1	pCi/L	U	0.1		E903.0	01/09/12 12:58 / trs
Radium 226 precision (±)	0.04	pCi/L				E903.0	01/09/12 12:58 / trs
Radium 226 MDC	0.1	pCi/L				E903.0	01/09/12 12:58 / trs
Thorium 230	<0.1	pCi/L	U	0.1		E908.0	01/06/12 08:42 / dmf
Thorium 230 precision (±)	0.06	pCi/L				E908.0	01/06/12 08:42 / dmf
Thorium 230 MDC	0.1	pCi/L				E908.0	01/06/12 08:42 / dmf
DATA QUALITY							
A/C Balance (± 5)	4.27	%				Calculation	01/04/12 08:42 / kbh
Anions	3.08	meq/L				Calculation	01/04/12 08:42 / kbh
Cations	3.35	meq/L				Calculation	01/04/12 08:42 / kbh
Solids, Total Dissolved Calculated	166	mg/L				Calculation	01/04/12 08:42 / kbh
TDS Balance (0.80 - 1.20)	1.22					Calculation	01/04/12 08:42 / kbh

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Private Well Samples
Lab ID: C11120623-003
Client Sample ID: Well #703

Report Date: 02/28/12
Collection Date: 12/15/11
DateReceived: 12/20/11
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Alkalinity, Total as CaCO3	144	mg/L		1		A2320 B	12/20/11 19:02 / jba
Carbonate as CO3	ND	mg/L		1		A2320 B	12/20/11 19:02 / jba
Bicarbonate as HCO3	176	mg/L		1		A2320 B	12/20/11 19:02 / jba
Calcium	42	mg/L		1		E200.8	12/30/11 18:48 / sml
Chloride	3	mg/L		1		E300.0	12/28/11 09:35 / ljl
Fluoride	0.5	mg/L		0.1		A4500-F C	12/22/11 11:59 / jba
Magnesium	8	mg/L		1		E200.8	12/30/11 18:48 / sml
Nitrogen, Ammonia as N	ND	mg/L		0.05		A4500-NH3 G	12/22/11 12:18 / dc
Nitrogen, Nitrate+Nitrite as N	1.7	mg/L		0.1		E353.2	12/21/11 13:15 / dc
Potassium	3	mg/L		1		E200.8	12/30/11 18:48 / sml
Silica	65.7	mg/L		0.2		E200.7	01/12/12 18:26 / cp
Sodium	16	mg/L		1		E200.8	12/30/11 18:48 / sml
Sulfate	7	mg/L		1		E300.0	12/28/11 09:35 / ljl
PHYSICAL PROPERTIES							
Conductivity @ 25 C	325	umhos/cm		1		A2510 B	12/20/11 17:02 / wc
pH	7.79	s.u.	H	0.01		A4500-H B	12/21/11 10:34 / wc
Solids, Total Dissolved TDS @ 180 C	208	mg/L		10		A2540 C	12/20/11 16:54 / wc
METALS - DISSOLVED							
Aluminum	ND	mg/L		0.1		E200.8	12/30/11 18:48 / sml
Arsenic	0.004	mg/L		0.001		E200.8	12/30/11 18:48 / sml
Barium	0.1	mg/L		0.1		E200.8	12/30/11 18:48 / sml
Boron	ND	mg/L		0.1		E200.8	12/30/11 18:48 / sml
Cadmium	ND	mg/L		0.005		E200.8	12/30/11 18:48 / sml
Chromium	ND	mg/L		0.05		E200.8	12/30/11 18:48 / sml
Copper	ND	mg/L		0.01		E200.8	12/30/11 18:48 / sml
Iron	ND	mg/L		0.03		E200.8	12/30/11 18:48 / sml
Lead	ND	mg/L		0.001		E200.8	12/21/11 23:20 / sml
Manganese	ND	mg/L		0.01		E200.8	12/30/11 18:48 / sml
Mercury	ND	mg/L		0.001		E200.8	12/30/11 18:48 / sml
Molybdenum	ND	mg/L		0.1		E200.7	01/12/12 18:26 / cp
Nickel	ND	mg/L		0.05		E200.8	12/30/11 18:48 / sml
Selenium	0.001	mg/L		0.001		E200.8	12/30/11 18:48 / sml
Uranium	0.0040	mg/L		0.0003		E200.8	12/30/11 18:48 / sml
Uranium, Activity	2.7E-09	uCi/mL		2.0E-10		E200.8	12/30/11 18:48 / sml
Vanadium	ND	mg/L		0.1		E200.8	12/30/11 18:48 / sml
Zinc	0.11	mg/L		0.01		E200.8	12/30/11 18:48 / sml
METALS - SUSPENDED							
Uranium	ND	mg/L		0.0003		E200.8	12/27/11 19:21 / sml
Uranium, Activity	ND	uCi/mL		2.0E-10		E200.8	12/27/11 19:21 / sml

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Private Well Samples
Lab ID: C11120623-003
Client Sample ID: Well #703

Report Date: 02/28/12
Collection Date: 12/15/11
DateReceived: 12/20/11
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES - DISSOLVED							
Lead 210	<0.7	pCi/L	U	0.7		E909.0	01/01/12 12:13 / eli-cs
Lead 210 precision (±)	0.4	pCi/L				E909.0	01/01/12 12:13 / eli-cs
Lead 210 MDC	0.7	pCi/L				E909.0	01/01/12 12:13 / eli-cs
Polonium 210	<0.5	pCi/L	U	0.5		E912.0	01/27/12 08:27 / plj
Polonium 210 precision (±)	0.4	pCi/L				E912.0	01/27/12 08:27 / plj
Polonium 210 MDC	0.5	pCi/L				E912.0	01/27/12 08:27 / plj
Radium 226	0.5	pCi/L		0.1		E903.0	01/03/12 11:35 / js
Radium 226 precision (±)	0.1	pCi/L				E903.0	01/03/12 11:35 / js
Radium 226 MDC	0.1	pCi/L				E903.0	01/03/12 11:35 / js
Thorium 230	<0.1	pCi/L	U	0.1		E908.0	01/03/12 13:19 / dmf
Thorium 230 precision (±)	0.08	pCi/L				E908.0	01/03/12 13:19 / dmf
Thorium 230 MDC	0.1	pCi/L				E908.0	01/03/12 13:19 / dmf
RADIONUCLIDES - SUSPENDED							
Lead 210	<0.8	pCi/L	U	0.8		E909.0	01/07/12 14:10 / eli-cs
Lead 210 precision (±)	0.5	pCi/L				E909.0	01/07/12 14:10 / eli-cs
Lead 210 MDC	0.8	pCi/L				E909.0	01/07/12 14:10 / eli-cs
Polonium 210	<0.5	pCi/L	U	0.5		E912.0	02/23/12 13:35 / ep
Polonium 210 precision (±)	0.2	pCi/L				E912.0	02/23/12 13:35 / ep
Polonium 210 MDC	0.5	pCi/L				E912.0	02/23/12 13:35 / ep
Radium 226	<0.1	pCi/L	U	0.1		E903.0	01/09/12 12:58 / trs
Radium 226 precision (±)	0.07	pCi/L				E903.0	01/09/12 12:58 / trs
Radium 226 MDC	0.1	pCi/L				E903.0	01/09/12 12:58 / trs
Thorium 230	<0.1	pCi/L	U	0.1		E908.0	01/06/12 08:42 / dmf
Thorium 230 precision (±)	0.06	pCi/L				E908.0	01/06/12 08:42 / dmf
Thorium 230 MDC	0.1	pCi/L				E908.0	01/06/12 08:42 / dmf
DATA QUALITY							
A/C Balance (± 5)	3.88	%				Calculation	01/04/12 08:42 / kbh
Anions	3.25	meq/L				Calculation	01/04/12 08:42 / kbh
Cations	3.51	meq/L				Calculation	01/04/12 08:42 / kbh
Solids, Total Dissolved Calculated	173	mg/L				Calculation	01/04/12 08:42 / kbh
TDS Balance (0.80 - 1.20)	1.20					Calculation	01/04/12 08:42 / kbh

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Private Well Samples
Lab ID: C11120623-004
Client Sample ID: Well #741

Report Date: 02/28/12
Collection Date: 12/15/11
DateReceived: 12/20/11
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Alkalinity, Total as CaCO3	173	mg/L		1		A2320 B	12/20/11 19:09 / jba
Carbonate as CO3	ND	mg/L		1		A2320 B	12/20/11 19:09 / jba
Bicarbonate as HCO3	211	mg/L		1		A2320 B	12/20/11 19:09 / jba
Calcium	49	mg/L		1		E200.8	12/30/11 18:55 / sml
Chloride	5	mg/L		1		E300.0	12/28/11 10:15 / ljl
Fluoride	0.6	mg/L		0.1		A4500-F C	12/22/11 12:06 / jba
Magnesium	9	mg/L		1		E200.8	12/30/11 18:55 / sml
Nitrogen, Ammonia as N	ND	mg/L		0.05		A4500-NH3 G	12/22/11 12:20 / dc
Nitrogen, Nitrate+Nitrite as N	3.1	mg/L		0.1		E353.2	12/21/11 13:18 / dc
Potassium	5	mg/L		1		E200.8	12/30/11 18:55 / sml
Silica	64.4	mg/L		0.2		E200.7	01/12/12 18:30 / cp
Sodium	26	mg/L		1		E200.8	12/30/11 18:55 / sml
Sulfate	12	mg/L		1		E300.0	12/28/11 10:15 / ljl
PHYSICAL PROPERTIES							
Conductivity @ 25 C	327	umhos/cm		1		A2510 B	12/21/11 10:40 / wc
pH	7.86	s.u.	H	0.01		A4500-H B	12/21/11 10:40 / wc
Solids, Total Dissolved TDS @ 180 C	259	mg/L		10		A2540 C	12/20/11 16:54 / wc
METALS - DISSOLVED							
Aluminum	ND	mg/L		0.1		E200.8	12/30/11 18:55 / sml
Arsenic	0.006	mg/L		0.001		E200.8	12/30/11 18:55 / sml
Barium	0.1	mg/L		0.1		E200.8	12/30/11 18:55 / sml
Boron	ND	mg/L		0.1		E200.8	12/30/11 18:55 / sml
Cadmium	ND	mg/L		0.005		E200.8	12/30/11 18:55 / sml
Chromium	ND	mg/L		0.05		E200.8	12/30/11 18:55 / sml
Copper	ND	mg/L		0.01		E200.8	12/30/11 18:55 / sml
Iron	ND	mg/L		0.03		E200.8	12/30/11 18:55 / sml
Lead	ND	mg/L		0.001		E200.8	12/21/11 23:27 / sml
Manganese	ND	mg/L		0.01		E200.8	12/30/11 18:55 / sml
Mercury	ND	mg/L		0.001		E200.8	12/30/11 18:55 / sml
Molybdenum	ND	mg/L		0.1		E200.7	01/12/12 18:30 / cp
Nickel	ND	mg/L		0.05		E200.8	12/30/11 18:55 / sml
Selenium	0.002	mg/L		0.001		E200.8	12/21/11 23:27 / sml
Uranium	0.0057	mg/L		0.0003		E200.8	12/30/11 18:55 / sml
Uranium, Activity	3.9E-09	uCi/mL		2.0E-10		E200.8	12/30/11 18:55 / sml
Vanadium	ND	mg/L		0.1		E200.8	12/30/11 18:55 / sml
Zinc	0.02	mg/L		0.01		E200.8	12/30/11 18:55 / sml
METALS - SUSPENDED							
Uranium	ND	mg/L		0.0003		E200.8	12/27/11 19:23 / sml
Uranium, Activity	ND	uCi/mL		2.0E-10		E200.8	12/27/11 19:23 / sml

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Private Well Samples
Lab ID: C11120623-004
Client Sample ID: Well #741

Report Date: 02/28/12
Collection Date: 12/15/11
DateReceived: 12/20/11
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES - DISSOLVED							
Lead 210	<0.7	pCi/L	U	0.7		E909.0	01/01/12 17:44 / eli-cs
Lead 210 precision (±)	0.4	pCi/L				E909.0	01/01/12 17:44 / eli-cs
Lead 210 MDC	0.7	pCi/L				E909.0	01/01/12 17:44 / eli-cs
Polonium 210	1.7	pCi/L		1.3		E912.0	02/02/12 08:46 / plj
Polonium 210 precision (±)	1.5	pCi/L				E912.0	02/02/12 08:46 / plj
Polonium 210 MDC	1.3	pCi/L				E912.0	02/02/12 08:46 / plj
Radium 226	0.5	pCi/L		0.1		E903.0	01/03/12 11:35 / js
Radium 226 precision (±)	0.1	pCi/L				E903.0	01/03/12 11:35 / js
Radium 226 MDC	0.1	pCi/L				E903.0	01/03/12 11:35 / js
Thorium 230	<0.1	pCi/L	U	0.1		E908.0	01/03/12 13:19 / dmf
Thorium 230 precision (±)	0.05	pCi/L				E908.0	01/03/12 13:19 / dmf
Thorium 230 MDC	0.1	pCi/L				E908.0	01/03/12 13:19 / dmf
RADIONUCLIDES - SUSPENDED							
Lead 210	<0.8	pCi/L	U	0.8		E909.0	01/07/12 16:15 / eli-cs
Lead 210 precision (±)	0.5	pCi/L				E909.0	01/07/12 16:15 / eli-cs
Lead 210 MDC	0.8	pCi/L				E909.0	01/07/12 16:15 / eli-cs
Polonium 210	<0.6	pCi/L	U	0.6		E912.0	02/23/12 13:35 / ep
Polonium 210 precision (±)	0.2	pCi/L				E912.0	02/23/12 13:35 / ep
Polonium 210 MDC	0.6	pCi/L				E912.0	02/23/12 13:35 / ep
Radium 226	<0.1	pCi/L	U	0.1		E903.0	01/09/12 12:58 / trs
Radium 226 precision (±)	0.08	pCi/L				E903.0	01/09/12 12:58 / trs
Radium 226 MDC	0.1	pCi/L				E903.0	01/09/12 12:58 / trs
Thorium 230	<0.1	pCi/L	U	0.1		E908.0	01/06/12 08:42 / dmf
Thorium 230 precision (±)	0.05	pCi/L				E908.0	01/06/12 08:42 / dmf
Thorium 230 MDC	0.1	pCi/L				E908.0	01/06/12 08:42 / dmf
DATA QUALITY							
A/C Balance (± 5)	3.69	%				Calculation	01/04/12 08:42 / kbh
Anions	4.10	meq/L				Calculation	01/04/12 08:42 / kbh
Cations	4.42	meq/L				Calculation	01/04/12 08:42 / kbh
Solids, Total Dissolved Calculated	224	mg/L				Calculation	01/04/12 08:42 / kbh
TDS Balance (0.80 - 1.20)	1.16					Calculation	01/04/12 08:42 / kbh

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Private Well Samples
Lab ID: C11120623-005
Client Sample ID: Well #745

Report Date: 02/28/12
Collection Date: 12/15/11
DateReceived: 12/20/11
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Alkalinity, Total as CaCO3	164	mg/L		1		A2320 B	12/20/11 19:17 / jba
Carbonate as CO3	ND	mg/L		1		A2320 B	12/20/11 19:17 / jba
Bicarbonate as HCO3	200	mg/L		1		A2320 B	12/20/11 19:17 / jba
Calcium	61	mg/L		1		E200.8	12/22/11 00:02 / sml
Chloride	4	mg/L		1		E300.0	12/28/11 10:28 / ljl
Fluoride	0.4	mg/L		0.1		A4500-F C	12/22/11 12:13 / jba
Magnesium	11	mg/L		1		E200.8	12/22/11 00:02 / sml
Nitrogen, Ammonia as N	ND	mg/L		0.05		A4500-NH3 G	12/22/11 12:22 / dc
Nitrogen, Nitrate+Nitrite as N	5.0	mg/L		0.1		E353.2	12/21/11 13:20 / dc
Potassium	2	mg/L		1		E200.8	12/22/11 00:02 / sml
Silica	67.2	mg/L		0.2		E200.7	01/12/12 18:34 / cp
Sodium	8	mg/L		1		E200.8	12/22/11 00:02 / sml
Sulfate	16	mg/L		1		E300.0	12/28/11 10:28 / ljl
PHYSICAL PROPERTIES							
Conductivity @ 25 C	327	umhos/cm		1		A2510 B	12/21/11 10:45 / wc
pH	7.79	s.u.	H	0.01		A4500-H B	12/21/11 10:45 / wc
Solids, Total Dissolved TDS @ 180 C	292	mg/L		10		A2540 C	12/20/11 16:54 / wc
METALS - DISSOLVED							
Aluminum	ND	mg/L		0.1		E200.8	12/30/11 19:30 / sml
Arsenic	0.003	mg/L		0.001		E200.8	12/22/11 00:02 / sml
Barium	ND	mg/L		0.1		E200.8	12/30/11 19:30 / sml
Boron	ND	mg/L		0.1		E200.8	12/30/11 19:30 / sml
Cadmium	ND	mg/L		0.005		E200.8	12/30/11 19:30 / sml
Chromium	ND	mg/L		0.05		E200.8	12/22/11 00:02 / sml
Copper	ND	mg/L		0.01		E200.8	12/22/11 00:02 / sml
Iron	ND	mg/L		0.03		E200.8	12/30/11 19:30 / sml
Lead	0.002	mg/L		0.001		E200.8	12/22/11 00:02 / sml
Manganese	ND	mg/L		0.01		E200.8	12/22/11 00:02 / sml
Mercury	ND	mg/L		0.001		E200.8	12/30/11 19:30 / sml
Molybdenum	ND	mg/L		0.1		E200.7	01/12/12 18:34 / cp
Nickel	ND	mg/L		0.05		E200.8	12/22/11 00:02 / sml
Selenium	0.002	mg/L		0.001		E200.8	12/22/11 00:02 / sml
Uranium	0.0165	mg/L		0.0003		E200.8	12/30/11 19:30 / sml
Uranium, Activity	1.1E-08	uCi/mL		2.0E-10		E200.8	12/30/11 19:30 / sml
Vanadium	ND	mg/L		0.1		E200.8	12/22/11 00:02 / sml
Zinc	0.72	mg/L		0.01		E200.8	12/22/11 00:02 / sml
METALS - SUSPENDED							
Uranium	ND	mg/L		0.0003		E200.8	12/27/11 19:24 / sml
Uranium, Activity	ND	uCi/mL		2.0E-10		E200.8	12/27/11 19:24 / sml

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Private Well Samples
Lab ID: C11120623-005
Client Sample ID: Well #745

Report Date: 02/28/12
Collection Date: 12/15/11
DateReceived: 12/20/11
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES - DISSOLVED							
Lead 210	<0.7	pCi/L	U	0.7		E909.0	01/01/12 23:15 / eli-cs
Lead 210 precision (±)	0.4	pCi/L				E909.0	01/01/12 23:15 / eli-cs
Lead 210 MDC	0.7	pCi/L				E909.0	01/01/12 23:15 / eli-cs
Polonium 210	<1.0	pCi/L	U	1.0		E912.0	01/27/12 08:27 / plj
Polonium 210 precision (±)	0.5	pCi/L				E912.0	01/27/12 08:27 / plj
Polonium 210 MDC	1.0	pCi/L				E912.0	01/27/12 08:27 / plj
Radium 226	0.4	pCi/L		0.1		E903.0	01/03/12 11:35 / js
Radium 226 precision (±)	0.1	pCi/L				E903.0	01/03/12 11:35 / js
Radium 226 MDC	0.1	pCi/L				E903.0	01/03/12 11:35 / js
Thorium 230	<0.1	pCi/L	U	0.1		E908.0	01/03/12 13:19 / dmf
Thorium 230 precision (±)	0.05	pCi/L				E908.0	01/03/12 13:19 / dmf
Thorium 230 MDC	0.1	pCi/L				E908.0	01/03/12 13:19 / dmf
RADIONUCLIDES - SUSPENDED							
Lead 210	<0.8	pCi/L	U	0.8		E909.0	01/07/12 18:20 / eli-cs
Lead 210 precision (±)	0.5	pCi/L				E909.0	01/07/12 18:20 / eli-cs
Lead 210 MDC	0.8	pCi/L				E909.0	01/07/12 18:20 / eli-cs
Polonium 210	<0.5	pCi/L	U	0.5		E912.0	02/23/12 13:35 / ep
Polonium 210 precision (±)	0.2	pCi/L				E912.0	02/23/12 13:35 / ep
Polonium 210 MDC	0.5	pCi/L				E912.0	02/23/12 13:35 / ep
Radium 226	<0.1	pCi/L	U	0.1		E903.0	01/09/12 12:58 / trs
Radium 226 precision (±)	0.05	pCi/L				E903.0	01/09/12 12:58 / trs
Radium 226 MDC	0.1	pCi/L				E903.0	01/09/12 12:58 / trs
Thorium 230	<0.1	pCi/L	U	0.1		E908.0	01/06/12 08:42 / dmf
Thorium 230 precision (±)	0.07	pCi/L				E908.0	01/06/12 08:42 / dmf
Thorium 230 MDC	0.1	pCi/L				E908.0	01/06/12 08:42 / dmf
DATA QUALITY							
A/C Balance (± 5)	3.13	%				Calculation	01/04/12 08:42 / kbh
Anions	4.10	meq/L				Calculation	01/04/12 08:42 / kbh
Cations	4.36	meq/L				Calculation	01/04/12 08:42 / kbh
Solids, Total Dissolved Calculated	223	mg/L				Calculation	01/04/12 08:42 / kbh
TDS Balance (0.80 - 1.20)	1.31					Calculation	01/04/12 08:42 / kbh

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Private Well Samples
Lab ID: C11120623-006
Client Sample ID: Well #725

Report Date: 02/28/12
Collection Date: 12/16/11
DateReceived: 12/20/11
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Alkalinity, Total as CaCO3	141	mg/L		1		A2320 B	12/20/11 19:25 / jba
Carbonate as CO3	ND	mg/L		1		A2320 B	12/20/11 19:25 / jba
Bicarbonate as HCO3	172	mg/L		1		A2320 B	12/20/11 19:25 / jba
Calcium	33	mg/L		1		E200.8	12/22/11 00:09 / sml
Chloride	2	mg/L		1		E300.0	12/28/11 10:42 / ljl
Fluoride	0.7	mg/L		0.1		A4500-F C	12/22/11 12:16 / jba
Magnesium	6	mg/L		1		E200.8	12/22/11 00:09 / sml
Nitrogen, Ammonia as N	ND	mg/L		0.05		A4500-NH3 G	12/22/11 12:24 / dc
Nitrogen, Nitrate+Nitrite as N	0.7	mg/L		0.1		E353.2	12/21/11 13:23 / dc
Potassium	4	mg/L		1		E200.8	12/22/11 00:09 / sml
Silica	68.4	mg/L		0.2		E200.7	01/12/12 18:38 / cp
Sodium	31	mg/L		1		E200.8	12/22/11 00:09 / sml
Sulfate	16	mg/L		1		E300.0	12/28/11 10:42 / ljl
PHYSICAL PROPERTIES							
Conductivity @ 25 C	241	umhos/cm		1		A2510 B	12/21/11 10:48 / wc
pH	7.95	s.u.	H	0.01		A4500-H B	12/21/11 10:48 / wc
Solids, Total Dissolved TDS @ 180 C	234	mg/L		10		A2540 C	12/20/11 16:55 / wc
METALS - DISSOLVED							
Aluminum	ND	mg/L		0.1		E200.8	12/30/11 19:37 / sml
Arsenic	0.004	mg/L		0.001		E200.8	12/22/11 00:09 / sml
Barium	ND	mg/L		0.1		E200.8	12/22/11 00:09 / sml
Boron	ND	mg/L		0.1		E200.8	12/30/11 19:37 / sml
Cadmium	ND	mg/L		0.005		E200.8	12/22/11 00:09 / sml
Chromium	ND	mg/L		0.05		E200.8	12/22/11 00:09 / sml
Copper	ND	mg/L		0.01		E200.8	12/22/11 00:09 / sml
Iron	0.06	mg/L		0.03		E200.8	12/30/11 19:37 / sml
Lead	ND	mg/L		0.001		E200.8	12/22/11 00:09 / sml
Manganese	0.01	mg/L		0.01		E200.8	12/22/11 00:09 / sml
Mercury	ND	mg/L		0.001		E200.8	12/30/11 19:37 / sml
Molybdenum	ND	mg/L		0.1		E200.7	01/12/12 18:38 / cp
Nickel	ND	mg/L		0.05		E200.8	12/22/11 00:09 / sml
Selenium	ND	mg/L		0.001		E200.8	12/22/11 00:09 / sml
Uranium	0.0057	mg/L		0.0003		E200.8	12/30/11 19:37 / sml
Uranium, Activity	3.8E-09	uCi/mL		2.0E-10		E200.8	12/30/11 19:37 / sml
Vanadium	ND	mg/L		0.1		E200.8	12/22/11 00:09 / sml
Zinc	0.24	mg/L		0.01		E200.8	12/22/11 00:09 / sml
METALS - SUSPENDED							
Uranium	ND	mg/L		0.0003		E200.8	12/27/11 19:26 / sml
Uranium, Activity	ND	uCi/mL		2.0E-10		E200.8	12/27/11 19:26 / sml

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Private Well Samples
Lab ID: C11120623-006
Client Sample ID: Well #725

Report Date: 02/28/12
Collection Date: 12/16/11
DateReceived: 12/20/11
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES - DISSOLVED							
Lead 210	<0.7	pCi/L	U	0.7		E909.0	01/02/12 04:46 / eli-cs
Lead 210 precision (±)	0.4	pCi/L				E909.0	01/02/12 04:46 / eli-cs
Lead 210 MDC	0.7	pCi/L				E909.0	01/02/12 04:46 / eli-cs
Polonium 210	<0.5	pCi/L	U	0.5		E912.0	01/27/12 08:27 / plj
Polonium 210 precision (±)	0.3	pCi/L				E912.0	01/27/12 08:27 / plj
Polonium 210 MDC	0.5	pCi/L				E912.0	01/27/12 08:27 / plj
Radium 226	<0.1	pCi/L	U	0.1		E903.0	01/03/12 11:35 / js
Radium 226 precision (±)	0.09	pCi/L				E903.0	01/03/12 11:35 / js
Radium 226 MDC	0.1	pCi/L				E903.0	01/03/12 11:35 / js
Thorium 230	<0.1	pCi/L	U	0.1		E908.0	01/04/12 12:18 / dmf
Thorium 230 precision (±)	0.08	pCi/L				E908.0	01/04/12 12:18 / dmf
Thorium 230 MDC	0.1	pCi/L				E908.0	01/04/12 12:18 / dmf
RADIONUCLIDES - SUSPENDED							
Lead 210	<0.9	pCi/L	U	0.9		E909.0	01/07/12 20:25 / eli-cs
Lead 210 precision (±)	0.5	pCi/L				E909.0	01/07/12 20:25 / eli-cs
Lead 210 MDC	0.9	pCi/L				E909.0	01/07/12 20:25 / eli-cs
Polonium 210	<0.6	pCi/L	U	0.6		E912.0	02/23/12 13:35 / ep
Polonium 210 precision (±)	0.2	pCi/L				E912.0	02/23/12 13:35 / ep
Polonium 210 MDC	0.6	pCi/L				E912.0	02/23/12 13:35 / ep
Radium 226	<0.1	pCi/L	U	0.1		E903.0	01/09/12 12:58 / trs
Radium 226 precision (±)	0.05	pCi/L				E903.0	01/09/12 12:58 / trs
Radium 226 MDC	0.1	pCi/L				E903.0	01/09/12 12:58 / trs
Thorium 230	<0.1	pCi/L	U	0.1		E908.0	01/06/12 08:42 / dmf
Thorium 230 precision (±)	0.06	pCi/L				E908.0	01/06/12 08:42 / dmf
Thorium 230 MDC	0.1	pCi/L				E908.0	01/06/12 08:42 / dmf
DATA QUALITY							
A/C Balance (± 5)	4.47	%				Calculation	01/04/12 08:42 / kbh
Anions	3.30	meq/L				Calculation	01/04/12 08:42 / kbh
Cations	3.61	meq/L				Calculation	01/04/12 08:42 / kbh
Solids, Total Dissolved Calculated	181	mg/L				Calculation	01/04/12 08:42 / kbh
TDS Balance (0.80 - 1.20)	1.29					Calculation	01/04/12 08:42 / kbh

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 02/28/12

Project: Marsland Baseline Private Well Samples **Work Order:** C11120623

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2320 B										Batch: R154609
Sample ID: MBLK	3	Method Blank				Run: MANTECH_111220A			12/20/11 16:01	
Alkalinity, Total as CaCO3		3	mg/L	2						
Carbonate as CO3		ND	mg/L	1						
Bicarbonate as HCO3		4	mg/L	1						
Sample ID: LCS-6465		Laboratory Control Sample				Run: MANTECH_111220A			12/20/11 16:17	
Alkalinity, Total as CaCO3		193	mg/L	5.0	95	90	110			
Sample ID: C11120626-001ADUP	3	Sample Duplicate				Run: MANTECH_111220A			12/20/11 20:27	
Alkalinity, Total as CaCO3		3640	mg/L	5.0				0.2	10	
Carbonate as CO3		ND	mg/L	5.0					10	
Bicarbonate as HCO3		4440	mg/L	5.0				0.2	10	
Sample ID: C11120636-001AMS		Sample Matrix Spike				Run: MANTECH_111220A			12/20/11 20:44	
Alkalinity, Total as CaCO3		584	mg/L	5.0	91	80	120			

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 02/28/12

Project: Marsland Baseline Private Well Samples **Work Order:** C11120623

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2510 B									Analytical Run: ORION555A_111221A	
Sample ID: ICV2_111221_1		*Initial Calibration Verification Standard*							12/21/11 10:12	
Conductivity @ 25 C		1480	umhos/cm	1.0	105	90	110			
Method: A2510 B									Batch: 111221_1_PH-W_555A-1	
Sample ID: MBLK1_111221_1		Method Blank				Run: ORION555A_111221A			12/21/11 10:04	
Conductivity @ 25 C		0.6	umhos/cm	0.2						
Sample ID: C11120626-001ADUP		Sample Duplicate				Run: ORION555A_111221A			12/21/11 10:52	
Conductivity @ 25 C		10300	umhos/cm	1.0				0.3	10	
Method: A2510 B									Analytical Run: PHSC_101-C_111220B	
Sample ID: ICV2_111220_1		Initial Calibration Verification Standard							12/20/11 16:47	
Conductivity @ 25 C		1420	umhos/cm	1.0	100	90	110			
Method: A2510 B									Batch: R154653	
Sample ID: MBLK1_111220_1		Method Blank				Run: PHSC_101-C_111220B			12/20/11 16:42	
Conductivity @ 25 C		2	umhos/cm	0.2						
Sample ID: C11120670-001ADUP		Sample Duplicate				Run: PHSC_101-C_111220B			12/21/11 14:10	
Conductivity @ 25 C		1580	umhos/cm	1.0				0.0	10	

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 02/28/12

Project: Marsland Baseline Private Well Samples **Work Order:** C11120623

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 C									Batch: 111220_1_SLDS-TDS-W	
Sample ID: MBLK1_111220		Method Blank				Run: BAL-1_111222A			12/20/11 16:50	
Solids, Total Dissolved TDS @ 180 C		ND	mg/L	4						
Sample ID: LCS1_111220		Laboratory Control Sample				Run: BAL-1_111222A			12/20/11 16:50	
Solids, Total Dissolved TDS @ 180 C		1650	mg/L	10	99	90	110			
Sample ID: C11120476-001ADUP		Sample Duplicate				Run: BAL-1_111222A			12/20/11 16:51	
Solids, Total Dissolved TDS @ 180 C		1080	mg/L	10				0.2	5	
Sample ID: C11120623-001AMS		Sample Matrix Spike				Run: BAL-1_111222A			12/20/11 16:54	
Solids, Total Dissolved TDS @ 180 C		780	mg/L	10	28	90	110			S

- Matrix spike recoveries outside the acceptance range are considered matrix-related.

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Report Date: 02/28/12
Project: Marsland Baseline Private Well Samples
Work Order: C11120623

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-F C										Batch: R154719
Sample ID: MBLK		Method Blank				Run: MANTECH_111222B				12/22/11 11:17
Fluoride		ND	mg/L	0.008						
Sample ID: LCS-6622		Laboratory Control Sample				Run: MANTECH_111222B				12/22/11 11:21
Fluoride		2.00	mg/L	0.10	100	90	110			
Sample ID: C11120623-001BMS		Sample Matrix Spike				Run: MANTECH_111222B				12/22/11 11:47
Fluoride		2.39	mg/L	0.10	96	80	120			
Sample ID: C11120623-001BMSD		Sample Matrix Spike Duplicate				Run: MANTECH_111222B				12/22/11 11:51
Fluoride		2.43	mg/L	0.10	98	80	120	1.7	10	

Qualifiers:

RL - Analyte reporting limit.
MDC - Minimum detectable concentration
ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 02/28/12

Project: Marsland Baseline Private Well Samples **Work Order:** C11120623

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-H B								Analytical Run: ORION555A_111221A		
Sample ID: ICV1_111221_1		Initial Calibration Verification Standard							12/21/11 10:06	
pH		6.94	s.u.	0.010	101	98	102			
Method: A4500-H B								Batch: 111221_1_PH-W_555A-1		
Sample ID: C11120626-001ADUP		Sample Duplicate				Run: ORION555A_111221A			12/21/11 10:52	
pH		7.87	s.u.	0.010				2.4	3	

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 02/28/12

Project: Marsland Baseline Private Well Samples **Work Order:** C11120623

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-NH3 G										Batch: R154713
Sample ID: MBLK-1		Method Blank				Run: TECHNICON_111222A				12/22/11 11:56
Nitrogen, Ammonia as N		ND	mg/L	0.02						
Sample ID: LCS-2		Laboratory Control Sample				Run: TECHNICON_111222A				12/22/11 11:58
Nitrogen, Ammonia as N		2.06	mg/L	0.050	103	90	110			
Sample ID: LFB-3		Laboratory Fortified Blank				Run: TECHNICON_111222A				12/22/11 12:00
Nitrogen, Ammonia as N		2.01	mg/L	0.050	103	80	120			
Sample ID: C11120636-001DMS		Sample Matrix Spike				Run: TECHNICON_111222A				12/22/11 12:32
Nitrogen, Ammonia as N		2.09	mg/L	0.050	100	90	110			
Sample ID: C11120636-001DMSD		Sample Matrix Spike Duplicate				Run: TECHNICON_111222A				12/22/11 12:34
Nitrogen, Ammonia as N		2.14	mg/L	0.050	103	90	110	2.4	10	

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 02/28/12

Project: Marsland Baseline Private Well Samples **Work Order:** C11120623

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7									Analytical Run: ICP2-C_120112A	
Sample ID: ICV	2	Initial Calibration Verification Standard							01/12/12 16:08	
Molybdenum		0.983	mg/L	0.10	98	95	105			
Silicon		10.4	mg/L	0.10	104	95	105			
Sample ID: ICSA	2	Interference Check Sample A							01/12/12 16:37	
Molybdenum		-0.0158	mg/L	0.10						
Silicon		0.0116	mg/L	0.10						
Sample ID: ICSAB	2	Interference Check Sample AB							01/12/12 16:41	
Molybdenum		-0.0141	mg/L	0.10						
Silicon		0.00850	mg/L	0.10						
Method: E200.7									Batch: R155341	
Sample ID: MB-120111A	2	Method Blank				Run: ICP2-C_120112A			01/12/12 17:01	
Molybdenum		0.001	mg/L	0.001						
Silicon		0.02	mg/L	0.007						
Sample ID: LFB-120111A	2	Laboratory Fortified Blank				Run: ICP2-C_120112A			01/12/12 17:05	
Molybdenum		0.926	mg/L	0.10	92	85	115			
Silicon		0.428	mg/L	0.10	91	85	115			
Sample ID: C11120623-001CMS2	2	Sample Matrix Spike				Run: ICP2-C_120112A			01/12/12 18:10	
Molybdenum		92.4	mg/L	0.12	90	70	130			
Silicon		77.3	mg/L	0.67	94	70	130			
Sample ID: C11120623-001CMSD	2	Sample Matrix Spike Duplicate				Run: ICP2-C_120112A			01/12/12 18:14	
Molybdenum		93.9	mg/L	0.12	92	70	130	1.6	20	
Silicon		78.4	mg/L	0.67	97	70	130	1.4	20	

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 02/28/12

Project: Marsland Baseline Private Well Samples **Work Order:** C11120623

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8								Analytical Run: ICPMS2-C_111227A		
Sample ID: ICV		Initial Calibration Verification Standard							12/27/11 11:15	
Uranium		0.0507	mg/L	0.00030	101	90	110			
Method: E200.8									Batch: 32280	
Sample ID: MB-32280		Method Blank				Run: ICPMS2-C_111227A			12/27/11 19:05	
Uranium		9E-05	mg/L	6E-05						
Sample ID: LCS2-32201		Laboratory Control Sample				Run: ICPMS2-C_111227A			12/27/11 19:06	
Uranium		0.0950	mg/L	0.00030	95	85	115			
Sample ID: C11120623-006HMS		Sample Matrix Spike				Run: ICPMS2-C_111227A			12/27/11 19:28	
Uranium		0.00269	mg/L	0.00030	57	70	130			S
Sample ID: C11120623-006HMSD		Sample Matrix Spike Duplicate				Run: ICPMS2-C_111227A			12/27/11 19:30	
Uranium		0.00715	mg/L	0.00030	158	70	130	91	20	SR

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

S - Spike recovery outside of advisory limits.

ND - Not detected at the reporting limit.

R - RPD exceeds advisory limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 02/28/12

Project: Marsland Baseline Private Well Samples **Work Order:** C11120623

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8								Analytical Run: ICPMS4-C_111221A		
Sample ID: ICV	15	Initial Calibration Verification Standard							12/21/11 11:54	
Arsenic		0.0490	mg/L	0.0010	98	90	110			
Barium		0.0476	mg/L	0.0010	95	90	110			
Cadmium		0.0484	mg/L	0.0010	97	90	110			
Calcium		9.63	mg/L	0.0066	96	90	110			
Chromium		0.0493	mg/L	0.0010	99	90	110			
Copper		0.0503	mg/L	0.0010	101	90	110			
Lead		0.0481	mg/L	0.0010	96	90	110			
Magnesium		9.66	mg/L	0.0027	97	90	110			
Manganese		0.0478	mg/L	0.0010	96	90	110			
Nickel		0.0494	mg/L	0.0010	99	90	110			
Potassium		9.64	mg/L	0.0041	96	90	110			
Selenium		0.0494	mg/L	0.0010	99	90	110			
Sodium		9.32	mg/L	0.0043	93	90	110			
Vanadium		0.0501	mg/L	0.0010	100	90	110			
Zinc		0.0502	mg/L	0.0010	100	90	110			
Method: E200.8									Batch: R154680A	
Sample ID: C11120623-002CMS4	15	Sample Matrix Spike				Run: ICPMS4-C_111221A			12/21/11 23:00	
Arsenic		0.0559	mg/L	0.0010	105	70	130			
Barium		0.195	mg/L	0.10	108	70	130			
Cadmium		0.0517	mg/L	0.010	103	70	130			
Calcium		44.9	mg/L	1.0	100	70	130			
Chromium		0.0547	mg/L	0.050	109	70	130			
Copper		0.0560	mg/L	0.010	111	70	130			
Lead		0.0545	mg/L	0.050	109	70	130			
Magnesium		18.7	mg/L	1.0	99	70	130			
Manganese		0.0561	mg/L	0.010	111	70	130			
Nickel		0.0537	mg/L	0.050	107	70	130			
Potassium		17.8	mg/L	1.0	103	70	130			
Selenium		0.0559	mg/L	0.0010	97	70	130			
Sodium		37.5	mg/L	1.0	99	70	130			
Vanadium		0.0670	mg/L	0.0010	117	70	130			
Zinc		0.150	mg/L	0.010	92	70	130			
Sample ID: C11120623-002CMSD	15	Sample Matrix Spike Duplicate				Run: ICPMS4-C_111221A			12/21/11 23:07	
Arsenic		0.0563	mg/L	0.0010	106	70	130	0.8	20	
Barium		0.197	mg/L	0.10	112	70	130	0.9	20	
Cadmium		0.0527	mg/L	0.010	105	70	130	1.9	20	
Calcium		45.1	mg/L	1.0	102	70	130	0.4	20	
Chromium		0.0544	mg/L	0.050	108	70	130	0.7	20	
Copper		0.0552	mg/L	0.010	109	70	130	1.5	20	
Lead		0.0570	mg/L	0.050	114	70	130	4.5	20	
Magnesium		18.9	mg/L	1.0	101	70	130	1.0	20	
Manganese		0.0565	mg/L	0.010	112	70	130	0.6	20	

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 02/28/12

Project: Marsland Baseline Private Well Samples **Work Order:** C11120623

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: R154680A
Sample ID: C11120623-002CMSD	15	Sample Matrix Spike Duplicate				Run: ICPMS4-C_111221A			12/21/11 23:07	
Nickel		0.0540	mg/L	0.050	107	70	130	0.5	20	
Potassium		17.8	mg/L	1.0	103	70	130	0.1	20	
Selenium		0.0561	mg/L	0.0010	97	70	130	0.4	20	
Sodium		37.6	mg/L	1.0	100	70	130	0.2	20	
Vanadium		0.0681	mg/L	0.0010	119	70	130	1.5	20	
Zinc		0.152	mg/L	0.010	96	70	130	1.3	20	
Sample ID: LRB	15	Method Blank				Run: ICPMS4-C_111221A			12/21/11 13:17	
Arsenic		ND	mg/L	5E-05						
Barium		ND	mg/L	7E-05						
Cadmium		ND	mg/L	3E-05						
Calcium		ND	mg/L	0.007						
Chromium		ND	mg/L	4E-05						
Copper		ND	mg/L	3E-05						
Lead		ND	mg/L	2E-05						
Magnesium		ND	mg/L	0.003						
Manganese		ND	mg/L	3E-05						
Nickel		ND	mg/L	9E-05						
Potassium		0.01	mg/L	0.004						
Selenium		ND	mg/L	7E-05						
Sodium		ND	mg/L	0.004						
Vanadium		ND	mg/L	4E-05						
Zinc		ND	mg/L	0.0002						
Sample ID: LFB	15	Laboratory Fortified Blank				Run: ICPMS4-C_111221A			12/21/11 13:37	
Arsenic		0.0533	mg/L	0.0010	107	85	115			
Barium		0.0523	mg/L	0.0010	105	85	115			
Cadmium		0.0526	mg/L	0.0010	105	85	115			
Calcium		12.2	mg/L	0.0066	97	85	115			
Chromium		0.0526	mg/L	0.0010	105	85	115			
Copper		0.0514	mg/L	0.0010	103	85	115			
Lead		0.0475	mg/L	0.0010	95	85	115			
Magnesium		12.5	mg/L	0.0027	100	85	115			
Manganese		0.0524	mg/L	0.0010	105	85	115			
Nickel		0.0538	mg/L	0.0010	108	85	115			
Potassium		12.3	mg/L	0.0041	98	85	115			
Selenium		0.0544	mg/L	0.0010	109	85	115			
Sodium		12.4	mg/L	0.0043	99	85	115			
Vanadium		0.0494	mg/L	0.0010	99	85	115			
Zinc		0.0550	mg/L	0.0010	110	85	115			

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 02/28/12

Project: Marsland Baseline Private Well Samples **Work Order:** C11120623

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8								Analytical Run: ICPMS4-C_111230A		
Sample ID: ICV	20	Initial Calibration Verification Standard								12/30/11 10:59
Aluminum		0.0482	mg/L	0.0010	96	90	110			
Arsenic		0.0497	mg/L	0.0010	99	90	110			
Barium		0.0494	mg/L	0.0010	99	90	110			
Boron		0.0502	mg/L	0.0010	100	90	110			
Cadmium		0.0503	mg/L	0.0010	101	90	110			
Calcium		9.70	mg/L	0.0066	97	90	110			
Chromium		0.0497	mg/L	0.0010	99	90	110			
Copper		0.0503	mg/L	0.0010	101	90	110			
Iron		1.07	mg/L	0.0010	107	90	110			
Lead		0.0492	mg/L	0.0010	98	90	110			
Magnesium		9.67	mg/L	0.0027	97	90	110			
Manganese		0.0501	mg/L	0.0010	100	90	110			
Mercury		0.00519	mg/L	0.0010	104	90	110			
Nickel		0.0500	mg/L	0.0010	100	90	110			
Potassium		9.72	mg/L	0.0041	97	90	110			
Selenium		0.0522	mg/L	0.0010	104	90	110			
Sodium		9.69	mg/L	0.0043	97	90	110			
Uranium		0.0494	mg/L	0.00030	99	90	110			
Vanadium		0.0491	mg/L	0.0010	98	90	110			
Zinc		0.0513	mg/L	0.0010	103	90	110			
Method: E200.8										Batch: R154953A
Sample ID: LRB	20	Method Blank				Run: ICPMS4-C_111230A				12/30/11 12:08
Aluminum		ND	mg/L	0.0002						
Arsenic		ND	mg/L	5E-05						
Barium		ND	mg/L	7E-05						
Boron		ND	mg/L	0.0004						
Cadmium		ND	mg/L	3E-05						
Calcium		ND	mg/L	0.007						
Chromium		ND	mg/L	4E-05						
Copper		ND	mg/L	3E-05						
Iron		ND	mg/L	0.0006						
Lead		ND	mg/L	2E-05						
Magnesium		ND	mg/L	0.003						
Manganese		ND	mg/L	3E-05						
Mercury		ND	mg/L	5E-05						
Nickel		ND	mg/L	9E-05						
Potassium		ND	mg/L	0.004						
Selenium		ND	mg/L	7E-05						
Sodium		ND	mg/L	0.004						
Uranium		5E-05	mg/L	9E-06						
Vanadium		ND	mg/L	4E-05						
Zinc		ND	mg/L	0.0002						

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 02/28/12

Project: Marsland Baseline Private Well Samples **Work Order:** C11120623

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Batch: R154953A	
Sample ID: LFB	20	Laboratory Fortified Blank				Run: ICPMS4-C_111230A			12/30/11 12:15	
Aluminum		0.0522	mg/L	0.0010	104	85	115			
Arsenic		0.0523	mg/L	0.0010	105	85	115			
Barium		0.0503	mg/L	0.0010	101	85	115			
Boron		0.0491	mg/L	0.0010	98	85	115			
Cadmium		0.0511	mg/L	0.0010	102	85	115			
Calcium		12.7	mg/L	0.0066	102	85	115			
Chromium		0.0516	mg/L	0.0010	103	85	115			
Copper		0.0517	mg/L	0.0010	103	85	115			
Iron		1.29	mg/L	0.0010	103	85	115			
Lead		0.0508	mg/L	0.0010	102	85	115			
Magnesium		12.6	mg/L	0.0027	101	85	115			
Manganese		0.0513	mg/L	0.0010	103	85	115			
Mercury		0.00506	mg/L	0.0010	101	85	115			
Nickel		0.0518	mg/L	0.0010	103	85	115			
Potassium		12.7	mg/L	0.0041	101	85	115			
Selenium		0.0510	mg/L	0.0010	102	85	115			
Sodium		12.7	mg/L	0.0043	102	85	115			
Uranium		0.0503	mg/L	0.00030	100	85	115			
Vanadium		0.0515	mg/L	0.0010	103	85	115			
Zinc		0.0539	mg/L	0.0010	108	85	115			
Sample ID: C11120623-006CMS4	20	Sample Matrix Spike				Run: ICPMS4-C_111230A			12/30/11 19:44	
Aluminum		0.0483	mg/L	0.0010	63	70	130			S
Arsenic		0.0565	mg/L	0.0010	105	70	130			
Barium		0.147	mg/L	0.10	106	70	130			
Boron		0.0680	mg/L	0.0010	86	70	130			
Cadmium		0.0508	mg/L	0.010	102	70	130			
Calcium		45.2	mg/L	1.0	111	70	130			
Chromium		0.0513	mg/L	0.050	102	70	130			
Copper		0.0518	mg/L	0.010	98	70	130			
Iron		1.32	mg/L	0.030	101	70	130			
Lead		0.0516	mg/L	0.050	103	70	130			
Magnesium		19.9	mg/L	1.0	108	70	130			
Manganese		0.0605	mg/L	0.010	100	70	130			
Mercury		0.00518	mg/L	0.0010	104	70	130			
Nickel		0.0486	mg/L	0.0010	96	70	130			
Potassium		17.5	mg/L	1.0	106	70	130			
Selenium		0.0560	mg/L	0.0010	111	70	130			
Sodium		44.9	mg/L	1.0	109	70	130			
Uranium		0.0579	mg/L	0.00030	104	70	130			
Vanadium		0.0551	mg/L	0.0010	97	70	130			
Zinc		0.302	mg/L	0.010		70	130			A
Sample ID: C11120623-006CMSD	20	Sample Matrix Spike Duplicate				Run: ICPMS4-C_111230A			12/30/11 19:50	
Aluminum		0.0487	mg/L	0.0010	64	70	130	0.8	20	S

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

MDC - Minimum detectable concentration

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 02/28/12

Project: Marsland Baseline Private Well Samples **Work Order:** C11120623

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Batch: R154953A	
Sample ID: C11120623-006CMSD	20	Sample Matrix Spike Duplicate				Run: ICPMS4-C_111230A			12/30/11 19:50	
Arsenic		0.0566	mg/L	0.0010	105	70	130	0.2	20	
Barium		0.145	mg/L	0.10	104	70	130	0.8	20	
Boron		0.0697	mg/L	0.0010	89	70	130	2.5	20	
Cadmium		0.0509	mg/L	0.010	102	70	130	0.1	20	
Calcium		45.1	mg/L	1.0	111	70	130	0.1	20	
Chromium		0.0517	mg/L	0.050	102	70	130	0.7	20	
Copper		0.0521	mg/L	0.010	99	70	130	0.7	20	
Iron		1.33	mg/L	0.030	102	70	130	1.1	20	
Lead		0.0511	mg/L	0.050	102	70	130	1.0	20	
Magnesium		20.0	mg/L	1.0	108	70	130	0.2	20	
Manganese		0.0607	mg/L	0.010	101	70	130	0.5	20	
Mercury		0.00524	mg/L	0.0010	105	70	130	1.2	20	
Nickel		0.0497	mg/L	0.0010	98	70	130	2.4	20	
Potassium		17.8	mg/L	1.0	108	70	130	1.5	20	
Selenium		0.0554	mg/L	0.0010	110	70	130	1.1	20	
Sodium		44.2	mg/L	1.0	104	70	130	1.5	20	
Uranium		0.0578	mg/L	0.00030	104	70	130	0.1	20	
Vanadium		0.0560	mg/L	0.0010	98	70	130	1.7	20	
Zinc		0.303	mg/L	0.010		70	130	0.3	20	A

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

MDC - Minimum detectable concentration

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 02/28/12

Project: Marsland Baseline Private Well Samples **Work Order:** C11120623

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E300.0								Analytical Run: IC2-C_111227A		
Sample ID: ICV-122711-10	2	Initial Calibration Verification Standard							12/27/11 14:36	
Chloride		10.0	mg/L	1.0	100	90	110			
Sulfate		40.2	mg/L	1.0	100	90	110			
Sample ID: ICB2-122711-12	2	Initial Calibration Blank, Instrument Blank							12/27/11 15:03	
Chloride		0.0510	mg/L	1.0		0	0			
Sulfate		0.202	mg/L	1.0		0	0			
Method: E300.0									Batch: R154870	
Sample ID: ICB-122711-11	2	Method Blank				Run: IC2-C_111227A			12/27/11 14:50	
Chloride		ND	mg/L	0.10						
Sulfate		0.2	mg/L	0.08						
Sample ID: LFB-122711-13	2	Laboratory Fortified Blank				Run: IC2-C_111227A			12/27/11 15:17	
Chloride		10.3	mg/L	1.0	103	90	110			
Sulfate		39.9	mg/L	1.0	99	90	110			
Sample ID: LFBD-122711-14	2	Laboratory Fortified Blank Duplicate				Run: IC2-C_111227A			12/27/11 15:30	
Chloride		10.4	mg/L	1.0	103	90	110	0.5	10	
Sulfate		39.9	mg/L	1.0	99	90	110	0.1	10	
Sample ID: LCS-32231	2	Laboratory Control Sample				Run: IC2-C_111227A			12/27/11 16:37	
Chloride		10.4	mg/L	1.0	104	90	110			
Sulfate		43.6	mg/L	1.0	102	90	110			
Sample ID: C11120623-003BMS	2	Sample Matrix Spike				Run: IC2-C_111227A			12/28/11 09:48	
Chloride		12.7	mg/L	1.0	102	90	110			
Sulfate		46.2	mg/L	1.0	102	90	110			
Sample ID: C11120623-003BMSD	2	Sample Matrix Spike Duplicate				Run: IC2-C_111227A			12/28/11 10:01	
Chloride		12.7	mg/L	1.0	103	90	110	0.1	10	
Sulfate		46.6	mg/L	1.0	103	90	110	0.7	10	

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 02/28/12

Project: Marsland Baseline Private Well Samples **Work Order:** C11120623

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E353.2										Batch: R154654
Sample ID: MBLK-1		Method Blank				Run: TECHNICON_111221A				12/21/11 12:50
Nitrogen, Nitrate+Nitrite as N		ND	mg/L	0.06						
Sample ID: LCS-2		Laboratory Control Sample				Run: TECHNICON_111221A				12/21/11 12:53
Nitrogen, Nitrate+Nitrite as N		2.52	mg/L	0.10	101	90	110			
Sample ID: LFB-3		Laboratory Fortified Blank				Run: TECHNICON_111221A				12/21/11 12:55
Nitrogen, Nitrate+Nitrite as N		1.97	mg/L	0.10	101	90	110			
Sample ID: C11120631-001AMS		Sample Matrix Spike				Run: TECHNICON_111221A				12/21/11 13:35
Nitrogen, Nitrate+Nitrite as N		2.09	mg/L	0.10	101	90	110			
Sample ID: C11120631-001AMSD		Sample Matrix Spike Duplicate				Run: TECHNICON_111221A				12/21/11 13:38
Nitrogen, Nitrate+Nitrite as N		2.08	mg/L	0.10	100	90	110	0.5	10	

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 02/28/12

Project: Marsland Baseline Private Well Samples **Work Order:** C11120623

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E903.0										Batch: R155169
Sample ID: C11120623-003HMS		Sample Matrix Spike				Run: BERTHOLD 770-2_111230A				01/09/12 12:58
Radium 226		9.8	pCi/L		97	70	130			
Sample ID: C11120623-003HMSD		Sample Matrix Spike Duplicate				Run: BERTHOLD 770-2_111230A				01/09/12 12:58
Radium 226		9.2	pCi/L		90	70	130	6.5	25.8	
Sample ID: LCS-32280		Laboratory Control Sample				Run: BERTHOLD 770-2_111230A				01/09/12 12:58
Radium 226		11	pCi/L		88	85	115			
Sample ID: MB-32280	3	Method Blank				Run: BERTHOLD 770-2_111230A				01/09/12 14:30
Radium 226		0.03	pCi/L							U
Radium 226 precision (±)		0.1	pCi/L							
Radium 226 MDC		0.3	pCi/L							
Method: E903.0										Batch: RA226-5765
Sample ID: C11101104-002CMS		Sample Matrix Spike				Run: G542M_111227A				01/03/12 11:35
Radium 226		13	pCi/L		97	70	130			
Sample ID: C11101104-002CMSD		Sample Matrix Spike Duplicate				Run: G542M_111227A				01/03/12 11:35
Radium 226		13	pCi/L		98	70	130	0.2	24.2	
Sample ID: MB-RA226-5765	3	Method Blank				Run: G542M_111227A				01/03/12 13:18
Radium 226		0.10	pCi/L							U
Radium 226 precision (±)		0.10	pCi/L							
Radium 226 MDC		0.1	pCi/L							
Sample ID: LCS-RA226-5765		Laboratory Control Sample				Run: G542M_111227A				01/03/12 13:18
Radium 226		6.0	pCi/L		94	80	120			

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

U - Not detected at minimum detectable concentration

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 02/28/12

Project: Marsland Baseline Private Well Samples **Work Order:** C11120623

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E908.0									Batch: RA-TH-ISO-1540	
Sample ID: LCS-RA-TH-ISO-1540		Laboratory Control Sample				Run: EGG-ORTEC_111220B			01/03/12 13:19	
Thorium 230		5.3	pCi/L		94	70	130			
Sample ID: C11120623-006EMS		Sample Matrix Spike				Run: EGG-ORTEC_111220B			01/04/12 12:18	
Thorium 230		11	pCi/L		95	70	130			
Sample ID: C11120623-006EMSD		Sample Matrix Spike Duplicate				Run: EGG-ORTEC_111220B			01/04/12 12:18	
Thorium 230		11	pCi/L		91	70	130	4.4	38	
Sample ID: MB-RA-TH-ISO-1540	3	Method Blank				Run: EGG-ORTEC_111220B			01/04/12 12:18	
Thorium 230		-0.01	pCi/L							U
Thorium 230 precision (±)		0.05	pCi/L							
Thorium 230 MDC		0.1	pCi/L							
Method: E908.0									Batch: 32280	
Sample ID: C11120623-006HMS		Sample Matrix Spike				Run: EGG-ORTEC_120103C			01/06/12 08:42	
Thorium 230		8.2	pCi/L		104	70	130			
Sample ID: C11120623-006HMSD		Sample Matrix Spike Duplicate				Run: EGG-ORTEC_120103C			01/06/12 08:42	
Thorium 230		8.6	pCi/L		108	70	130	4.8	38.3	
Sample ID: LCS-32280		Laboratory Control Sample				Run: EGG-ORTEC_120103C			01/06/12 13:00	
Thorium 230		10	pCi/L		103	70	130			
Sample ID: MB-32280	3	Method Blank				Run: EGG-ORTEC_120103C			01/06/12 13:00	
Thorium 230		0.007	pCi/L							U
Thorium 230 precision (±)		0.1	pCi/L							
Thorium 230 MDC		0.3	pCi/L							

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

U - Not detected at minimum detectable concentration

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 02/28/12

Project: Marsland Baseline Private Well Samples **Work Order:** C11120623

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E909.0									Batch: T_PB-210-0198	
Sample ID: MB-PB-210-0198	3	Method Blank				Run: SUB-T43504			12/31/11 03:07	
Lead 210		0.1	pCi/L							U
Lead 210 precision (±)		0.4	pCi/L							
Lead 210 MDC		0.7	pCi/L							
Sample ID: LCS-PB-210-0198		Laboratory Control Sample				Run: SUB-T43504			12/31/11 08:38	
Lead 210		87	pCi/L		103	70	130			
Sample ID: C11120623-006GMS		Sample Matrix Spike				Run: SUB-T43504			01/02/12 10:17	
Lead 210		200	pCi/L		104	70	130			
Sample ID: C11120623-006GMSD		Sample Matrix Spike Duplicate				Run: SUB-T43504			01/02/12 15:48	
Lead 210		210	pCi/L		108	70	130	3.7	12.2	
Method: E909.0									Batch: T_15485	
Sample ID: MB-15485	3	Method Blank				Run: SUB-T43556			01/07/12 05:50	
Lead 210		-2	pCi/L							U
Lead 210 precision (±)		5	pCi/L							
Lead 210 MDC		9	pCi/L							
Sample ID: LCS-15485		Laboratory Control Sample				Run: SUB-T43556			01/07/12 07:55	
Lead 210		570	pCi/L		101	70	130			
Sample ID: C11120623-006HMS		Sample Matrix Spike				Run: SUB-T43556			01/07/12 22:30	
Lead 210		150	pCi/L		101	70	130			
Sample ID: C11120623-006HMSD		Sample Matrix Spike Duplicate				Run: SUB-T43556			01/08/12 00:35	
Lead 210		150	pCi/L		102	70	130	3.7	14.1	

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

U - Not detected at minimum detectable concentration

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 02/28/12

Project: Marsland Baseline Private Well Samples **Work Order:** C11120623

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E912.0										Batch: R156705
Sample ID: C11120623-004HMS		Sample Matrix Spike				Run: ALPHANALYST_120213B				02/23/12 13:35
Polonium 210		5.7	pCi/L		88	70	130			
Sample ID: C11120623-004HMSD		Sample Matrix Spike Duplicate				Run: ALPHANALYST_120213B				02/23/12 13:35
Polonium 210		5.1	pCi/L		79	70	130	11	82.3	
Sample ID: LCS-32280		Laboratory Control Sample				Run: ALPHANALYST_120213B				02/23/12 13:35
Polonium 210		35	pCi/L		101	70	130			
Sample ID: MB-32280	3	Method Blank				Run: ALPHANALYST_120213B				02/23/12 13:35
Polonium 210		-0.1	pCi/L							U
Polonium 210 precision (±)		2	pCi/L							
Polonium 210 MDC		7	pCi/L							
Method: E912.0										Batch: PO210-0414
Sample ID: C11120623-002FMS		Sample Matrix Spike				Run: EGG-ORTEC_120125C				01/27/12 08:27
Polonium 210		13	pCi/L		102	70	130			
Sample ID: C11120623-002FMSD		Sample Matrix Spike Duplicate				Run: EGG-ORTEC_120125C				01/27/12 08:27
Polonium 210		12	pCi/L		95	70	130	8.4	108.8	
Sample ID: MB-PO210-0414	3	Method Blank				Run: EGG-ORTEC_120125C				01/27/12 10:10
Polonium 210		0.4	pCi/L							U
Polonium 210 precision (±)		0.6	pCi/L							
Polonium 210 MDC		0.9	pCi/L							
Sample ID: LCS-PO210-0414		Laboratory Control Sample				Run: EGG-ORTEC_120125C				02/02/12 08:46
Polonium 210		5.0	pCi/L		75	70	130			

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

U - Not detected at minimum detectable concentration

Workorder Receipt Checklist

Crow Butte Resources

C11120623

Login completed by: Debra Williams
Date Received: 12/20/2011
Reviewed by: BL2000\cwagner
Received by: kg
Reviewed Date: 12/22/2011
Carrier name: NDA

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Container/Temp Blank temperature:	2.6°C On Ice		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Contact and Corrective Action Comments:

None

Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: Crow Butte Resources, Inc.	Project Name: Marsland Baseline Private Well Samples	Sample Origin State:	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: P.O. Box 169, Crawford, NE 69339	Contact Name: Larry Teahon; Phone/Fax: 308-665-2341	Email: daxmynus@msn.com	Sampler: (Please Print) Brooke Bass, Rhonda Pelton
Invoice Address: P.O. Box 169, Crawford, NE 69339	Invoice Contact & Phone: Larry Teahon, 308-665-2215 ext 114	Purchase Order: 1125	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

- ☐ DW
- ☐ GSA
- ☐ POTW/WWTP
- ☐ State: _____
- ☐ Other: _____
- ☐ A2LA
- ☐ EDD/EDT (Electronic Data) Format: _____
- ☐ LEVEL IV
- ☐ NELAC

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX (Number of Containers; Sample Type: A W S V B O; Air Water Soils/Solids Vegetation Bioassay Other)	HNO3-F, Metals	RAW-F, Common Ions	RAW-UF, Alkalinity	H2SO4-F, NO2, NO3, NH4	Raw-UF, Ra226, Po210 dis, sus	Raw-UF, Pb210 dis and sus	Rau-UF, Th230, U-nat dis and sus			SEE ATTACHED	Normal Turnaround (TAT)	RUSH	Comments
1	Well #727	12/15/11		Water	.5	1	1	.5	1 G	1 G	1 G						Please Report 1/30/12
2	Well #759	12/15/11		Water	.5	1	1	.5	1 G	1 G	1 G						Please Report 1/30/12
3	Well #703	12/15/11		Water	.5	1	1	.5	1 G	1 G	1 G						Please Report 1/30/12
4	Well #741	12/15/11		Water	.5	1	1	.5	1 G	1 G	1 G						Please Report 1/30/12
5	Well #745	12/15/11		Water	.5	1	1	.5	1 G	1 G	1 G						Please Report 1/30/12
6	Well #725	12/16/11		Water	.5	1	1	.5	1 G	1 G	1 G						Please Report 1/30/12
7																	
8																	
9																	
10																	

Contact ELI prior to RUSH sample submittal for charges and scheduling – See Instruction Page

Comments: NDEQ parameters for baseline sampling. Report on separate sheets. Analyze as per WDEQ Guideline 8 and NRC Reg. Guide 4.14 requirements. Record U as mg/L and µCi/ml and radiometrics as pCi/L.

LABORATORY USE ONLY

Shipped by: UPS-NDA
Cooler ID(s): 7- Various
Receipt Temp: 2.6 °C
On Ice: Yes No
Custody Seal Y N
Intact Y N
Signature Match Y N

L11120623

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Rhonda L. Pelton	12-14-11 11:07	Rhonda Pelton	UPS		
			Received by Laboratory:	12-20-11 10:00	Kris Gissel

Sample Disposal: Return to Client: No Lab Disposal: YES

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

CROW BUTTE RESOURCES, INC.
CROW BUTTE PROJECT

NO_2^-

DATE: 12·16·11 ANALYST: MO

STANDARD CURVE DATA

	BL	.01	.05	.10			.99998
Abs	000	.027	.153	.314			
Abs							

SAMPLE #	VOLUME	Df	Abs	NO_2^- mg/L
1 703	10ml	1	-.001	<.01
2 723	10ml	1	.001	<.01
3 727	10ml	1	.004	<.01
4 727 Dup	10ml	1	.006	<.01
5 741	10ml	1	-.004	<.01
745	10ml	1	-.002	<.01
6 759	10ml	1	-.002	<.01
7 759 Dup	10ml	1	-.000	<.01
8				
9				
10				
Dup				
11				
12				
13				
14				
15				
Dup				
16				
17				
18				
19				
20				
Dup				
21				
22				
23				
24				
25				
Dup				

ANALYTICAL SUMMARY REPORT

February 28, 2012

Crow Butte Resources
86 Crow Butte Rd
Crawford, NE 69339

Workorder No.: C11120731 Quote ID: C1125 - Crow Butte Uranium

Project Name: Marsland Baseline Private Well Samples

Energy Laboratories, Inc. Casper WY received the following 1 sample for Crow Butte Resources on 12/23/2011 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C11120731-001	Well #723	12/20/11 00:00	12/23/11	Aqueous	Metals by ICP/ICPMS, Dissolved Alkalinity QA Calculations Conductivity Fluoride E300.0 Anions Uranium, Suspended Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Digestion, Total Metals Lead 210, Dissolved Lead 210, Suspended Polonium 210, Dissolved Polonium 210, Suspended Radium 226, Dissolved Radium 226, Suspended Thorium, Isotopic Thorium, Suspended Isotopic Solids, Total Dissolved

The analyses presented in this report were performed at Energy Laboratories, Inc., 2393 Salt Creek Hwy., Casper, WY 82601, unless otherwise noted. Radiochemistry analyses were performed at Energy Laboratories, Inc., 2325 Kerzell Lane, Casper, WY 82601, unless otherwise noted. 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. Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. Data corrected for moisture content are typically noted as - dry on the report. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

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

Report Approved By:

CLIENT: Crow Butte Resources
Project: Marsland Baseline Private Well Samples
Sample Delivery Group: C11120731

Report Date: 02/28/12

CASE NARRATIVE

pH COMMENTS
Per NELAC rule, pH is considered a field parameter with a holding time of 15 minutes. Due to this rule, all pH analyses will be flagged with an H.

BRANCH LABORATORY SUBCONTRACT ANALYSIS
Tests associated with analyst identified as ELI-CS were subcontracted to Energy Laboratories, 415 Graham Rd., College Station, TX, EPA Number TX01520.

RADIOCHEMISTRY ANALYSIS
Per client request, results less than MDC (or precision if no MDC), are reported as <MDC (or <precision). Actual instrument results are available by request.

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.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Private Well Samples
Lab ID: C11120731-001
Client Sample ID: Well #723

Report Date: 02/28/12
Collection Date: 12/20/11
DateReceived: 12/23/11
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Alkalinity, Total as CaCO3	149	mg/L		1		A2320 B	12/28/11 14:33 / jba
Carbonate as CO3	ND	mg/L		1		A2320 B	12/28/11 14:33 / jba
Bicarbonate as HCO3	182	mg/L		1		A2320 B	12/28/11 14:33 / jba
Calcium	34	mg/L		1		E200.8	12/30/11 20:04 / sml
Chloride	2	mg/L		1		E300.0	12/30/11 02:22 / ljl
Fluoride	0.6	mg/L		0.1		A4500-F C	12/29/11 12:17 / jba
Magnesium	9	mg/L		1		E200.8	12/30/11 20:04 / sml
Nitrogen, Ammonia as N	ND	mg/L		0.05		A4500-NH3 G	12/29/11 16:24 / dc
Nitrogen, Nitrate+Nitrite as N	0.7	mg/L		0.1		E353.2	12/23/11 14:15 / dc
Potassium	3	mg/L		1		E200.8	12/30/11 20:04 / sml
Silica	75.6	mg/L		0.2		E200.7	01/14/12 13:02 / cp
Sodium	22	mg/L		1		E200.8	12/30/11 20:04 / sml
Sulfate	9	mg/L		1		E300.0	12/30/11 02:22 / ljl
PHYSICAL PROPERTIES							
Conductivity @ 25 C	306	umhos/cm		1		A2510 B	12/28/11 09:13 / wc
pH	7.72	s.u.	H	0.01		A4500-H B	12/28/11 09:13 / wc
Solids, Total Dissolved TDS @ 180 C	215	mg/L		10		A2540 C	12/23/11 12:32 / wc
METALS - DISSOLVED							
Aluminum	ND	mg/L		0.1		E200.8	12/30/11 20:04 / sml
Arsenic	0.006	mg/L		0.001		E200.8	12/30/11 20:04 / sml
Barium	0.1	mg/L		0.1		E200.8	12/30/11 20:04 / sml
Boron	ND	mg/L		0.1		E200.8	12/30/11 20:04 / sml
Cadmium	ND	mg/L		0.005		E200.8	12/30/11 20:04 / sml
Chromium	ND	mg/L		0.05		E200.8	12/30/11 20:04 / sml
Copper	0.06	mg/L		0.01		E200.8	12/30/11 20:04 / sml
Iron	ND	mg/L		0.03		E200.8	12/30/11 20:04 / sml
Lead	ND	mg/L		0.001		E200.8	12/30/11 20:04 / sml
Manganese	ND	mg/L		0.01		E200.8	12/30/11 20:04 / sml
Mercury	ND	mg/L		0.001		E200.8	12/30/11 20:04 / sml
Molybdenum	ND	mg/L		0.1		E200.7	01/11/12 16:34 / cp
Nickel	ND	mg/L		0.05		E200.8	12/30/11 20:04 / sml
Selenium	0.001	mg/L		0.001		E200.8	12/30/11 20:04 / sml
Uranium	0.0058	mg/L		0.0003		E200.8	12/30/11 20:04 / sml
Uranium, Activity	3.9E-09	uCi/mL		2.0E-10		E200.8	12/30/11 20:04 / sml
Vanadium	ND	mg/L		0.1		E200.8	12/30/11 20:04 / sml
Zinc	0.19	mg/L		0.01		E200.8	12/30/11 20:04 / sml
METALS - SUSPENDED							
Uranium	ND	mg/L		0.0003		E200.8	12/30/11 21:07 / sml
Uranium, Activity	ND	uCi/mL		2.0E-10		E200.8	12/30/11 21:07 / sml

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
H - Analysis performed past recommended holding time.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Crow Butte Resources
Project: Marsland Baseline Private Well Samples
Lab ID: C11120731-001
Client Sample ID: Well #723

Report Date: 02/28/12
Collection Date: 12/20/11
DateReceived: 12/23/11
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES - DISSOLVED							
Lead 210	<1.0	pCi/L	U	1.0		E909.0	01/07/12 04:43 / eli-cs
Lead 210 precision (±)	0.6	pCi/L				E909.0	01/07/12 04:43 / eli-cs
Lead 210 MDC	1.0	pCi/L				E909.0	01/07/12 04:43 / eli-cs
Polonium 210	<0.9	pCi/L	U	0.9		E912.0	01/27/12 10:10 / plj
Polonium 210 precision (±)	0.7	pCi/L				E912.0	01/27/12 10:10 / plj
Polonium 210 MDC	0.9	pCi/L				E912.0	01/27/12 10:10 / plj
Radium 226	<0.2	pCi/L	U	0.2		E903.0	01/09/12 12:56 / trs
Radium 226 precision (±)	0.1	pCi/L				E903.0	01/09/12 12:56 / trs
Radium 226 MDC	0.2	pCi/L				E903.0	01/09/12 12:56 / trs
Thorium 230	<0.1	pCi/L	U	0.1		E908.0	01/12/12 09:23 / dmf
Thorium 230 precision (±)	0.06	pCi/L				E908.0	01/12/12 09:23 / dmf
Thorium 230 MDC	0.1	pCi/L				E908.0	01/12/12 09:23 / dmf
RADIONUCLIDES - SUSPENDED							
Lead 210	<0.8	pCi/L	U	0.8		E909.0	01/08/12 17:15 / eli-cs
Lead 210 precision (±)	0.4	pCi/L				E909.0	01/08/12 17:15 / eli-cs
Lead 210 MDC	0.8	pCi/L				E909.0	01/08/12 17:15 / eli-cs
Polonium 210	<0.9	pCi/L	U	0.9		E912.0	02/23/12 13:35 / ep
Polonium 210 precision (±)	0.4	pCi/L				E912.0	02/23/12 13:35 / ep
Polonium 210 MDC	0.9	pCi/L				E912.0	02/23/12 13:35 / ep
Radium 226	<0.1	pCi/L	U	0.1		E903.0	01/09/12 14:30 / trs
Radium 226 precision (±)	0.06	pCi/L				E903.0	01/09/12 14:30 / trs
Radium 226 MDC	0.1	pCi/L				E903.0	01/09/12 14:30 / trs
Thorium 230	0.1	pCi/L		0.04		E908.0	01/06/12 19:17 / dmf
Thorium 230 precision (±)	0.04	pCi/L				E908.0	01/06/12 19:17 / dmf
Thorium 230 MDC	0.04	pCi/L				E908.0	01/06/12 19:17 / dmf
DATA QUALITY							
A/C Balance (± 5)	1.91	%				Calculation	01/04/12 08:43 / kbh
Anions	3.31	meq/L				Calculation	01/04/12 08:43 / kbh
Cations	3.44	meq/L				Calculation	01/04/12 08:43 / kbh
Solids, Total Dissolved Calculated	172	mg/L				Calculation	01/04/12 08:43 / kbh
TDS Balance (0.80 - 1.20)	1.24					Calculation	01/04/12 08:43 / kbh

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 02/28/12

Project: Marsland Baseline Private Well Samples **Work Order:** C11120731

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2320 B									Batch: R154864	
Sample ID: MBLK	3	Method Blank				Run: MANTECH_111228A			12/28/11 11:13	
Alkalinity, Total as CaCO3		3	mg/L	2						
Carbonate as CO3		ND	mg/L	1						
Bicarbonate as HCO3		3	mg/L	1						
Sample ID: LCS-6465		Laboratory Control Sample				Run: MANTECH_111228A			12/28/11 11:35	
Alkalinity, Total as CaCO3		193	mg/L	5.0	95	90	110			
Sample ID: C11120665-003ADUP	3	Sample Duplicate				Run: MANTECH_111228A			12/28/11 12:34	
Alkalinity, Total as CaCO3		343	mg/L	5.0				1.2	10	
Carbonate as CO3		ND	mg/L	5.0					10	
Bicarbonate as HCO3		419	mg/L	5.0				2.8	10	
Sample ID: C11120665-004AMS		Sample Matrix Spike				Run: MANTECH_111228A			12/28/11 12:50	
Alkalinity, Total as CaCO3		553	mg/L	5.0	96	80	120			

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 02/28/12

Project: Marsland Baseline Private Well Samples **Work Order:** C11120731

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2510 B								Analytical Run: ORION555A_111228A		
Sample ID: ICV2_111228_1		Initial Calibration Verification Standard							12/28/11 08:52	
Conductivity @ 25 C		1410	umhos/cm	1.0	100	90	110			
Method: A2510 B								Batch: 111228_1_PH-W_555A-1		
Sample ID: MBLK1_111228_1		Method Blank				Run: ORION555A_111228A			12/28/11 08:49	
Conductivity @ 25 C		0.8	umhos/cm	0.2						
Sample ID: C11120714-001ADUP		Sample Duplicate				Run: ORION555A_111228A			12/28/11 09:22	
Conductivity @ 25 C		1180	umhos/cm	1.0				0.1	10	

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 02/28/12

Project: Marsland Baseline Private Well Samples **Work Order:** C11120731

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 C									Batch: 111223_1_SLDS-TDS-W	
Sample ID: MBLK1_111223		Method Blank				Run: BAL-1_111223A			12/23/11 09:20	
Solids, Total Dissolved TDS @ 180 C		ND	mg/L	4						
Sample ID: LCS1_111223		Laboratory Control Sample				Run: BAL-1_111223A			12/23/11 09:20	
Solids, Total Dissolved TDS @ 180 C		1670	mg/L	10	100	90	110			
Sample ID: C11120723-003AMS		Sample Matrix Spike				Run: BAL-1_111223A			12/23/11 12:30	
Solids, Total Dissolved TDS @ 180 C		64400	mg/L	120	101	90	110			
Sample ID: C11120739-003ADUP		Sample Duplicate				Run: BAL-1_111223A			12/23/11 12:33	
Solids, Total Dissolved TDS @ 180 C		410	mg/L	10				0.8	5	

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 02/28/12

Project: Marsland Baseline Private Well Samples **Work Order:** C11120731

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-F C										Batch: R154884
Sample ID: MBLK		Method Blank				Run: MANTECH_111229A				12/29/11 12:02
Fluoride		0.01	mg/L	0.008						
Sample ID: LCS-6622		Laboratory Control Sample				Run: MANTECH_111229A				12/29/11 12:05
Fluoride		2.00	mg/L	0.10	100	90	110			
Sample ID: C11120731-001BMS		Sample Matrix Spike				Run: MANTECH_111229A				12/29/11 12:23
Fluoride		2.62	mg/L	0.10	99	80	120			
Sample ID: C11120731-001BMSD		Sample Matrix Spike Duplicate				Run: MANTECH_111229A				12/29/11 12:25
Fluoride		2.62	mg/L	0.10	99	80	120	0.0	10	

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 02/28/12

Project: Marsland Baseline Private Well Samples **Work Order:** C11120731

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-H B								Analytical Run: ORION555A_111228A		
Sample ID: ICV1_111228_1		Initial Calibration Verification Standard							12/28/11 08:51	
pH		6.80	s.u.	0.010	99	98	102			
Method: A4500-H B								Batch: 111228_1_PH-W_555A-1		
Sample ID: C11120714-001ADUP		Sample Duplicate				Run: ORION555A_111228A			12/28/11 09:22	
pH		11.0	s.u.	0.010				0.0	3	

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 02/28/12

Project: Marsland Baseline Private Well Samples **Work Order:** C11120731

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-NH3 G										Batch: R154889
Sample ID: MBLK-1		Method Blank				Run: TECHNICON_111229B				12/29/11 15:16
Nitrogen, Ammonia as N		ND	mg/L	0.02						
Sample ID: LCS-2		Laboratory Control Sample				Run: TECHNICON_111229B				12/29/11 15:18
Nitrogen, Ammonia as N		2.03	mg/L	0.050	100	90	110			
Sample ID: LFB-3		Laboratory Fortified Blank				Run: TECHNICON_111229B				12/29/11 15:20
Nitrogen, Ammonia as N		2.07	mg/L	0.050	105	80	120			
Sample ID: C11120723-001DMS		Sample Matrix Spike				Run: TECHNICON_111229B				12/29/11 16:14
Nitrogen, Ammonia as N		9.68	mg/L	0.25	99	90	110			
Sample ID: C11120723-001DMSD		Sample Matrix Spike Duplicate				Run: TECHNICON_111229B				12/29/11 16:16
Nitrogen, Ammonia as N		9.68	mg/L	0.25	99	90	110	0.0	10	

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 02/28/12

Project: Marsland Baseline Private Well Samples **Work Order:** C11120731

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7									Analytical Run: ICP2-C_120111A	
Sample ID: ICV		Initial Calibration Verification Standard							01/11/12 13:05	
Molybdenum		0.989	mg/L	0.10	99	95	105			
Sample ID: ICSA		Interference Check Sample A							01/11/12 13:39	
Molybdenum		-0.0139	mg/L	0.10						
Sample ID: ICSAB		Interference Check Sample AB							01/11/12 13:43	
Molybdenum		-0.0151	mg/L	0.10						
Method: E200.7									Batch: R155281	
Sample ID: MB-120110A		Method Blank				Run: ICP2-C_120111A			01/11/12 14:04	
Molybdenum		0.003	mg/L	0.001						
Sample ID: LFB-120110A		Laboratory Fortified Blank				Run: ICP2-C_120111A			01/11/12 14:08	
Molybdenum		0.922	mg/L	0.10	92	85	115			
Sample ID: C11120719-003BMS2		Sample Matrix Spike				Run: ICP2-C_120111A			01/11/12 16:17	
Molybdenum		1.88	mg/L	0.0023	91	70	130			
Sample ID: C11120719-003BMSD		Sample Matrix Spike Duplicate				Run: ICP2-C_120111A			01/11/12 16:21	
Molybdenum		1.91	mg/L	0.0023	93	70	130	1.6	20	
Method: E200.7									Analytical Run: ICP2-C_120114A	
Sample ID: ICV		Initial Calibration Verification Standard							01/14/12 10:02	
Silicon		10.5	mg/L	0.10	105	95	105			
Sample ID: ICSA		Interference Check Sample A							01/14/12 10:31	
Silicon		0.0145	mg/L	0.10						
Sample ID: ICSAB		Interference Check Sample AB							01/14/12 10:35	
Silicon		0.00940	mg/L	0.10						
Method: E200.7									Batch: R155357	
Sample ID: MB-120114A		Method Blank				Run: ICP2-C_120114A			01/14/12 10:55	
Silicon		0.01	mg/L	0.007						
Sample ID: LFB-120114A		Laboratory Fortified Blank				Run: ICP2-C_120114A			01/14/12 10:59	
Silicon		0.464	mg/L	0.10	101	85	115			
Sample ID: C11120881-001BMS2		Sample Matrix Spike				Run: ICP2-C_120114A			01/14/12 13:14	
Silicon		0.888	mg/L	0.10	106	70	130			
Sample ID: C11120881-001BMSD		Sample Matrix Spike Duplicate				Run: ICP2-C_120114A			01/14/12 13:18	
Silicon		0.896	mg/L	0.10	107	70	130	0.9	20	

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 02/28/12

Project: Marsland Baseline Private Well Samples **Work Order:** C11120731

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Analytical Run: ICPMS2-C_111230A	
Sample ID: ICV		Initial Calibration Verification Standard							12/30/11 10:23	
Uranium		0.0496	mg/L	0.00030	99	90	110			
Method: E200.8									Batch: 32300	
Sample ID: MB-32300		Method Blank				Run: ICPMS2-C_111230A			12/30/11 20:54	
Uranium		0.0001	mg/L	6E-05						
Sample ID: LCS2-32300		Laboratory Control Sample				Run: ICPMS2-C_111230A			12/30/11 21:03	
Uranium		0.0982	mg/L	0.00030	98	85	115			
Sample ID: C11120731-001HMS		Sample Matrix Spike				Run: ICPMS2-C_111230A			12/30/11 21:09	
Uranium		0.00436	mg/L	0.00030	97	70	130			
Sample ID: C11120731-001HMSD		Sample Matrix Spike Duplicate				Run: ICPMS2-C_111230A			12/30/11 21:10	
Uranium		0.00433	mg/L	0.00030	96	70	130	0.6	20	

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 02/28/12

Project: Marsland Baseline Private Well Samples **Work Order:** C11120731

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Analytical Run: ICPMS4-C_111230A	
Sample ID: ICV	20	Initial Calibration Verification Standard							12/30/11 10:59	
Aluminum		0.0482	mg/L	0.0010	96	90	110			
Arsenic		0.0497	mg/L	0.0010	99	90	110			
Barium		0.0494	mg/L	0.0010	99	90	110			
Boron		0.0502	mg/L	0.0010	100	90	110			
Cadmium		0.0503	mg/L	0.0010	101	90	110			
Calcium		9.70	mg/L	0.0066	97	90	110			
Chromium		0.0497	mg/L	0.0010	99	90	110			
Copper		0.0503	mg/L	0.0010	101	90	110			
Iron		1.07	mg/L	0.0010	107	90	110			
Lead		0.0492	mg/L	0.0010	98	90	110			
Magnesium		9.67	mg/L	0.0027	97	90	110			
Manganese		0.0501	mg/L	0.0010	100	90	110			
Mercury		0.00519	mg/L	0.0010	104	90	110			
Nickel		0.0500	mg/L	0.0010	100	90	110			
Potassium		9.72	mg/L	0.0041	97	90	110			
Selenium		0.0522	mg/L	0.0010	104	90	110			
Sodium		9.69	mg/L	0.0043	97	90	110			
Uranium		0.0494	mg/L	0.00030	99	90	110			
Vanadium		0.0491	mg/L	0.0010	98	90	110			
Zinc		0.0513	mg/L	0.0010	103	90	110			
Method: E200.8									Batch: R154953A	
Sample ID: LRB	20	Method Blank				Run: ICPMS4-C_111230A			12/30/11 12:08	
Aluminum		ND	mg/L	0.0002						
Arsenic		ND	mg/L	5E-05						
Barium		ND	mg/L	7E-05						
Boron		ND	mg/L	0.0004						
Cadmium		ND	mg/L	3E-05						
Calcium		ND	mg/L	0.007						
Chromium		ND	mg/L	4E-05						
Copper		ND	mg/L	3E-05						
Iron		ND	mg/L	0.0006						
Lead		ND	mg/L	2E-05						
Magnesium		ND	mg/L	0.003						
Manganese		ND	mg/L	3E-05						
Mercury		ND	mg/L	5E-05						
Nickel		ND	mg/L	9E-05						
Potassium		ND	mg/L	0.004						
Selenium		ND	mg/L	7E-05						
Sodium		ND	mg/L	0.004						
Uranium		5E-05	mg/L	9E-06						
Vanadium		ND	mg/L	4E-05						
Zinc		ND	mg/L	0.0002						

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 02/28/12

Project: Marsland Baseline Private Well Samples **Work Order:** C11120731

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: R154953A
Sample ID: LFB	20	Laboratory Fortified Blank				Run: ICPMS4-C_111230A			12/30/11 12:15	
Aluminum		0.0522	mg/L	0.0010	104	85	115			
Arsenic		0.0523	mg/L	0.0010	105	85	115			
Barium		0.0503	mg/L	0.0010	101	85	115			
Boron		0.0491	mg/L	0.0010	98	85	115			
Cadmium		0.0511	mg/L	0.0010	102	85	115			
Calcium		12.7	mg/L	0.0066	102	85	115			
Chromium		0.0516	mg/L	0.0010	103	85	115			
Copper		0.0517	mg/L	0.0010	103	85	115			
Iron		1.29	mg/L	0.0010	103	85	115			
Lead		0.0508	mg/L	0.0010	102	85	115			
Magnesium		12.6	mg/L	0.0027	101	85	115			
Manganese		0.0513	mg/L	0.0010	103	85	115			
Mercury		0.00506	mg/L	0.0010	101	85	115			
Nickel		0.0518	mg/L	0.0010	103	85	115			
Potassium		12.7	mg/L	0.0041	101	85	115			
Selenium		0.0510	mg/L	0.0010	102	85	115			
Sodium		12.7	mg/L	0.0043	102	85	115			
Uranium		0.0503	mg/L	0.00030	100	85	115			
Vanadium		0.0515	mg/L	0.0010	103	85	115			
Zinc		0.0539	mg/L	0.0010	108	85	115			
Sample ID: C11120623-006CMS4	20	Sample Matrix Spike				Run: ICPMS4-C_111230A			12/30/11 19:44	
Aluminum		0.0483	mg/L	0.0010	63	70	130			S
Arsenic		0.0565	mg/L	0.0010	105	70	130			
Barium		0.147	mg/L	0.10	106	70	130			
Boron		0.0680	mg/L	0.0010	86	70	130			
Cadmium		0.0508	mg/L	0.010	102	70	130			
Calcium		45.2	mg/L	1.0	111	70	130			
Chromium		0.0513	mg/L	0.050	102	70	130			
Copper		0.0518	mg/L	0.010	98	70	130			
Iron		1.32	mg/L	0.030	101	70	130			
Lead		0.0516	mg/L	0.050	103	70	130			
Magnesium		19.9	mg/L	1.0	108	70	130			
Manganese		0.0605	mg/L	0.010	100	70	130			
Mercury		0.00518	mg/L	0.0010	104	70	130			
Nickel		0.0486	mg/L	0.0010	96	70	130			
Potassium		17.5	mg/L	1.0	106	70	130			
Selenium		0.0560	mg/L	0.0010	111	70	130			
Sodium		44.9	mg/L	1.0	109	70	130			
Uranium		0.0579	mg/L	0.00030	104	70	130			
Vanadium		0.0551	mg/L	0.0010	97	70	130			
Zinc		0.302	mg/L	0.010		70	130			A
Sample ID: C11120623-006CMSD	20	Sample Matrix Spike Duplicate				Run: ICPMS4-C_111230A			12/30/11 19:50	
Aluminum		0.0487	mg/L	0.0010	64	70	130	0.8	20	S

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

MDC - Minimum detectable concentration

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 02/28/12

Project: Marsland Baseline Private Well Samples **Work Order:** C11120731

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: R154953A
Sample ID: C11120623-006CMSD	20	Sample Matrix Spike Duplicate				Run: ICPMS4-C_111230A			12/30/11 19:50	
Arsenic		0.0566	mg/L	0.0010	105	70	130	0.2	20	
Barium		0.145	mg/L	0.10	104	70	130	0.8	20	
Boron		0.0697	mg/L	0.0010	89	70	130	2.5	20	
Cadmium		0.0509	mg/L	0.010	102	70	130	0.1	20	
Calcium		45.1	mg/L	1.0	111	70	130	0.1	20	
Chromium		0.0517	mg/L	0.050	102	70	130	0.7	20	
Copper		0.0521	mg/L	0.010	99	70	130	0.7	20	
Iron		1.33	mg/L	0.030	102	70	130	1.1	20	
Lead		0.0511	mg/L	0.050	102	70	130	1.0	20	
Magnesium		20.0	mg/L	1.0	108	70	130	0.2	20	
Manganese		0.0607	mg/L	0.010	101	70	130	0.5	20	
Mercury		0.00524	mg/L	0.0010	105	70	130	1.2	20	
Nickel		0.0497	mg/L	0.0010	98	70	130	2.4	20	
Potassium		17.8	mg/L	1.0	108	70	130	1.5	20	
Selenium		0.0554	mg/L	0.0010	110	70	130	1.1	20	
Sodium		44.2	mg/L	1.0	104	70	130	1.5	20	
Uranium		0.0578	mg/L	0.00030	104	70	130	0.1	20	
Vanadium		0.0560	mg/L	0.0010	98	70	130	1.7	20	
Zinc		0.303	mg/L	0.010		70	130	0.3	20	A

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

MDC - Minimum detectable concentration

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 02/28/12

Project: Marsland Baseline Private Well Samples **Work Order:** C11120731

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E300.0									Analytical Run: IC2-C_111229A	
Sample ID: ICV-122911-10	2	Initial Calibration Verification Standard							12/29/11 14:44	
Chloride		10.0	mg/L	1.0	100	90	110			
Sulfate		40.4	mg/L	1.0	101	90	110			
Method: E300.0									Batch: R154925	
Sample ID: ICB-122911-11	2	Method Blank				Run: IC2-C_111229A			12/29/11 14:57	
Chloride		ND	mg/L	0.10						
Sulfate		0.2	mg/L	0.08						
Sample ID: LFB-122911-12	2	Laboratory Fortified Blank				Run: IC2-C_111229A			12/29/11 15:11	
Chloride		10.3	mg/L	1.0	103	90	110			
Sulfate		40.2	mg/L	1.0	100	90	110			
Sample ID: C11120685-001AMS	2	Sample Matrix Spike				Run: IC2-C_111229A			12/29/11 18:45	
Chloride		26.8	mg/L	1.0	101	90	110			
Sulfate		226	mg/L	1.6	91	90	110			
Sample ID: C11120685-001AMSD	2	Sample Matrix Spike Duplicate				Run: IC2-C_111229A			12/29/11 18:59	
Chloride		26.7	mg/L	1.0	101	90	110	0.2	10	
Sulfate		225	mg/L	1.6	90	90	110	0.4	10	

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 02/28/12

Project: Marsland Baseline Private Well Samples **Work Order:** C11120731

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E353.2										Batch: R154758
Sample ID: MBLK-1		Method Blank				Run: TECHNICON_111223A				12/23/11 11:50
Nitrogen, Nitrate+Nitrite as N		ND	mg/L	0.06						
Sample ID: LCS-2		Laboratory Control Sample				Run: TECHNICON_111223A				12/23/11 11:53
Nitrogen, Nitrate+Nitrite as N		2.55	mg/L	0.10	102	90	110			
Sample ID: LFB-3		Laboratory Fortified Blank				Run: TECHNICON_111223A				12/23/11 11:55
Nitrogen, Nitrate+Nitrite as N		1.97	mg/L	0.10	101	90	110			
Sample ID: C11120736-001AMS		Sample Matrix Spike				Run: TECHNICON_111223A				12/23/11 13:25
Nitrogen, Nitrate+Nitrite as N		2.08	mg/L	0.10	99	90	110			
Sample ID: C11120736-001AMSD		Sample Matrix Spike Duplicate				Run: TECHNICON_111223A				12/23/11 13:28
Nitrogen, Nitrate+Nitrite as N		2.12	mg/L	0.10	101	90	110	1.9	10	

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 02/28/12

Project: Marsland Baseline Private Well Samples **Work Order:** C11120731

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E903.0									Batch: RA226-5771	
Sample ID: MB-RA226-5771	3	Method Blank				Run: BERTHOLD 770-1_120103A			01/09/12 12:56	
Radium 226		-0.03	pCi/L							U
Radium 226 precision (±)		0.09	pCi/L							
Radium 226 MDC		0.2	pCi/L							
Sample ID: LCS-RA226-5771		Laboratory Control Sample				Run: BERTHOLD 770-1_120103A			01/09/12 12:56	
Radium 226		6.5	pCi/L		103	80	120			
Sample ID: C11120751-001EMS		Sample Matrix Spike				Run: BERTHOLD 770-1_120103A			01/09/12 12:56	
Radium 226		15	pCi/L		117	70	130			
Sample ID: C11120751-001EMSD		Sample Matrix Spike Duplicate				Run: BERTHOLD 770-1_120103A			01/09/12 12:56	
Radium 226		16	pCi/L		125	70	130	6.3	26.4	
Method: E903.0									Batch: R155169	
Sample ID: C11120623-003HMS		Sample Matrix Spike				Run: BERTHOLD 770-2_111230A			01/09/12 12:58	
Radium 226		9.8	pCi/L		97	70	130			
Sample ID: C11120623-003HMSD		Sample Matrix Spike Duplicate				Run: BERTHOLD 770-2_111230A			01/09/12 12:58	
Radium 226		9.2	pCi/L		90	70	130	6.5	25.8	
Sample ID: LCS-32280		Laboratory Control Sample				Run: BERTHOLD 770-2_111230A			01/09/12 12:58	
Radium 226		11	pCi/L		88	85	115			
Sample ID: MB-32280	3	Method Blank				Run: BERTHOLD 770-2_111230A			01/09/12 14:30	
Radium 226		0.03	pCi/L							U
Radium 226 precision (±)		0.1	pCi/L							
Radium 226 MDC		0.3	pCi/L							

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

U - Not detected at minimum detectable concentration

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 02/28/12

Project: Marsland Baseline Private Well Samples **Work Order:** C11120731

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E908.0										Batch: RA-TH-ISO-1546
Sample ID: LCS-RA-TH-ISO-1546		Laboratory Control Sample				Run: ALPHANALYST_120110A				01/12/12 09:23
Thorium 230		6.12	pCi/L		108	70	130			
Sample ID: C11120731-001DMS		Sample Matrix Spike				Run: ALPHANALYST_120110A				01/12/12 09:23
Thorium 230		11	pCi/L		100	70	130			
Sample ID: C11120731-001DMSD		Sample Matrix Spike Duplicate				Run: ALPHANALYST_120110A				01/12/12 09:24
Thorium 230		9.4	pCi/L		85	70	130	17	39.4	
Sample ID: MB-RA-TH-ISO-1546	3	Method Blank				Run: ALPHANALYST_120110A				01/12/12 09:24
Thorium 230		-0.02	pCi/L							U
Thorium 230 precision (±)		0.07	pCi/L							
Thorium 230 MDC		0.2	pCi/L							
Method: E908.0										Batch: 32300
Sample ID: C11120731-001HMS		Sample Matrix Spike				Run: EGG-ORTEC_120103B				01/06/12 19:17
Thorium 230		4.5	pCi/L		104	70	130			
Sample ID: C11120731-001HMSD		Sample Matrix Spike Duplicate				Run: EGG-ORTEC_120103B				01/06/12 19:17
Thorium 230		5.1	pCi/L		117	70	130	12	34.6	
Sample ID: LCS-32300		Laboratory Control Sample				Run: EGG-ORTEC_120103B				01/06/12 19:17
Thorium 230		5.76	pCi/Filter		116	70	130			
Sample ID: MB-32300	3	Method Blank				Run: EGG-ORTEC_120103B				01/06/12 19:17
Thorium 230		0.1	pCi/Filter							
Thorium 230 precision (±)		0.07	pCi/Filter							
Thorium 230 MDC		0.08	pCi/Filter							

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

U - Not detected at minimum detectable concentration

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 02/28/12

Project: Marsland Baseline Private Well Samples **Work Order:** C11120731

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E909.0									Batch: T_PB-210-0200R	
Sample ID: MB-PB-210-0200	3	Method Blank				Run: SUB-T43555			01/06/12 19:44	
Lead 210		-0.4	pCi/L							U
Lead 210 precision (±)		0.6	pCi/L							
Lead 210 MDC		1	pCi/L							
Sample ID: LCS-PB-210-0200		Laboratory Control Sample				Run: SUB-T43555			01/06/12 21:59	
Lead 210		86	pCi/L		102	70	130			
Sample ID: C11120731-001EMS		Sample Matrix Spike				Run: SUB-T43555			01/07/12 06:58	
Lead 210		160	pCi/L		99	70	130			
Sample ID: C11120731-001EMSD		Sample Matrix Spike Duplicate				Run: SUB-T43555			01/07/12 09:13	
Lead 210		170	pCi/L		107	70	130	6.9	13.8	
Method: E909.0									Batch: T_15486	
Sample ID: MB-15486	3	Method Blank				Run: SUB-T43556			01/08/12 02:40	
Lead 210		0.9	pCi/Filter							U
Lead 210 precision (±)		5	pCi/Filter							
Lead 210 MDC		9	pCi/Filter							
Sample ID: LCS-15486		Laboratory Control Sample				Run: SUB-T43556			01/08/12 04:45	
Lead 210		611	pCi/Filter		109	70	130			
Sample ID: C11120710-003AMS		Sample Matrix Spike				Run: SUB-T43556			01/08/12 13:05	
Lead 210		1960	pCi/Filter		115	70	130			
Sample ID: C11120710-003AMSD		Sample Matrix Spike Duplicate				Run: SUB-T43556			01/08/12 15:10	
Lead 210		2040	pCi/Filter		119	70	130	3.6	13.7	

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

U - Not detected at minimum detectable concentration

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Crow Butte Resources **Report Date:** 02/28/12

Project: Marsland Baseline Private Well Samples **Work Order:** C11120731

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E912.0										Batch: R156705
Sample ID: C11120623-004HMS		Sample Matrix Spike				Run: ALPHANALYST_120213B				02/23/12 13:35
Polonium 210		5.7	pCi/L		88	70	130			
Sample ID: C11120623-004HMSD		Sample Matrix Spike Duplicate				Run: ALPHANALYST_120213B				02/23/12 13:35
Polonium 210		5.1	pCi/L		79	70	130	11	82.3	
Sample ID: LCS-32280		Laboratory Control Sample				Run: ALPHANALYST_120213B				02/23/12 13:35
Polonium 210		35	pCi/L		101	70	130			
Sample ID: MB-32280	3	Method Blank				Run: ALPHANALYST_120213B				02/23/12 13:35
Polonium 210		-0.1	pCi/L							U
Polonium 210 precision (±)		2	pCi/L							
Polonium 210 MDC		7	pCi/L							
Method: E912.0										Batch: PO210-0414
Sample ID: C11120623-002FMS		Sample Matrix Spike				Run: EGG-ORTEC_120125C				01/27/12 08:27
Polonium 210		13	pCi/L		102	70	130			
Sample ID: C11120623-002FMSD		Sample Matrix Spike Duplicate				Run: EGG-ORTEC_120125C				01/27/12 08:27
Polonium 210		12	pCi/L		95	70	130	8.4	108.8	
Sample ID: MB-PO210-0414	3	Method Blank				Run: EGG-ORTEC_120125C				01/27/12 10:10
Polonium 210		0.4	pCi/L							U
Polonium 210 precision (±)		0.6	pCi/L							
Polonium 210 MDC		0.9	pCi/L							
Sample ID: LCS-PO210-0414		Laboratory Control Sample				Run: EGG-ORTEC_120125C				02/02/12 08:46
Polonium 210		5.0	pCi/L		75	70	130			

Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

U - Not detected at minimum detectable concentration

Workorder Receipt Checklist

Crow Butte Resources

C11120731

Login completed by: Corinne Wagner
Date Received: 12/23/2011
Reviewed by: BL2000\emcpike
Received by: wc
Reviewed Date: 12/27/2011
Carrier name: Next Day Air Saver

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Container/Temp Blank temperature:	3.2°C On Ice		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Contact and Corrective Action Comments:

Samples for dissolved/suspended metals and radiochem were subsampled, filtered and preserved with 2 mL HNO3 in lab upon receipt to pH <2.

Chain of Custody and Analytical Request Record

ENERGY LABORATORIES

PLEASE PRINT- Provide as much information as possible.

Company Name: Crow Butte Resources, Inc.	Project Name: Marsland Baseline Private Well Samples	Sample Origin: State:	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: P.O. Box 169, Crawford, NE 69339	Contact Name: Larry Teahon; Phone/Fax: 308-665-2341	Email: daxmynus@msn.com	Sampler: (Please Print) Brooke Bass, Rhonda Pelton
Invoice Address: P.O. Box 169, Crawford, NE 69339	Invoice Contact & Phone: Larry Teahon, 308-665-2215 ext 114	Purchase Order: 1125	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

- ☐ DW
- ☐ GSA
- ☐ POTW/WWTP
- ☐ State: _____
- ☐ Other: _____
- ☐ A2LA
- ☐ EDD/EDT (Electronic Data) Format: _____
- ☐ LEVEL IV
- ☐ NELAC

Number of Containers; Sample Type: A W S V B O Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	HNO3-F, Metals	RAW-F, Common Ions	RAW-UF, Alkalinity	H2SO4-F, NO2, NO3, NH4	Raw-UF, Ra226, Po210 dis, sus	Raw-UF, Pb210 dis and sus	Rau-UF, Th230, U-nat dis and sus			SEE ATTACHED	Normal Turnaround (TAT)	RUSH	Comments
1	Well #723	12/20/11		Water	.5	1	1	.5	1 G	1 G	1 G						Please Report 1/30/12
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Contact ELI prior to RUSH sample submittal for charges and scheduling – See Instruction Page

Comments: NDEQ parameters for baseline sampling. Report on separate sheets. Analyze as per WDEQ Guideline 8 and NRC Reg. Guide 4.14 requirements. Record U as mg/L and µCi/ml and radiometrics as pCi/L.

Shipped by:

Cooler ID(s):

Receipt Temp: 3.2 °C

On Ice: (Yes) No

Custody Seal: Y (N)

Intact: (Y) N

Signature Match: (Y) N

LABORATORY USE ONLY: C1112073

Custody Record MUST be Signed

Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Brooke Bass	12/21/11	Brooke Bass			
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
			Received by Laboratory: W Carsten	12/23/11 1640	Wendy Carsten

Sample Disposal: Return to Client: No Lab Disposal: YES

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.
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Appendix K

Hydrologic and Erosion Study Report for Marsland Expansion Area

ARCADIS

Infrastructure · Water · Environment · Buildings

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Hydrologic and Erosion Study
Marsland Expansion Area

April 12, 2012

ARCADIS

Hydrologic and Erosion Study

Marsland Expansion Area

Prepared for:
CAMECO

Prepared by:
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Suite 200
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Our Ref.:
CO001636.0001.00008

Date:
April 12, 2012

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ARCADIS

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1. Introduction

This report outlines the construction of a hydrologic and erosion model of the Marsland Expansion Area (MEA) and provides an assessment of potential erosion in the project area (**Figure 1**). The MEA Project will consist of a uranium insitu satellite processing facility, individual wellfields (mine units), deep disposal well, and other associated assets. The basic layout of the proposed license boundary, mine units and satellite facility locations is shown in **Figure 1**.

This study addresses guidance in NUREG-1569 for an NRC licensee to assess the potential effects of erosion or surface water flooding on a proposed uranium in situ facility. The ultimate objective is to determine whether the potential for erosion or flooding may require special design features or mitigation measures to be implemented.

The study focuses on catchment and watershed delineation, hydrologic characteristics, and determination of areas most prone to flooding and subsequent erosion due to rainfall runoff. The analysis identifies wells and facilities in areas of moderate to high risk of erosion that may require mitigation measures. Four primary tasks comprise the comprehensive hydrologic and erosion analysis:

1) Data collection and analysis: rainfall, digital elevation data, soil and land use data.
2) Watershed delineation: divided the project area basin into watersheds for detailed hydrologic analysis.
3) Hydrologic and erosion analysis: determining the flood routing characteristics of watersheds and generating the erosion risk map using hydrologic, land use and soil data.
4) Erosion risk assessment: identifying MEA wells and other site facilities in locations of high erosion potential that may require scour mitigation.

2. Data Collection

The consequential data necessary to complete the study are terrain data or a digital elevation model (DEM), land use and land cover data (LULC), National Hydrography Dataset (USGS NHD) published stream network data, soil data, and rainfall data.

The terrain data are downloaded from the USGS National Elevation Dataset (NED). NED data is available at a resolution of 30m. The vertical datum is NAVD88, while the coordinate system was converted to UTM Zone 13N. DEM data were utilized

throughout the model domain to describe the watershed terrain. Using this data, the watershed and streams within the study area were described within the hydrologic model. The project area is in the watershed HUC12 101500020607 (Belmont Cemetery-Niobrara River Basin)). **Figure 2** depicts the DEM in the study area.

Land use data for the study area were the National Land Cover Data (NLCD) 2006, which were downloaded online from the USGS seamless Data Warehouse. **Figure 3** depicts the NLCD land use map.

Supplementary data to prepare and recondition the DEM include the USGS National Hydrography Dataset (NHD) published stream network, NHD Flowline (Simley and Carswell 2009) and the Natural Resources Conservation Service's (NRCS) published 12-digit hydrologic unit (HUC12) watershed delineation (NRCS 2009). **Figure 4** depicts the NHD published stream network. **Table 1** lists the associated Hydrologic Unit Code (HUC) 12-digit identification number for each NHD stream. The extents of the data shown in **Figures 1-5** are defined by the NRCS watershed delineation.

Soil data was downloaded from the NRCS geospatial data gateway, Soil Survey Geographic Database (SSURGO). Regional soil characteristics, most importantly the infiltration rate, were represented by the SCS Curve Number Method. Soil data was downloaded from the Natural Resources Conservation Service's (NRCS) geospatial data gateway. **Figure 5** depicts the SSURGO soil map for the project areas. **Figure 6** through **Figure 8** respectively show the SSURGO soil map information for the northern, central and southern portions of the project area. **Table 2** lists the SSURGO K factor values and associated percentages of sand, silt and clay for each SSURGO soil type.

The meteorological data, including precipitation, evaporation and runoff values, were collected from National Ocean and Atmospheric Administration (NOAA) National Weather Service (NWS) or National Climate Data Center (NCDC).

Details of the available geospatial, stream flow and meteorological data can be found in **Table 3**.

3. Watershed Delineation and Basin Characteristics

Prior to catchment processing and watershed delineation, there are several pre-processing steps required for the DEM. First, the HUC12 data is utilized to clip the DEM boundary, such that only the primary watersheds pertinent to the MEA analysis

are maintained. **Figure 2** demonstrates that two regions along on the western edge of the MEA are clipped out of the DEM domain. These regions are removed from the analysis due to the fact that they lie at high elevations in the neighboring HUC12 watershed. Due to their location in the watershed, these regions have limited flow accumulation and thus a low risk of erosion. Flow accumulation is discussed in more detail a part of the hydrologic and soil erosion analysis.

Once the clipped DEM is constructed, drainage patterns are defined using an Arc Hydro tool. The Arc Hydro tool identifies ridges and valleys in the DEM. Arc Hydro constructs a drainage network by connecting valleys that have been identified. Because of limited DEM resolution of 30 meters, it is possible that the DEM data is not able to fully replicate the hydrologic reality of a catchment when deriving the drainage pattern in Arc Hydro. Thus the drainage network initially mapped by Arc Hydro requires adjustments to fully replicate the hydrologic reality of the system. The elevations within the raw DEM were reconditioned to revise elevations along published NHD Flowline (Simley and Carswell 2009) shown in **Figure 4.** Reconditioning the DEM ascertains proper drainage in the study area. This process is known as the AGREE method. The GIS parameters used for the AGREE method were chosen carefully, as it is imperative that they have minimal effects on further terrain analysis (Callow et al. 2007).

Subsequent to the AGREE method for DEM reconditioning, local, small scale depressions and pits in the DEM were raised using GIS. The software applies an algorithm that searches for localized pits and depressions that could capture flow and inadvertently delineate watersheds incorrectly. Once these depressions are identified, the GIS model raises the elevation of the pits to a smoothed elevation based on neighboring elevations to create an improved, depression-less terrain.

Using the final reconditioned, depression-less terrain data, the Arc Hydro tool identifies a definitive system of ridges and valleys used to calculate flow direction and accumulation. **Figure 9** depicts the result of the watershed delineation into 107 subbasins. **Figure 10** depicts the associated drainage line network.

4. Hydrologic and Soil Erosion Analysis

The soil erosion model was constructed to investigate potential erosion in the project area. The results of the model highlight areas where erosion would be most substantial. Areas of high erosion may require mitigation measures or project

modification to achieve maximum project success and minimize environmental impacts.

The susceptibility of sediment to transport and delivery is largely affected by local terrain. The terrain in the study area is highly varied, as shown in **Figure 2**. Principal vegetative cover in the study area is grassland and forest in the upper reaches of the watershed. Grassland, farmland and wetland are the primary vegetative cover in the lower reaches of the watershed. The hydrologic and soil erosion analysis is broken into two components for this study. The first is a comprehensive watershed analysis utilizing the Revised Universal Soil Loss Equation (RUSLE). The second component is a comparison of MEA facility locations to the drainage network lines displayed in **Figure 10**.

4.1 RUSLE

A GIS-based erosion model was used for this analysis, which provides a fine spatial resolution of model results. The RUSLE model is a relatively simple model and one of the most practical methods to estimate soil erosion potential and the effects of different management practices. It was selected to use due to its wide acceptance, including construction site management at the federal level in National Pollutant Discharge Elimination System Phase II permitting (Wachal and Banks 2007, USEPA 2000).

The RUSLE is the modification version of USLE which has been in used to measure soil loss from agriculture lands with relative uniform slopes. The RUSLE modified certain factors in USLE and these modifications allow RUSLE model to more accurately account for more complex terrain. The output of RUSLE model is an annual rate of erosion and sedimentation in tons per acre per year, instead of specific storm events. The model is able to provide a quantitative measurement of erosion that occur as a result of project-related soil disturbance.

The RUSLE formula computes average annual erosion as follows:

$A = R * K * LS * C * P$

Where:

A = computed average annual soil loss in tons/acre/year
R = rainfall-runoff erosivity factor
K = soil erodibility factor
LS = slope length and slope steepness
C = land cover management factor
P = conservation practice factor

The factors can be divided into two categories: (1) environmental variables (R, L, S, and K), which remain relative constant over time, (2) management variables (C and P) which may change over time.

4.1.1 R-factor

The R-factor represents the rainfall erosivity which is the erosive power of rainfall. It is derived from the product of the total kinetic energy of a storm event and the maximum 30-minute intensity. The R-factor accounts for both amount of rainfall and intensity of rainfall.

The R-factor value is typically obtained from an isoerodent map provided in the USDA Handbook 703. The erosion index values for locations between the lines can be obtained by linear interpolation. The R-factor value for the entire study area used in this analysis is 48 based on the published isoerodent map.

4.1.2 K-factor

The K-factor represents soil erodibility, measures the ability of a particular soil type to resist erosion. The ability of soil to resist the erosion depends on the specific contents in the soil (such as percentage of silt, sand, clay and organic matter), the soil structure and the permeability of the soil. The most widely used and frequently cited relationship is the soil-erodibility nomograph (USDA Handbook 703).

The K-factor values range from 0 for water and, although in practice the maximum K-factor does not generally exceed 0.67. Large K-factor values reflect greater potential soil erodibility. The most common used soil database SSURGO has compiled the K-factors into the database. These values are based on the dominant classified soil components in the surficial layers for each map unit. The K-factor value used in this analysis is the SSURGO K-factor. **Table 2** lists the SSURGO K-factor values and associated percentages of sand, silt and clay. **Figure 11** exhibits MEA K-factor values.

4.1.3 LS-factor

The LS-factor is the critical factor in accurately estimating soil erosion potential. It is a combination of two data sets: slope length (L) and slope steepness (S). Longer slope length equate to a higher amount of accumulative runoff. Similarly, the steeper slopes generate higher runoff velocity. Both factors are notable contributors to erosion.

The slope length affects erosion potential more than slope steepness. Slope length is the distance from the origin of the overland flow to the nearest stream or the concentrated flow.

The original equation to calculate the LS-factor was an empirical equation published in the USDA Hankbook 537. The new published equation used in this analysis is as follows (Moore and Burch1986):

$$LS = (\textit{flow accumulation} * \text{cell size} / 22.13)^{0.4} * (\sin(\textit{slope}) * 0.01745) / 0.0896)^{1.4} * 1.4$$

The flow accumulation and slope values are determined using ArcHydro tools in a similar fashion as the DEM reconditioning procedures. **Figure 12** and **Figure 13** respectively demonstrate flow accumulation and topographic slope values.

4.1.4 C-factor

The C-factor represents land cover and management aspects, accounting for the effects of plants and soil cover on soil loss. The C-factor is useful for analysis of various project alternatives with soil disturbing activity. This factor is the main mechanism in which project alternative differences are modeled.

The C-factor values in this analysis are derived from the current conditions described in the National Land Cover Dataset (NLCD 2006). The C-factor for various land use types is shown in the **Table 4**. **Figure 14** illustrates the C-factor for MEA.

4.1.5 P-factor

The P-factor is the support or land management factor, accounting for such practices as farming, terracing and cropping. The P-factor value ranges from 0 to 1, which P=1 equating to zero disturbing activity. The P=1 is used in this analysis assuming no disturbance of this type.

4.2 Concentrated Flow Analysis

Erosion via sheet flow is the focus of the RUSLE component of the study. However, drainage networks on the MEA site, particularly the sections in the lower part of watershed, are at the added risk of concentrated flows. Detailed analysis of the drainage networks during flood events was not completed as part of this study. Rather, the location of MEA well fields and other facilities were compared drainage network locations as well as published Federal Emergency Management Agency

(FEMA) Digital Flood Insurance Rate Map (DFIRM) 100 year floodplain extents (FEMA 2011). Well fields and facilities adjacent to drainage paths, particularly those in the DFIRM floodplain, should be located carefully on the MEA site to ensure a safe distance from the drainage route and floodplain and protect from concentrated flows.

5. Erosion Risk Assessment

The RUSLE map displaying the average annual erosion potential is shown in **Figure 15**. **Figure 16** through **Figure 21** respectively display the erosion potential for the mining units and the satellite facility on the site. The final map should be interpreted as the erosion risk potential.

Well fields and other MEA facility locations are compared to the RUSLE map to evaluate erosion risk potential for each location. Proposed well fields, the satellite building, and the areas adjacent to the satellite building for potential placement of the access road and deep disposal well were all evaluated. **Table 5** lists the risk of erosion for each well field. Mining Unit (MU)-A and MU-1 were found to have low or very low erosion risk throughout the unit, while MU-C, MU-D, MU-E and MU-F have very low erosion risk throughout the unit. However, MU-2, MU-3, MU-4, and MU-B are found to have locations of moderate and high erosion risk. MU-5 has multiple locations of moderate erosion risk. Though MU-2, MU-3, MU-4 and MU-B are found to have high erosion risk in areas, 2-7% of the area within the units is at a moderate to high risk. Placement of well locations around areas of moderate and high potential erosion is a possibility in these units, particularly MU-3 were only 2% of the land is at an increased risk of erosion. MU-5 on the other hand is exposed to a moderate risk of erosion in 11% of the total area. Though the overall risk of MU-5 is lower than other units, it may be more difficult to place wells without additional mitigation measures due to the widespread erosion risk in the unit. If wells cannot be placed outside of areas within the wellfields deemed to have moderate to high risks, mitigation measures (e.g., berms) can be implemented to minimize the potential for flooding and erosion. The mitigation measures can be defined during final engineering and prior to any construction.

Figure 18 displays the erosion potential for the satellite facility, access road and deep disposal well. The gray line in the image represents the proposed area for placement of the satellite facility, and access roads to both locations. The star denotes the proposed deep disposal location. The erosion risk was found to be low or very low throughout the area. Constructing the facilities and access roads in the noted area would minimize the potential for erosion issues.

As part of the concentrated flow analysis, drainage lines and DFIRM floodplain extents are compared to mining unit locations. **Figure 12** demonstrates the high flow accumulation along drainage lines. Drainage lines are the primary contributor to increased erosion risk as part of the RUSLE analysis. However, the RUSLE analysis is unable to accurately define erosion risk in these areas of concentrated flow in flood events. Thus published FEMA DFIRM 100 year floodplain extents were compared to mining units in the area. Mining unit locations within the 100 year floodplain should be considered at risk to flooding, as well as erosion caused by flood events. Further analysis, mitigation measures or modification of well locations should be considered for those wells near concentrated flow routes or in the 100 year floodplain during the final engineering phase and prior to well installation and construction activities.

Figure 22 through **Figure 27** display the drainage lines and floodplain extents relative to the mining unit locations. Mining units MU-2, MU-3, MU-4 and MU-5 all are positioned such that drainage line 21 and the associated DFIRM floodplain crosses the units. Drainage line 21 is NRCS HUC number 149152245 and shown in **Figure 10**. Drainage line 21 runs generally north to south. The well locations in these drainage units should be positioned outside of the floodplain or included flood protection measures in the final engineering plans. Additionally, the proposed access road to the satellite facility crosses drainage line 24, as seen in **Figure 18**. Drainage line 24 is NRCS HUC number 149157281. Note however, as seen in **Figure 24**, the proposed access road and satellite facility are not in the 100 year floodplain. The access road should however be positioned carefully, understanding that a potential drainage route crosses the area.

6. References

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Tables

Table 1 National Resources Conservation Services (NRCS) Hydrological Unit (HU) Codes

Figure 4 Stream ID Numbers	NRCS Hydrologic Unit Code Identification
1	149157320
2	149157396
3	149157293
4	149157295
5	149152206
6	149152210
7	149152218
8	149157455
9	149157287
10	149152223
11	149157220
12	149152242
13	149153567
14	149152234
15	149152227
16	149157382
17	149151532
18	149157040
19	149157486
20	149157312
21	149157491
22	149157234
23	149157136
24	149157281
25	149151539
26	149152239
27	149152236
28	149157210
29	149157498
30	149157269
31	149152231
32	149151529
33	149157212
34	149151545
35	149157449
36	149153573
37	149157254
38	149152212
39	149152228
40	149157463
41	149157497
42	149152209
43	149151537
44	149157489
45	149152245
46	149152221
47	149152224
48	149153566
49	149151535
50	149152226
51	149157425
52	149157267

Table 1 National Resources Conservation Services (NRCS) Hydrological Unit (HU) Codes

Figure 4 Stream ID Numbers	NRCS Hydrologic Unit Code Identification
53	149152220
54	149152216
55	149157418
56	149157118
57	149152244
58	149152230
59	149152213
60	149152233
61	149152240
62	149157005
63	149157141
64	149157415
65	149157384
66	149157478
67	149157394
68	149153572
69	149157081
70	149157213
71	149157061
72	149157192
73	149152248
74	149157054
75	149157341
76	149153571
77	149157225
78	149157301
79	149151531
80	149157002
81	149152215
82	149157492
83	149157413
84	149152237
85	149157313
86	149152207
87	149151543
88	149157539
89	149157541
90	149157544
91	149151602
92	149157538
93	149157975
94	149157546
95	149157542

Note: NRC HUC Codes are for each National Hydrography Dataset (NHD).

Table 2 Revised Universal Soil Loss Equation, Version 2 Related Attributes, Dawes County, Nebraska

Map Symbol and Soil Name	Pct of Map	Hydrologic Group	Kf	T factor	Representative Value		
					% Sand	% Silt	% Clay
1001 Bankard, channeled, frequently flooded	100	A	0.10	5	95.4	0.6	4.0
1004 Bankard	100	A	0.15	4	87.3	6.7	6.0
1006 Bankard, channeled, frequently flooded	100	A	0.10	5	87.3	4.7	8.0
1008 Bankard variant	99	A	0.15	4	87.3	6.7	6.0
1012 Bankard	100	A	0.37	5	61.2	20.8	18.0
1013 Bankard, frequently flooded	100	A	0.10	4	83.2	10.8	6.0
1014 Bankard	100	A	0.15	4	87.3	6.7	6.0
1030 Glenberg	100	B	0.20	5	66.1	21.9	12.0
1031 Glenberg, channeled	100	B	0.20	5	66.1	21.9	12.0
1036 Glenberg	100	B	0.37	5	80	10	10.0
1037 Glenberg	100	B	0.37	5	80	10	10.0
1114 Bankard	100	A	0.10	5	87.3	4.7	8.0
1187 Las Animas	99	C	0.28	4	42.1	37.9	20.0
1350 Bridget	100	B	0.43	5	42.2	42.8	15.0
1355 Bridget	100	B	0.43	5	14	71	15.0
1356 Bridget	99	B	0.43	5	14	71	15.0
1357 Bridget	99	B	0.43	5	14	71	15.0
1358 Bridget	100	B	0.43	5	14	71	15.0
1361 Bridget	99	B	0.37	5	60.7	27.8	11.5
1362 Bridget	99	B	0.37	5	60.7	27.8	11.5
1363 Bridget	100	B	0.37	5	60.7	27.3	12.0
1364 Bridget	100	B	0.37	5	60.7	27.3	12.0
1535 Sulco	55	B	0.49	5	44.3	44.7	11.0
Halvorson	45	B	0.24	5	37.9	35.6	26.5

Table 2 Revised Universal Soil Loss Equation, Version 2 Related Attributes, Dawes County, Nebraska

Map Symbol and Soil Name	Pct of Map	Hydrologic Group	Kf	T factor	Representative Value		
					% Sand	% Silt	% Clay
1616 Keith	50	B	0.43	5	13.7	69.3	18.0
Ulysses	49	B	0.4	5	13.6	68.9	17.5
1618 Keith	100	C	0.43	5	41.2	41.8	18.0
1620 Keith	99	B	0.43	5	13.7	69.3	18.0
1621 Keith	99	C	0.43	5	41.2	38.8	18.0
1631 Keith	99	B	0.43	5	13.7	69.3	18.0
1690 Manvel	100	B	0.37	3	6.8	61.7	31.5
1697 Minnequa	100	C	0.37	3	6.8	61.7	31.5
1698 Minnequa	100	C	0.37	3	6.8	61.7	31.5
1726 Rosebud	99	C	0.28	3	44.8	41.2	14.0
1730 Rosebud	99	C	0.37	3	30.1	54.9	15.0
1736 Rosebud	60	C	0.24	3	43.2	38.8	18.0
Canyon	39	D	0.43	2	64.4	25.6	10.0
1742 Rosebud	74	C	0.28	3	44.8	41.2	14.0
Canyon	25	D	0.32	2	44.3	40.7	15.0
1762 Richfield	99	B	0.37	5	29.3	53.7	17.0
1812 Satanta	99	B	0.28	5	63.5	26.5	10.0
1813 Satanta	100	B	0.28	5	63.5	26.5	10.0
1822 Satanta	65	B	0.28	5	63.5	26.5	10.0
Canyon	35	D	0.32	2	44.3	40.7	15.0
1823 Satanta	60	B	0.28	5	63.5	26.5	10.0
Canyon	40	D	0.32	2	44.3	40.7	15.0
1862 Ulysses	100	B	0.43	5	13.6	68.9	17.5
1881 Dwyer	50	A	0.20	5	78.2	16.3	5.5
Valent	50	A	0.15	5	86.8	6.7	6.5

Table 2 Revised Universal Soil Loss Equation, Version 2 Related Attributes, Dawes County, Nebraska

Map Symbol and Soil Name	Pct of Map	Hydrologic Group	Kf	T factor	Representative Value		
					% Sand	% Silt	% Clay
1882 Valent	50	A	0.15	5	86.8	6.7	6.5
1882 Dwyer	49	A	0.20	5	78.2	16.3	5.5
1884 Valent	65	A	0.10	5	95.4	0.6	4.0
Valent	35	A	0.10	5	95.4	0.6	4.0
1885 Valent	100	A	0.10	5	95.4	0.6	4.0
1886 Valent	99	A	0.10	5	95.4	0.6	4.0
1891 Valent	99	A	0.10	5	86.8	4.2	9.0
1892 Valent	99	A	0.10	5	84.5	6.5	9.0
1894 Valent	100	A	0.15	5	86.8	6.7	6.5
2360 Munjor	100	B	0.20	4	66.5	20.0	13.5
2361 Munjor, channeled, frequently flooded	100	B	0.20	4	66.5	20.0	13.5
4223 Bolent	98	A	0.15	5	86.8	6.7	6.5
4524 Els	98	A	0.10	5	94.9	0.6	4.5
4636 Hoffland	100	D	0.10	3	63.1	19.4	17.5
4649 Ipage	100	A	0.20	5	78.6	16.4	5.0
4713 Orpha	100	A	0.10	5	86.4	6.6	7.0
4716 Orpha	65	A	0.10	5	86.4	6.6	7.0
4716 Niobrara	35	D	0.20	2	79.9	16.6	3.5
5003 Lohmiller, frequently flooded	100	C	0.32	5	17.3	47.7	35.0
5056 Bufton	99	C	0.24	5	33.3	36.7	30.0
5058 Bufton	100	C	0.32	5	17.3	47.7	35.0
5060 Bufton	100	C	0.32	5	17.3	47.7	35.0
5061 Bufton	69	C	0.32	5	17.3	47.7	35.0
Hisle	30	D	0.43	2	24.8	52.7	22.5

Table 2 Revised Universal Soil Loss Equation, Version 2 Related Attributes, Dawes County, Nebraska

Map Symbol and Soil Name	Pct of Map	Hydrologic Group	Kf	T factor	Representative Value		
					% Sand	% Silt	% Clay
5070 Vetal	50	B	0.17	5	66.1	19.9	14.0
Bayard	49	B	0.24	5	62.5	26.0	11.5
5101 Alliance	100	B	0.37	4	41.0	41.0	18.0
5102 Alliance	99	B	0.37	4	41.0	41.0	18.0
5105 Alliance	99	B	0.37	4	13.6	68.9	17.5
5106 Alliance	99	B	0.37	4	13.6	68.9	17.5
5107 Alliance	99	B	0.37	4	13.6	68.9	17.5
5112 Bufton	99	C	0.24	5	33.3	36.7	30.0
5114 Bufton	100	C	0.32	5	17.3	47.7	35.0
5115 Bufton	100	C	0.32	5	17.3	47.7	35.0
5118 Busher	60	A	0.32	4	80.0	10.0	10.0
Tassel	40	D	0.43	2	81.8	12.2	6.0
5123 Busher	99	A	0.32	4	80.0	10.0	10.0
5124 Busher	99	A	0.32	4	80.0	10.0	10.0
5125 Busher	100	A	0.37	4	80.0	10.0	9.0
5126 Busher	100	A	0.32	4	80.0	10.0	10.0
5128 Busher	99	A	0.32	4	80.0	10.0	10.0
5129 Busher	100	A	0.32	4	80.0	10.0	10.0
5133 Busher	59	A	0.32	4	80.0	10.0	10.0
Jayem	40	B	0.32	5	80.0	10.0	10.0
5134 Busher	59	A	0.32	4	80.0	10.0	10.0
Jayem	40	B	0.32	5	80.0	10.0	10.0
5135 Busher	60	A	0.32	4	80.0	10.0	10.0
Jayem	40	B	0.32	5	80.0	10.0	10.0

Table 2 Revised Universal Soil Loss Equation, Version 2 Related Attributes, Dawes County, Nebraska

Map Symbol and Soil Name	Pct of Map	Hydrologic Group	Kf	T factor	Representative Value		
					% Sand	% Silt	% Clay
5139 Busher	59	A	0.37	4	80.0	11.0	9.0
Tassel	40	D	0.37	2	81.8	10.2	8.0
5143 Busher	59	A	0.32	4	80.0	10.0	10.0
Tassel	40	D	0.43	2	81.8	12.2	6.0
5152 Canyon	100	D	0.32	2	44.3	40.7	15.0
5153 Canyon	100	D	0.32	2	44.3	40.7	15.0
5162 Canyon	50	D	0.32	2	44.3	40.7	15.0
Rock outcrop	50	D	—	—	—	—	0.0
5184 Keota	70	B	0.49	3	14.3	73.2	12.5
Epping	29	D	0.49	2	30.1	54.9	15.0
5188 Keya	99	B	0.24	5	39.5	37.5	23.0
5191 Norrest	100	C	0.20	3	33.2	34.8	32.0
5192 Norrest	100	C	0.20	3	33.2	34.8	32.0
5195 Norrest	100	C	0.32	3	17.3	52.2	30.5
5196 Norrest	100	C	0.32	3	17.3	52.2	30.5
5197 Norrest	100	C	0.32	3	17.3	52.2	30.5
5200 Oglala	100	B	0.43	4	42.7	43.3	14.0
5206 Oglala	65	B	0.37	4	60.3	27.7	12.0
Canyon	35	D	0.43	2	64.4	25.6	10.0
5207 Oglala	59	B	0.43	4	42.7	43.3	14.0
Canyon	40	D	0.32	2	44.3	40.7	15.0
5210 Oglala	64	B	0.37	4	60.3	27.7	12.0
Canyon	35	D	0.43	2	64.4	25.6	10.0
5211 Oglala	70	B	0.43	4	42.7	43.3	14.0
Canyon	30	D	0.32	2	44.3	40.7	15.0

Table 2 Revised Universal Soil Loss Equation, Version 2 Related Attributes, Dawes County, Nebraska

Map Symbol and Soil Name	Pct of Map	Hydrologic Group	Kf	T factor	Representative Value		
					% Sand	% Silt	% Clay
5215 Oglala	55	B	0.32	4	59.0	23.0	18.0
Canyon	45	D	0.37	2	61.2	20.8	18.0
5225 Pierre	99	D	0.20	3	17.1	27.9	55.0
5226 Pierre	100	D	0.20	3	17.1	27.9	55.0
5227 Pierre	70	D	0.24	3	2.5	42.5	55.0
Hisle	30	D	0.43	2	24.8	52.7	22.5
5230 Ponderosa	100	B	0.37	5	79.5	12.0	8.5
5231 Ponderosa	100	B	0.37	5	79.5	11.5	9.0
5234 Ponderosa	60	B	0.37	5	79.5	11.5	9.0
Tassel	20	D	0.37	2	81.8	10.2	8.0
Vetal	20	B	0.32	5	62.0	24.0	14.0
5240 Samsil	65	D	0.24	2	2.6	44.9	52.5
Pierre	35	D	0.20	3	17.1	27.9	55.0
5241 Samsil	65	D	0.24	2	18.2	31.8	50.0
Pierre	35	D	0.20	3	17.1	27.9	55.0
5243 Samsil	70	D	0.24	2	2.6	44.9	52.5
Rock outcrop	30	D	—	—	—	—	0.0
5254 Schamber	100	A	0.24	2	58.6	19.9	21.5
5255 Skilak	99	C	0.37	5	6.9	62.1	31.0
5257 Thirtynine	99	B	0.37	5	13.7	69.3	17.0
5258 Thirtynine	99	B	0.37	5	13.7	69.3	17.0
5259 Thirtynine	99	B	0.37	5	13.7	69.3	17.0
5260 Thirtynine	100	B	0.37	5	41.2	41.8	17.0
5261 Thirtynine	100	B	0.37	5	41.2	41.8	17.0
5262 Thirtynine	100	B	0.37	5	41.2	41.8	17.0

Table 2 Revised Universal Soil Loss Equation, Version 2 Related Attributes, Dawes County, Nebraska

Map Symbol and Soil Name	Pct of Map	Hydrologic Group	Kf	T factor	Representative Value		
					% Sand	% Silt	% Clay
5281 Vetal	100	B	0.20	5	66.1	21.9	12.0
5282 Vetal	100	B	0.17	5	66.1	19.9	14.0
5288 Vetal	100	B	0.10	5	85.9	6.6	7.5
5291 Vetal	99	B	0.37	5	62.0	26.0	12.0
5292 Vetal	99	B	0.37	5	62.0	26.0	12.0
5350 Enning	50	D	0.37	2	19.3	52.2	28.5
Minnequa	50	C	0.37	3	6.8	61.7	31.5
5351 Enning	60	D	0.37	2	19.3	52.2	28.5
Minnequa	40	C	0.37	3	6.8	61.7	31.5
5352 Enning	70	D	0.37	2	19.3	52.2	28.5
Rock outcrop	30	D	—	—	—	—	0.0
5353 Enning	65	D	0.37	2	19.3	52.2	28.5
Shale outcrop	35	D	—	—	—	—	0.0
5355 Hisle	70	D	0.32	2	39.8	38.2	22.0
Slickspots	30	D	0.20	3	17.1	27.9	55.0
5358 Kyle	100	D	0.20	5	2.3	40.2	57.5
5359 Kyle	99	D	0.20	5	2.3	40.2	57.5
5360 Kyle	70	D	0.20	5	2.3	40.2	57.5
Hisle	30	D	0.43	2	24.8	52.7	22.5
5600 Bigwinder	100	D	0.17	5	66.1	19.9	14.0
5612 Craft, channeled, frequently flooded	100	B	0.43	5	42.7	41.3	16.0
5637 Haverson	100	B	0.32	5	23.5	50.0	26.5
5638 Haverson	100	B	0.32	5	23.5	50.0	26.5
5639 Haverson	100	B	0.37	5	20.0	53.5	26.5
5640 Haverson	98	B	0.24	5	37.9	35.6	26.5

Table 2 Revised Universal Soil Loss Equation, Version 2 Related Attributes, Dawes County, Nebraska

Map Symbol and Soil Name	Pct of Map	Hydrologic Group	Kf	T factor	Representative Value		
					% Sand	% Silt	% Clay
5657 Lisco, occasionally flooded	100	C	0.43	5	63.6	25.4	11.0
5810 Buffington	100	B	0.28	5	7.7	49.8	42.5
5834 Mitchell	100	B	0.43	5	11.3	67.7	21.0
5836 Mitchell	100	B	0.43	5	11.3	67.7	21.0
5838 Mitchell	100	B	0.43	5	11.3	67.7	21.0
5839 Mitchell	100	B	0.43	5	11.3	67.7	21.0
5849 Epping	50	D	0.49	2	30.1	54.9	15.0
Mitchell	50	B	0.43	5	11.3	67.7	21.0
5870 Tripp	99	B	0.37	5	14.2	71.8	14.0
5871 Tripp	99	B	0.37	5	14.2	71.8	14.0
5872 Tripp	100	B	0.43	5	14.2	71.8	14.0
5943 Duroc	99	B	0.43	5	41.0	41.5	17.5
5947 Duroc	99	B	0.32	5	59.3	23.2	17.5
5964 Jayem	50	B	0.32	5	80.0	10.0	10.0
Vetal	50	B	0.37	5	79.5	12	8.5
5965 Jayem	99	B	0.24	5	63.5	26.5	10.0
5966 Jayem	99	B	0.24	5	63.5	26.5	10.0
5978 Jayem	99	B	0.32	5	80.0	10.0	10.0
5979 Jayem	100	B	0.32	5	80.0	10.0	10.0
5980 Jayem	100	B	0.32	5	80.0	10.0	10.0
5983 Rock outcrop	65*	D	—	—	—	—	0.0
Tassel	35	D	0.15	2	78.6	13.4	8.0
5987 Orella	100	D	0.24	2	26.1	28.9	45.0
5988 Orella	100	D	0.43	2	18.7	47.8	33.5

Table 2 Revised Universal Soil Loss Equation, Version 2 Related Attributes, Dawes County, Nebraska

Map Symbol and Soil Name	Pct of Map	Hydrologic Group	Kf	T factor	Representative Value		
					% Sand	% Silt	% Clay
6026 Tassel	100	D	0.43	2	81.8	12.2	6.0
6028 Tassel	100	D	0.43	2	81.8	12.2	6.0
6031 Tassel	55	D	0.37	2	81.8	10.2	8.0
Ashollow	25	B	0.37	5	81.8	9.2	9.0
Rock outcrop	20	D	—	—	—	—	0.0
6036 Tassel	55	D	0.37	2	81.8	10.2	8.0
Busher	30	A	0.32	4	80	10	10.0
Rock outcrop	15	D	—	—	—	—	0.0
6043 Tassel	45	D	0.43	2	81.8	12.2	6.0
Ponderosa	35	B	0.37	5	79.5	12.0	8.5
6043 Rock outcrop	20	D	—	—	—	—	0.0
6045 Tassel	75	D	0.37	2	65.5	26.0	8.5
Rock outcrop	25	D	—	—	—	—	0.0
6048 Orella	55	D	0.43	2	18.7	47.8	33.5
Badland	45	D	—	—	—	—	0.0
6090 Sarben	70	A	0.37	5	81.5	7.0	11.5
Vetal	30	B	0.37	5	79.5	12.0	8.5
6091 Sarben	100	A	0.20	5	66.1	19.9	14.0
6092 Sarben	99	A	0.20	5	66.1	19.9	14.0
6093 Sarben	100	A	0.20	5	66.1	19.9	14.0
6109 Sarben	100	A	0.37	5	81.5	9.5	9.0
6201 Epping	100	D	0.49	2	30.1	54.9	15.0
6203 Epping	60	D	0.49	2	30.1	54.9	15.0
Badland	40	D	—	—	—	—	0.0
6240 Keota	99	B	0.49	3	14.3	73.2	12.5

Table 2 Revised Universal Soil Loss Equation, Version 2 Related Attributes, Dawes County, Nebraska

Map Symbol and Soil Name	Pct of Map	Hydrologic Group	Kf	T factor	Representative Value		
					% Sand	% Silt	% Clay
9971 Arents, earthen dam	100	—	—	—	—	—	—
9973 Badland	100	D	—	1	—	—	—
9983 Pits	100	A	—	2	—	—	—
9986 Water, sewage lagoons	100	—	—	—	—	—	—
9999 Water	100	—	—	—	—	—	—

[This report shows only the major soils in each map unit]

Table 3 Details of Available Geospatial, Stream Flow and Meteorological Data

Datat Type	Resource Agency	Resource Information	Notes
Terrain DEM	USGS NED	http://seamless.usgs.gov/ned13.php	30 meter resolution
Land Use	USGS NLCD	http://seamless.usgs.gov/nlcd.php	2006 version
Flowline Data	USGS NHD	http://nhd.usgs.gov/	
Soil data	NRCS	http://datagateway.nrcs.usda.gov/	SSURGO
Meteorological	NOAA NWS and NCDC	NWS and NCDC websites	Precipitation, evaporation and runoff values

Table 4 C-factor Values for Various Land Use Types

Land Use Category	C Value
Open Water	0.000
Deciduous Forest	0.002
Evergreen Forest	0.001
Mixed Forest	0.001
Scrub/Shrub	0.003
Grassland/Herbaceous	0.010
Pasture/Hay	0.470
Cultivated Crops	0.470
Woody Wetlands	0.001
Emergent Herbaceous Wetland	0.001

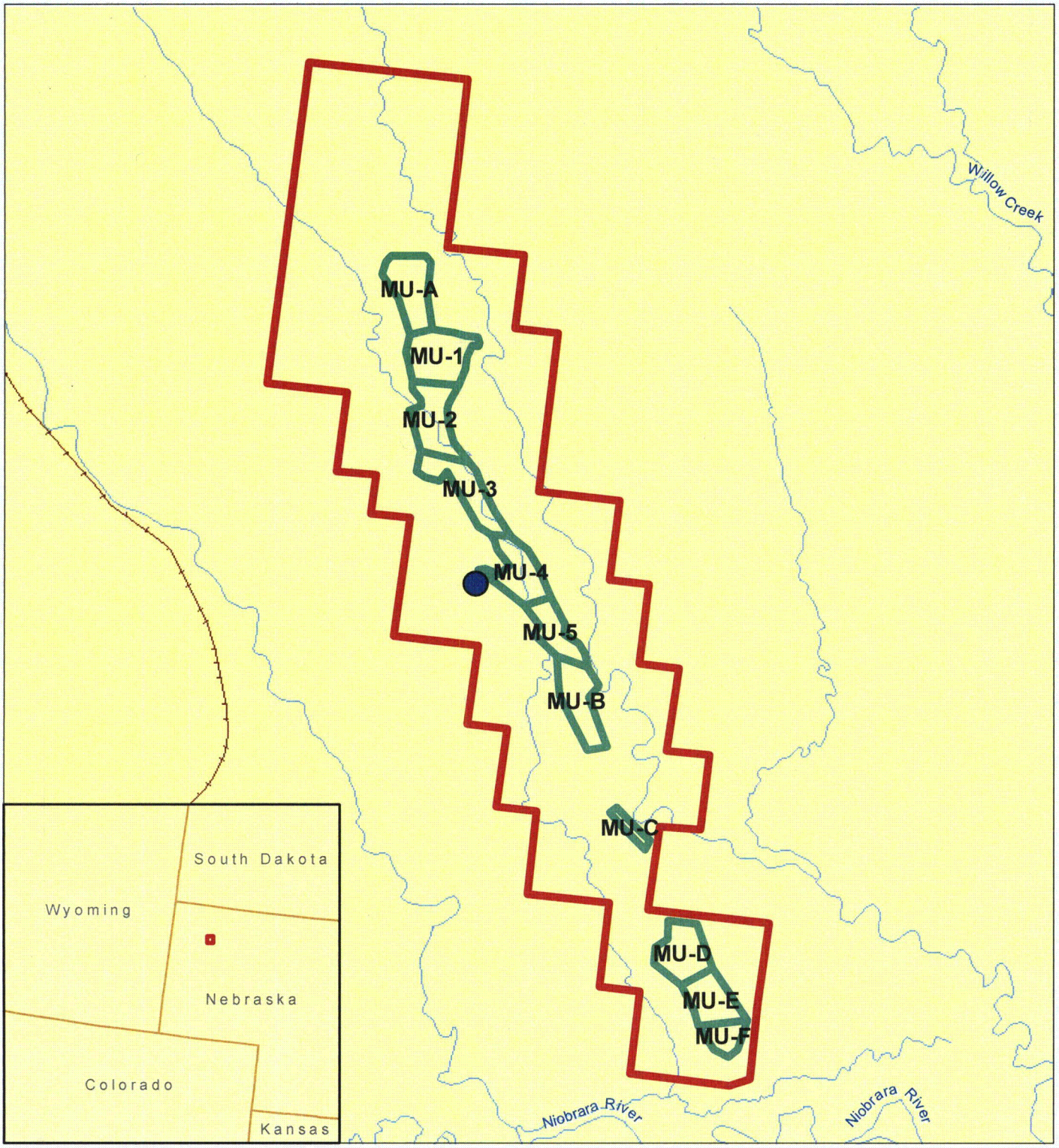
Note: C-factor values derived from current conditions described in the National Cover Dataset (NLCD 2006).

Table 5 MEA Mine Units Determined to be at a High or Moderate Risk of Erosion

Mining Unit	MU Maximum Soil Loss (ton/acre/year)	MU Maximum Erosion Risk	Percent MU Area of Moderate to High Erosion Risk	Drainage Lines Crossing MU
MU-A	3.3	Low	N/A	N/A
MU-1	3.4	Low	N/A	N/A
MU-2	18.7	High	5	21
MU-3	22.2	High	2	21
MU-4	24.5	High	7	21
MU-5	13.5	Moderate	11	21
MU-B	20.0	High	6	N/A
MU-C	2.7	Very Low	N/A	N/A
MU-D	0.9	Very Low	N/A	30
MU-E	1.1	Very Low	N/A	N/A
MU-F	0.7	Very Low	N/A	N/A

ARCADIS

Figures



LEGEND

- Proposed Cameco/Marsland Expansion Area
- Mine Unit Boundaries
- Satellite Facility Location

N

0 0.3 0.6 0.9 Miles

0 0.55 1.1 1.65 Kilometers

CROW BUTTE RESOURCES, INC.

FIGURE 1
PROPOSED CAMECO/MARSLAND EXPANSION AREA

PROJECT: CO001636

ARCADIS
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Highlands Ranch, CO 80129
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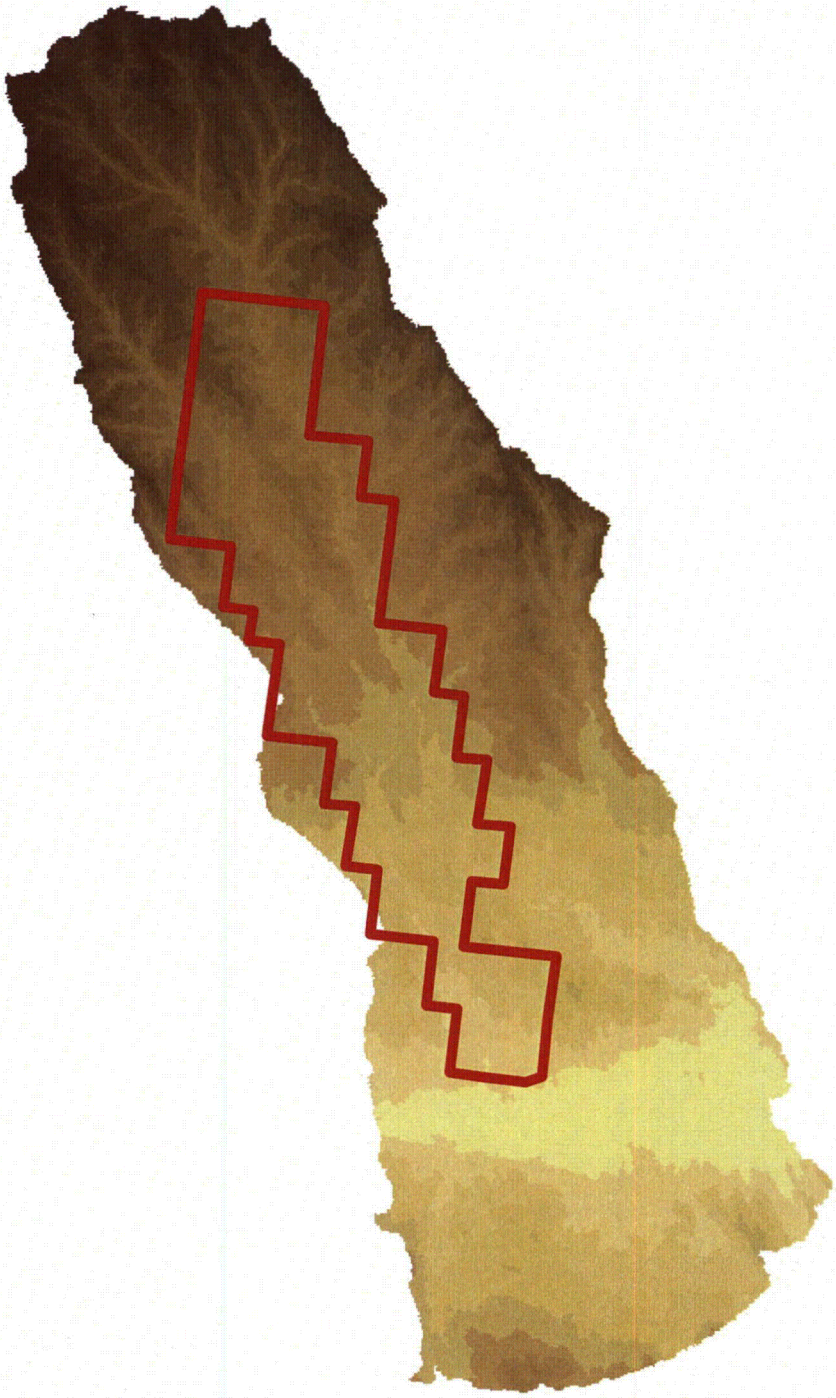
www.arcadis-us.com



LEGEND

Proposed Cameco/Marsland Expansion Area

Meters NAVD88

- 1,226 - 1,241
- 1,242 - 1,253
- 1,254 - 1,264
- 1,265 - 1,275
- 1,276 - 1,288
- 1,289 - 1,301
- 1,302 - 1,314
- 1,315 - 1,327
- 1,328 - 1,341
- 1,342 - 1,355
- 1,356 - 1,367
- 1,368 - 1,379
- 1,380 - 1,390
- 1,391 - 1,402
- 1,403 - 1,419

N

0 0.5 1 1.5 Miles

0 1 2 3 Kilometers

CROW BUTTE RESOURCES, INC.

FIGURE 2
DIGITAL ELEVATION MODEL (DEM)

PROJECT: CO001636

ARCADIS
630 Plaza Drive, Ste. 100
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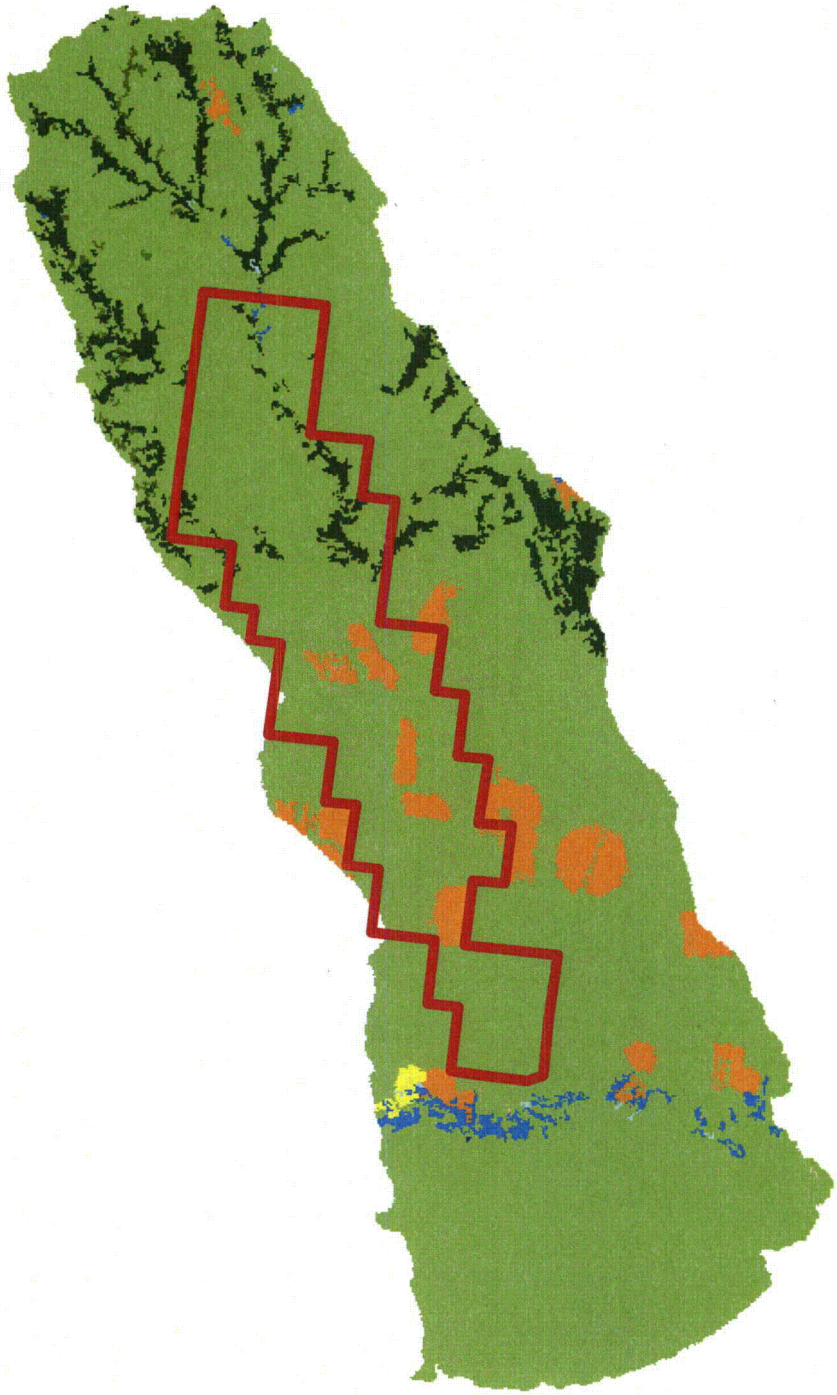

LEGEND

Proposed Cameco/Marsland Expansion Area

- Open Water
- Low Intensity Residential
- High Intensity Residential
- Commercial/Industrial/Transportation
- Developed High Intensity
- Bare Rock/Sand/Clay
- Deciduous Forest
- Evergreen Forest
- Mixed Forest
- Scrub/Shrub
- Grassland/Herbaceous
- Pasture/Hay
- Row Crops
- Woody Wetlands
- Emergent Herbaceous Wetlands

N

0 0.5 1 1.5 Miles

0 1 2 3 Kilometers

CROW BUTTE RESOURCES, INC.

FIGURE 3
LAND CLASSIFICATIONS
NLCD 2006

PROJECT: CO001636

ARCADIS
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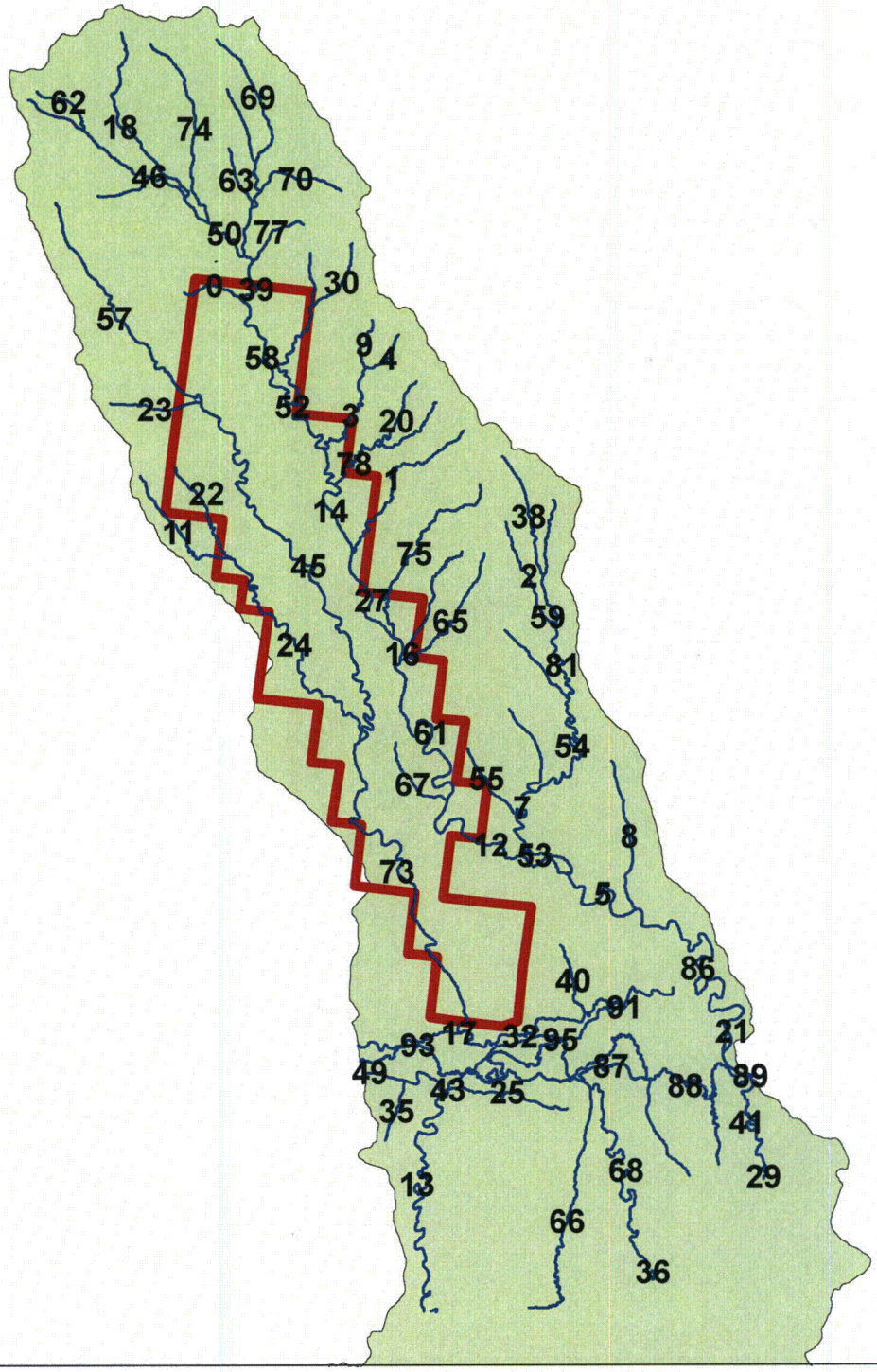

LEGEND

Proposed Cameco/Marsland Expansion Area

NHD Stream Network

Stream Network ID

N

0 0.5 1 1.5 Miles

0 1 2 3 Kilometers

CROW BUTTE RESOURCES, INC.

FIGURE 4
NHD PUBLISHED STREAM NETWORK

PROJECT: CO001636

ARCADIS

630 Plaza Drive, Ste. 100
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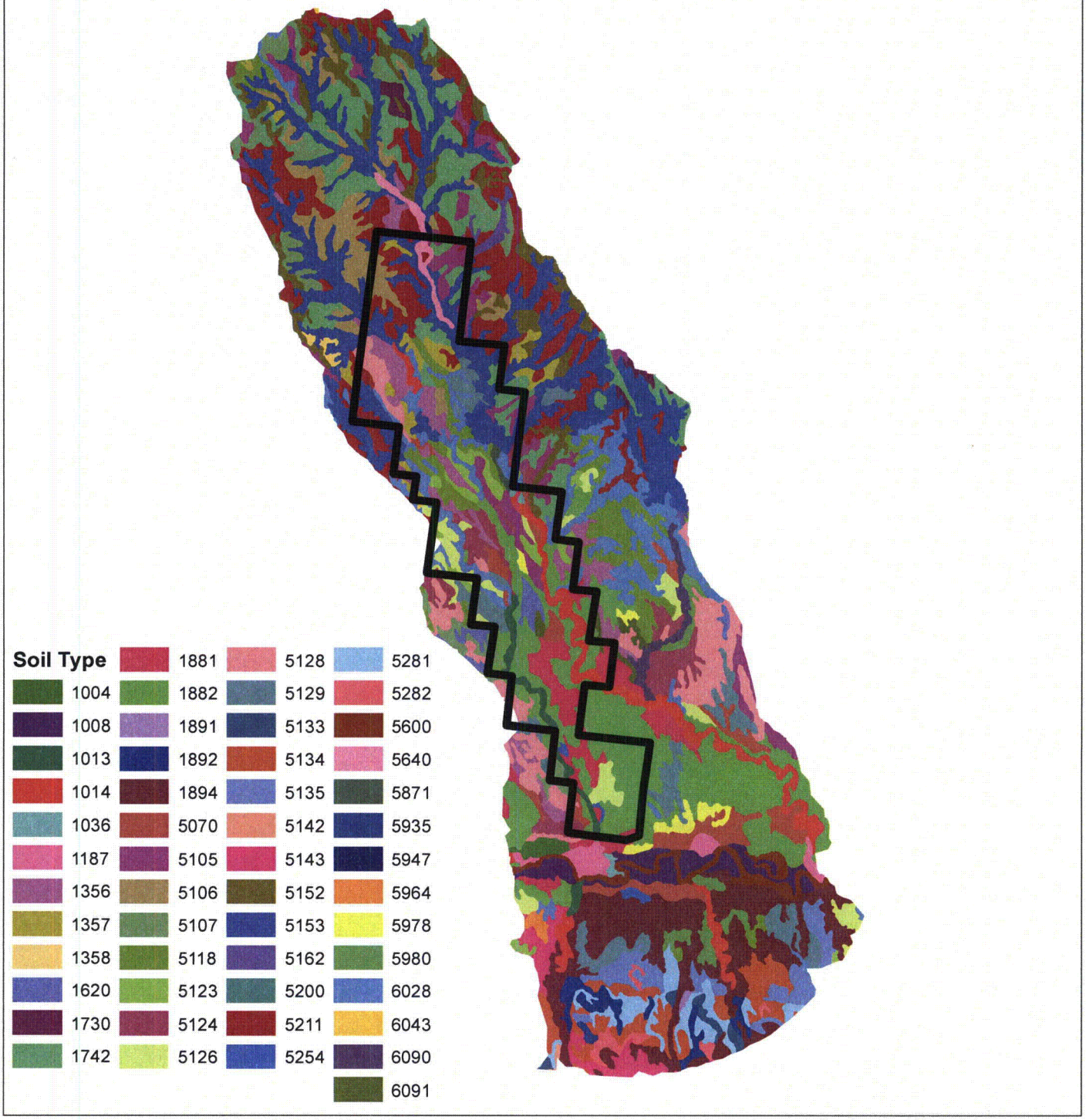

LEGEND

Proposed Cameco/Marsland Expansion Area

N

0 0.5 1 1.5 Miles

0 1 2 3 Kilometers

CROW BUTTE RESOURCES, INC.

FIGURE 5
NRCS SSURGO SOIL TYPES

PROJECT: CO001636

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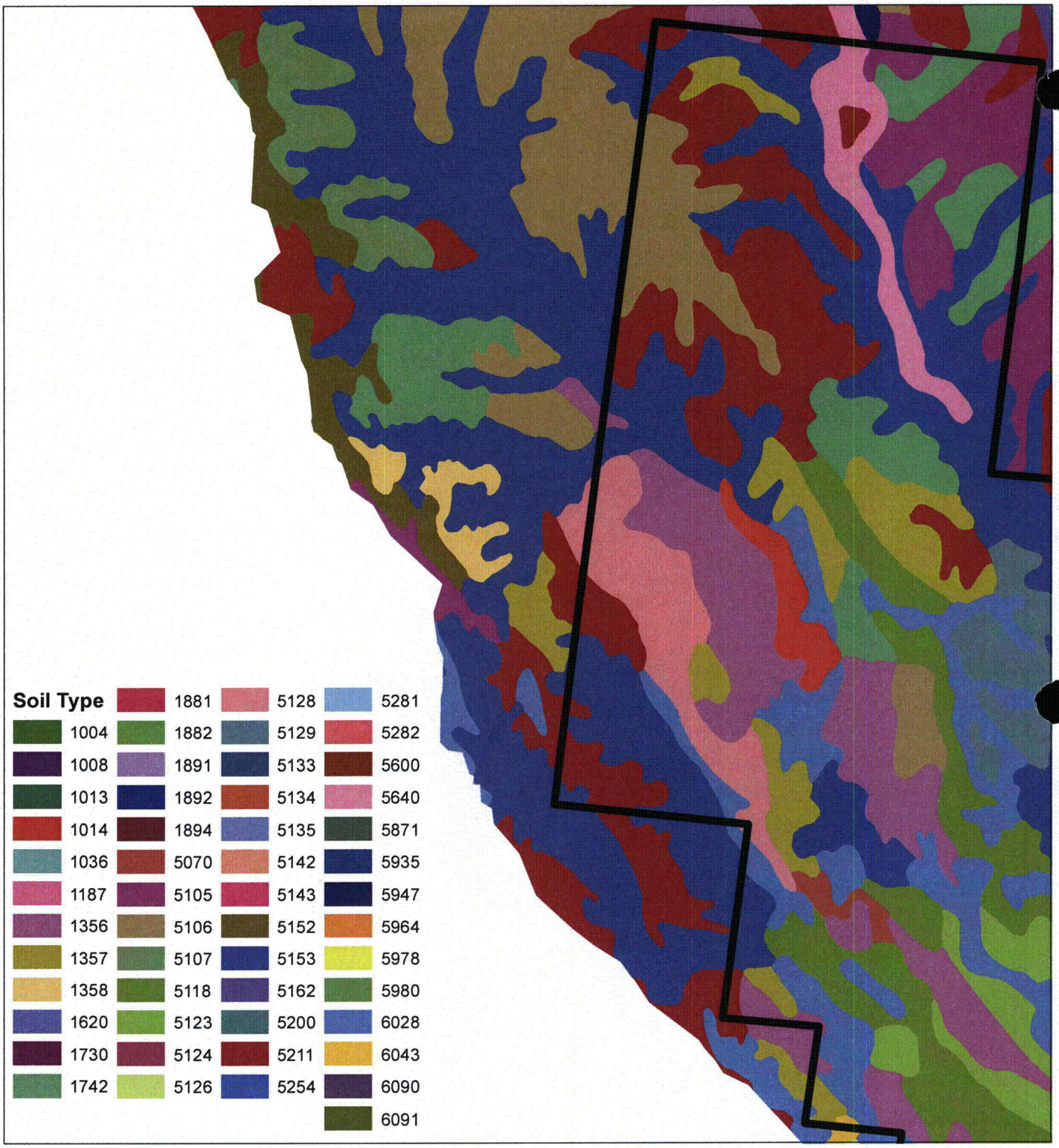

LEGEND

Proposed Cameco/Marsland Expansion Area

N

0 0.1 0.2 0.3 Miles

0 0.2 0.4 0.6 Kilometers

CROW BUTTE RESOURCES, INC.

FIGURE 6
NRCS SSURGO SOIL TYPES

PROJECT: CO001636

ARCADIS
630 Plaza Drive, Ste. 100
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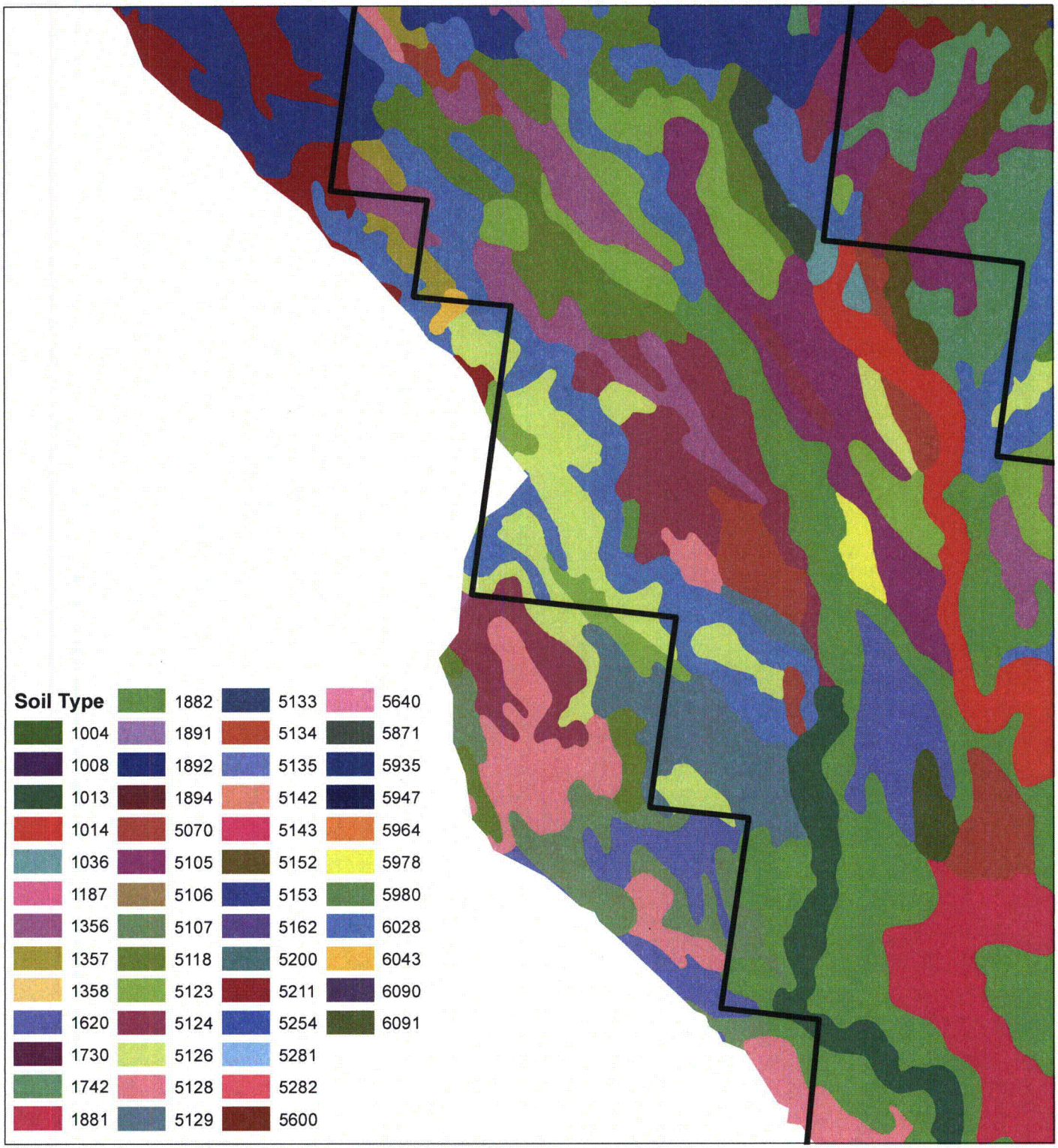

LEGEND

Proposed Cameco/Marsland Expansion Area

N

0 0.1 0.2 0.3 Miles

0 0.2 0.4 0.6 Kilometers

CROW BUTTE RESOURCES, INC.

FIGURE 7
NRCS SSURGO SOIL TYPES

PROJECT: CO001636

ARCADIS
630 Plaza Drive, Ste. 100
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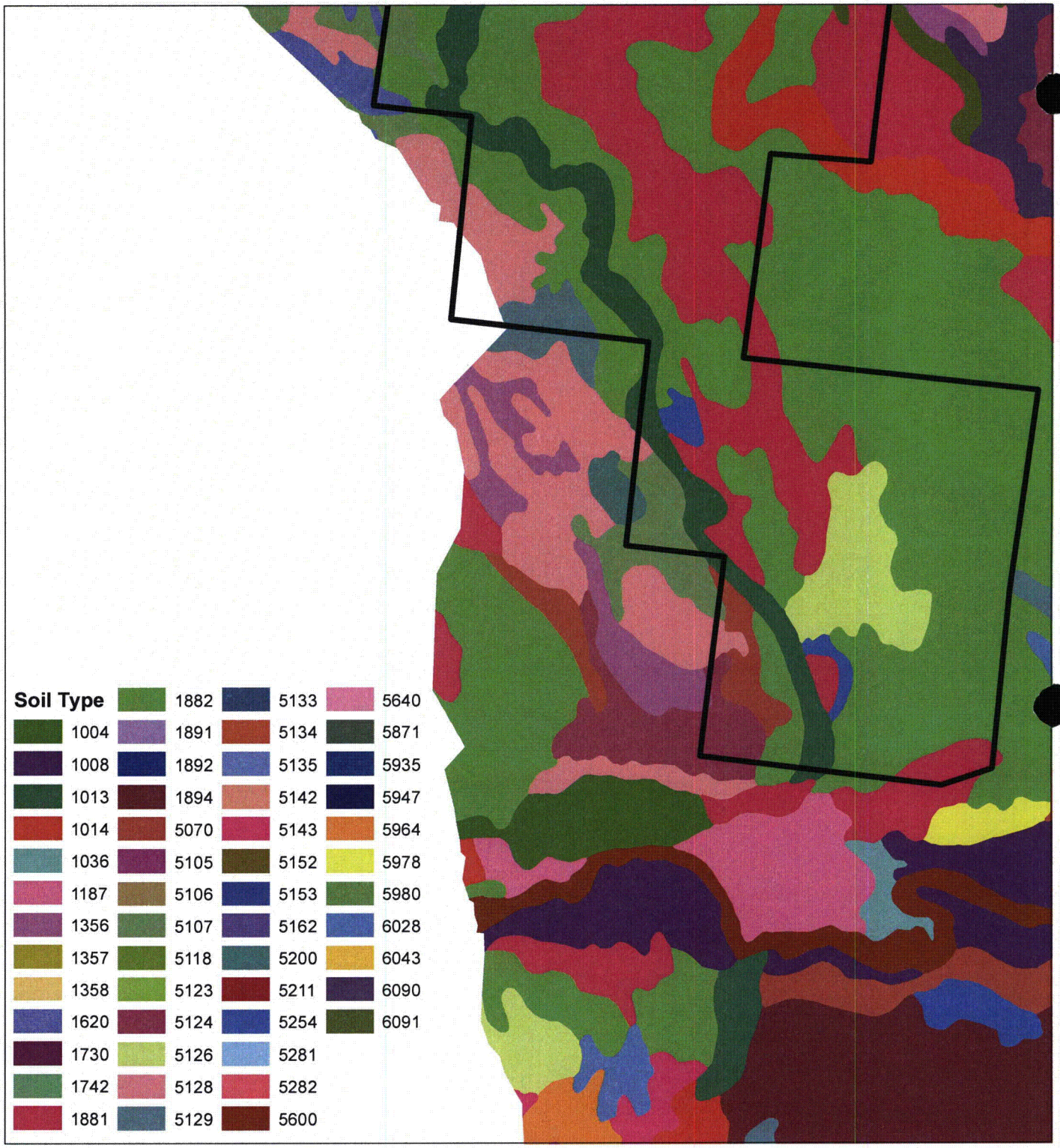

LEGEND

Proposed Cameco/Marsland Expansion Area

N

0 0.1 0.2 0.3 Miles

0 0.2 0.4 0.6 Kilometers

CROW BUTTE RESOURCES, INC.

FIGURE 8
NRCS SSURGO SOIL TYPES

PROJECT: CO001636

ARCADIS

630 Plaza Drive, Ste. 100
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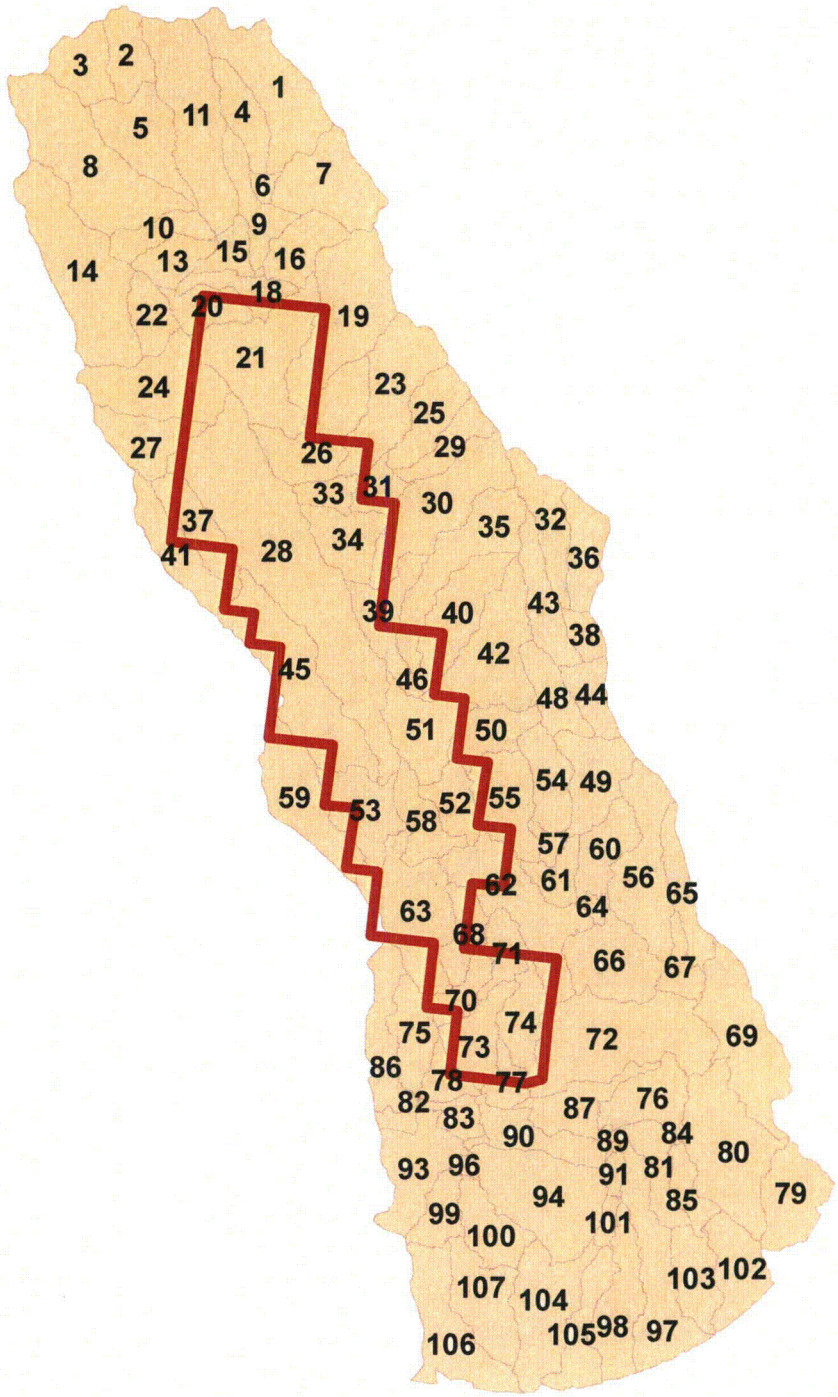

LEGEND

Proposed Cameco/Marsland Expansion Area

Watersed Delineation

Watershed ID

N

0 0.5 1 1.5 Miles

0 1 2 3 Kilometers

CROW BUTTE RESOURCES, INC.

FIGURE 9
WATERSHED DELINEATION FOR THE CAMECO/MARSLAND EXPANSION WITH RECONDITIONED DEM

PROJECT: CO001636

ARCADIS
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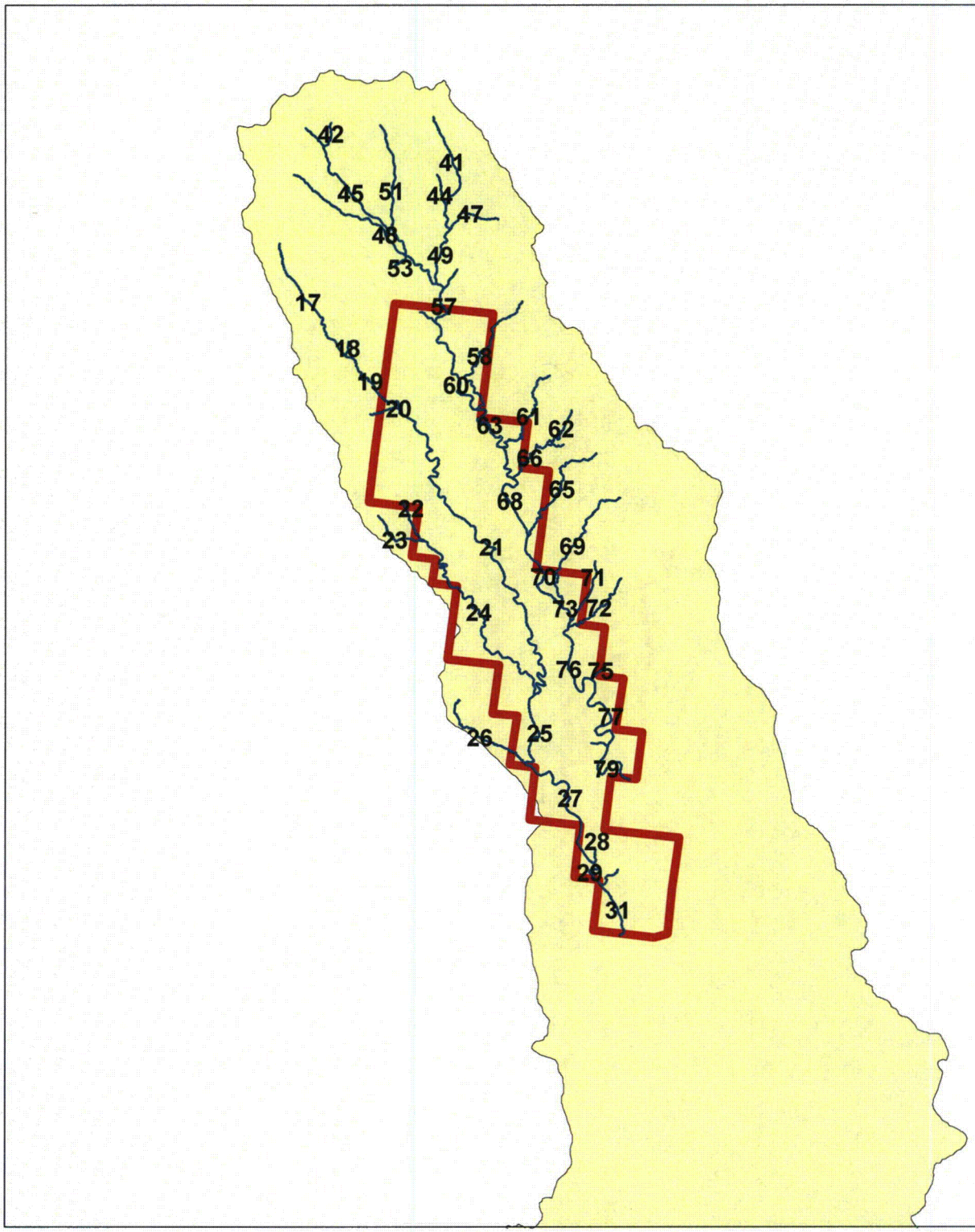

LEGEND

Proposed Cameco/Marsland Expansion Area

Drainage Lines

Drainage Line ID

N

0 0.5 1 1.5 Miles

0 1 2 3 Kilometers

CROW BUTTE RESOURCES, INC.

FIGURE 10
DRAINAGE LINES

PROJECT: CO001636

ARCADIS
630 Plaza Drive, Ste. 100
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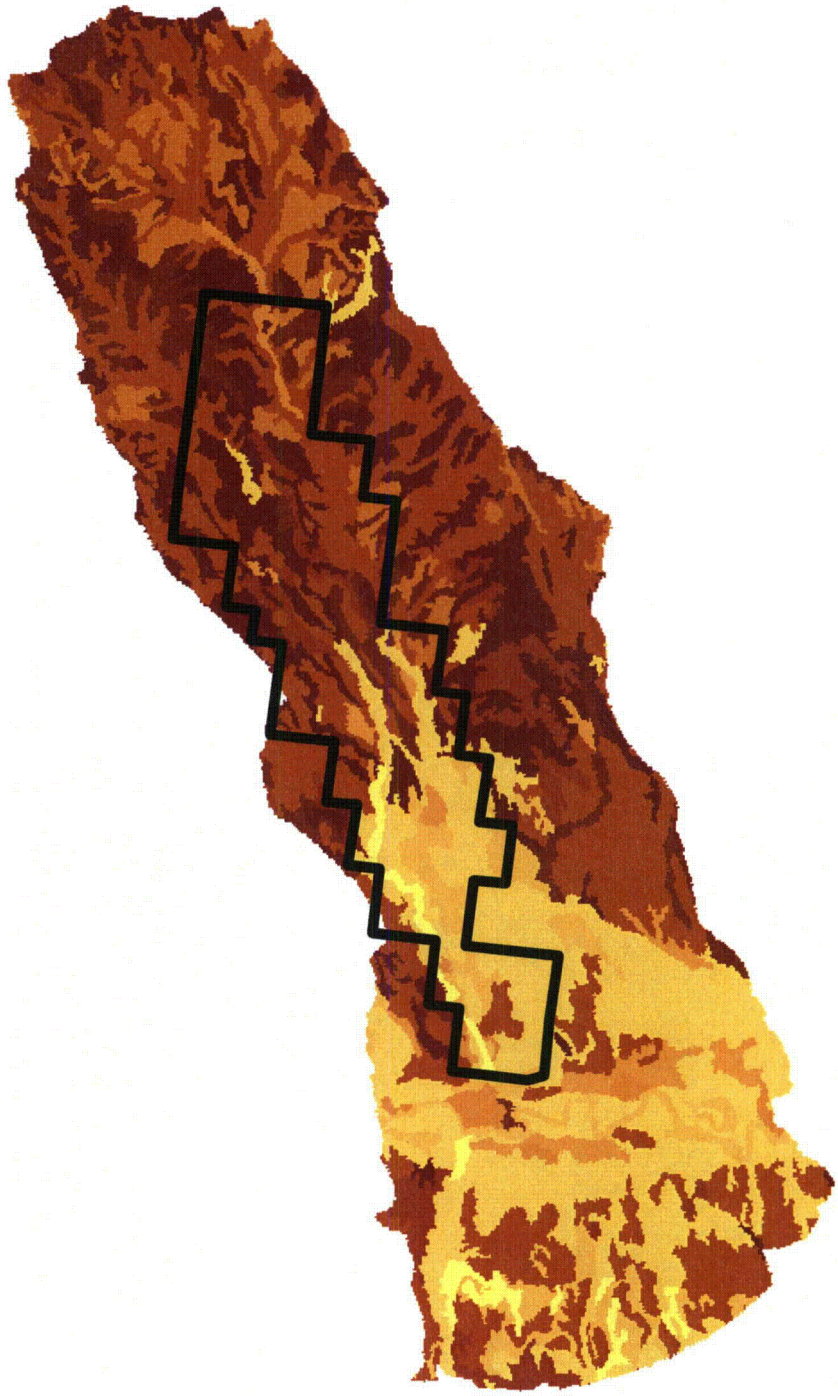

LEGEND

Proposed Cameco/Marsland Expansion Area

0.1	0.21 - 0.24	0.33 - 0.32
0.11 - 0.17	0.25 - 0.29	0.33 - 0.37
0.18 - 0.2	0.3 - 0.32	0.38 - 0.4
		0.41 - 0.43

N

0 0.5 1 1.5 Miles

0 1 2 3 Kilometers

CROW BUTTE RESOURCES, INC.

FIGURE 11
RUSLE SOIL ERODIBILITY
K FACTOR

PROJECT: CO001636

ARCADIS
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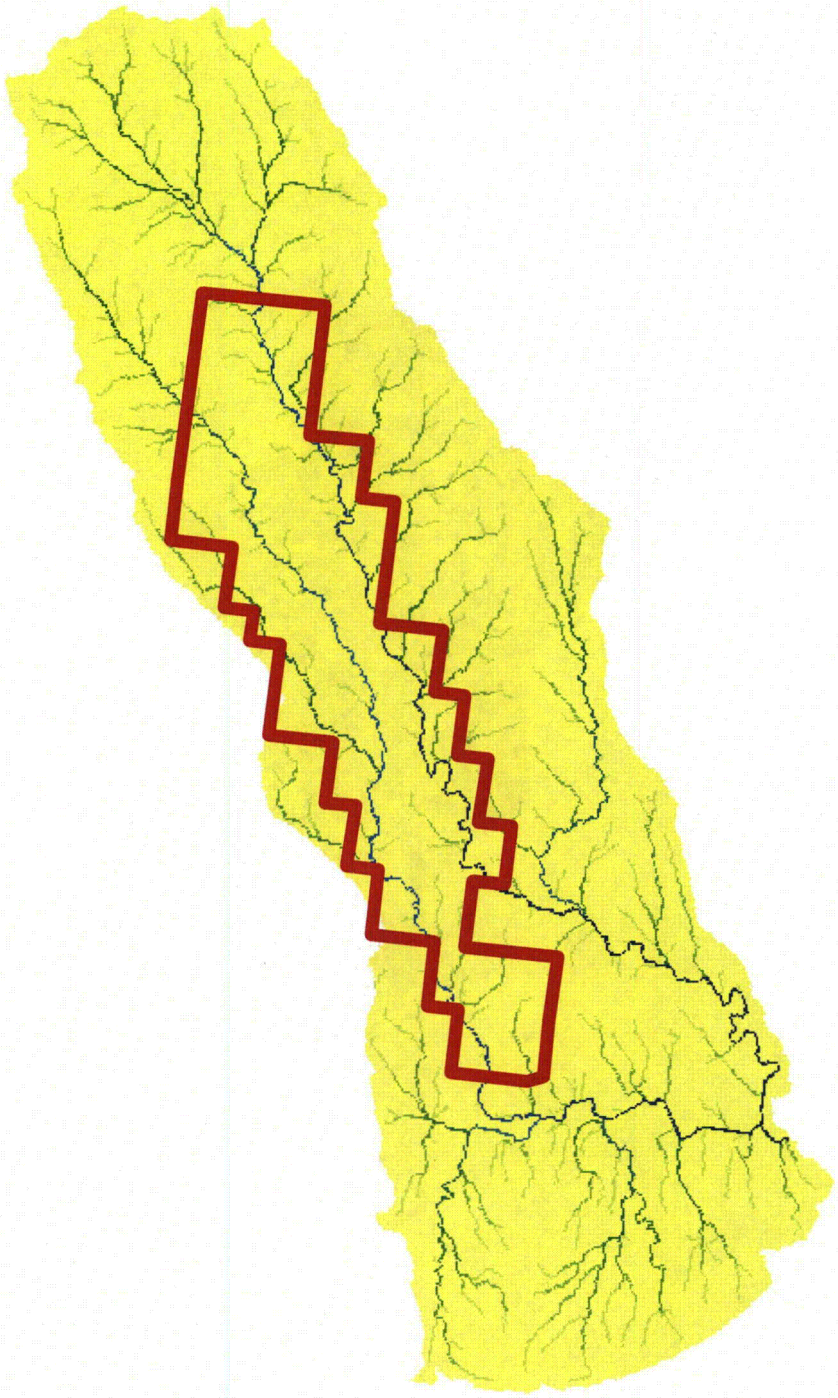
P: 720-344-3500 F: 720-344-3535
www.arcadis-us.com



LEGEND

Proposed Cameco/Marsland Expansion Area

0 - 68	1,473 - 2,297	9,882 - 17,521
69 - 242	2,298 - 3,615	17,522 - 23,683
243 - 515	3,616 - 5,528	23,684 - 31,219
516 - 915	5,529 - 7,796	31,220 - 39,673
916 - 1,472	7,797 - 9,881	39,674 - 92,908

NOTE: Value represents the number of 900 m^2 cells that drain through a given 900 m^2 cell

N

0 0.5 1 1.5 Miles

0 1 2 3 Kilometers

CROW BUTTE RESOURCES, INC.

FIGURE 12
FLOW ACCUMULATION VALUES USED TO CALCULATE RUSLE LS-FACTOR

PROJECT: CO001636

ARCADIS
630 Plaza Drive, Ste. 100
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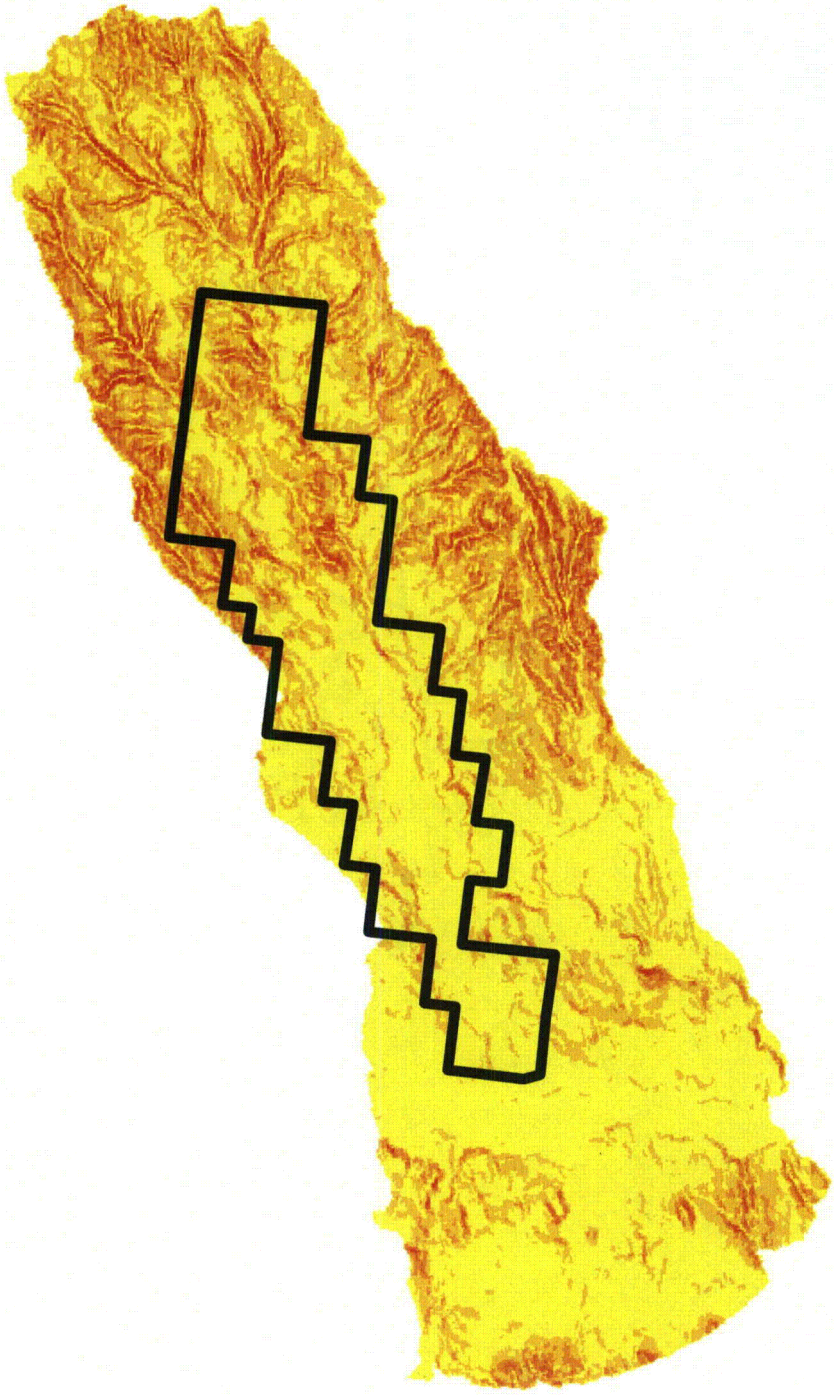

LEGEND

Proposed Cameco/Marsland Expansion Area

0% - 5%	21% - 25%
6% - 10%	26% - 30%
11% - 15%	31% - 35%
16% - 20%	36% - 40%

N

0 0.5 1 1.5 Miles

0 1 2 3 Kilometers

CROW BUTTE RESOURCES, INC.

FIGURE 13
PERCENT TOPOGRAPHIC SLOPE

PROJECT: CO001636

ARCADIS
630 Plaza Drive, Ste. 100
Highlands Ranch, CO 80129
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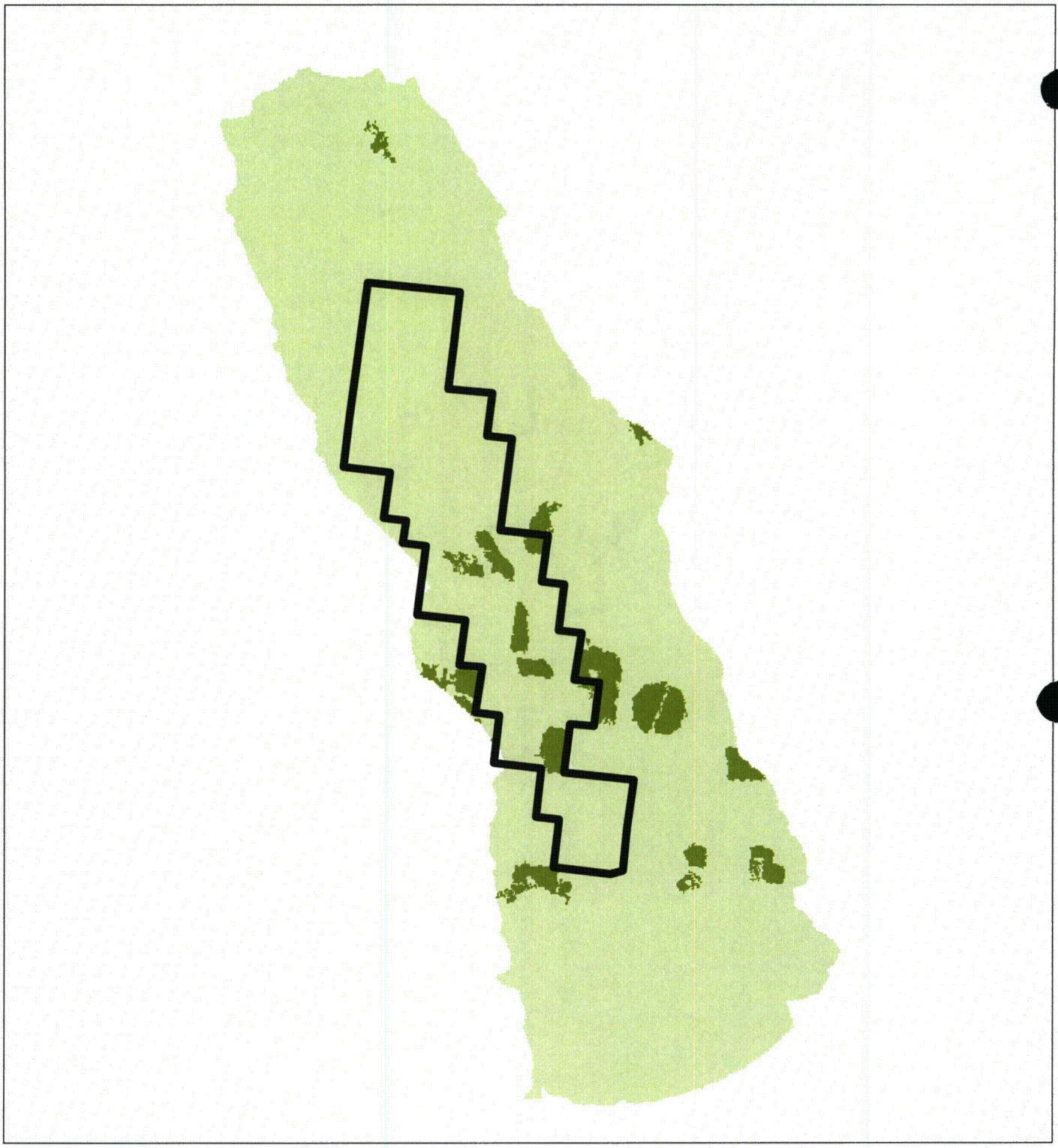

LEGEND

Proposed Cameco/Marsland Expansion Area

0 - 0.05	0.15 - 0.19	0.29 - 0.33
0.06 - 0.09	0.2 - 0.23	0.34 - 0.37
0.1 - 0.14	0.24 - 0.28	0.38 - 0.42
		0.43 - 0.47

N

0 0.5 1 1.5 Miles

0 1 2 3 Kilometers

CROW BUTTE RESOURCES, INC.

FIGURE 14
RUSLE LAND COVER MANAGEMENT
C FACTOR

PROJECT: CO001636

ARCADIS
630 Plaza Drive, Ste. 100
Highlands Ranch, CO 80129
P: 720-344-3500 F: 720-344-3535
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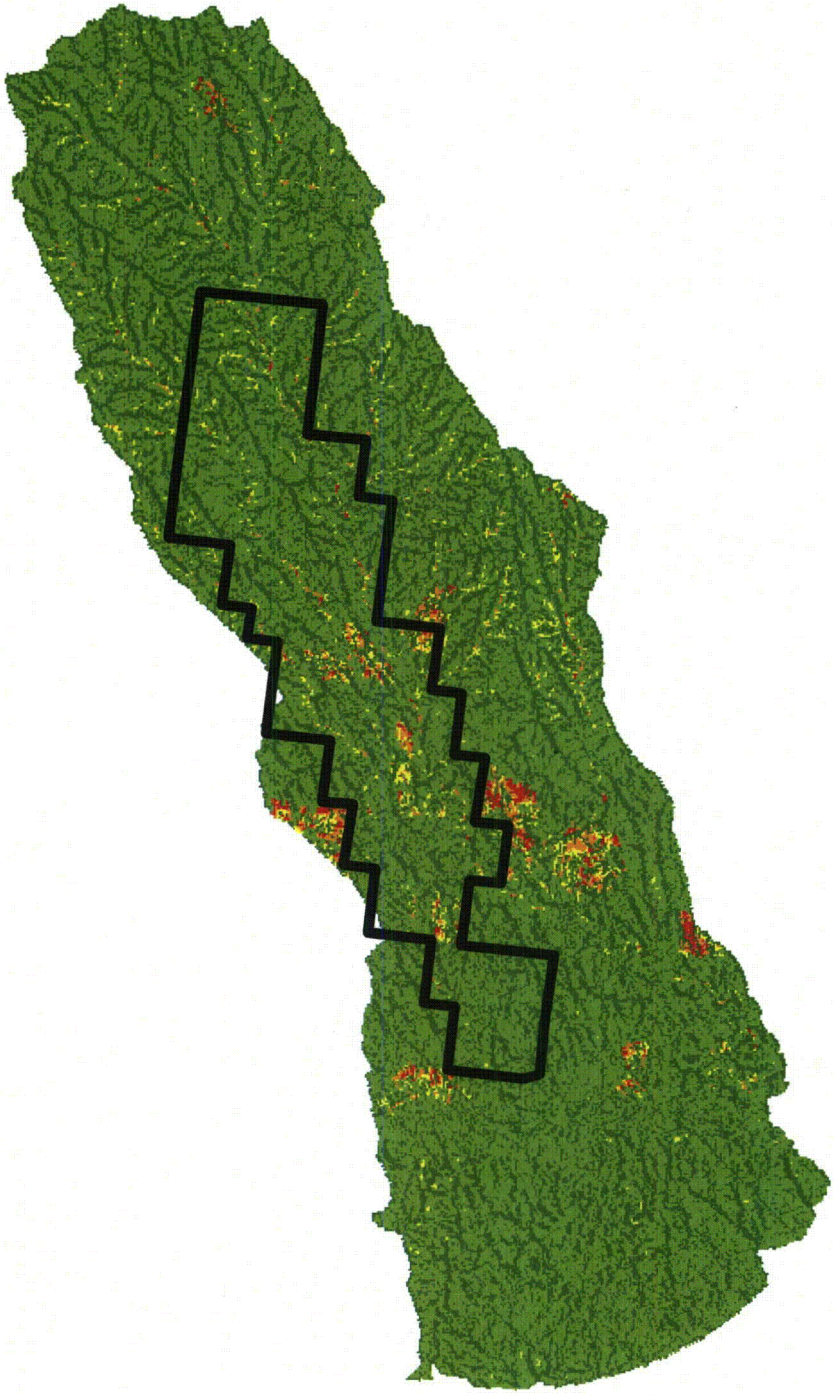

LEGEND

- Proposed Cameco/Marsland Expansion Area
- No Erosion (A = 0)
- Very Low Erosion (A = 0 - 3)
- Low Erosion (A = 3 - 6)
- Moderate Erosion (A = 6 - 15)
- High Erosion (A = 15 - 100)
- Very High Erosion (A > 100)

N

0 0.5 1 1.5 Miles

0 1 2 3 Kilometers

CROW BUTTE RESOURCES, INC.

FIGURE 15
AVERAGE ANNUAL SOIL LOSS
RUSLE A FACTOR (TONS/ACRE/YEAR)

PROJECT: CO001636

ARCADIS
630 Plaza Drive, Ste. 100
Highlands Ranch, CO 80129
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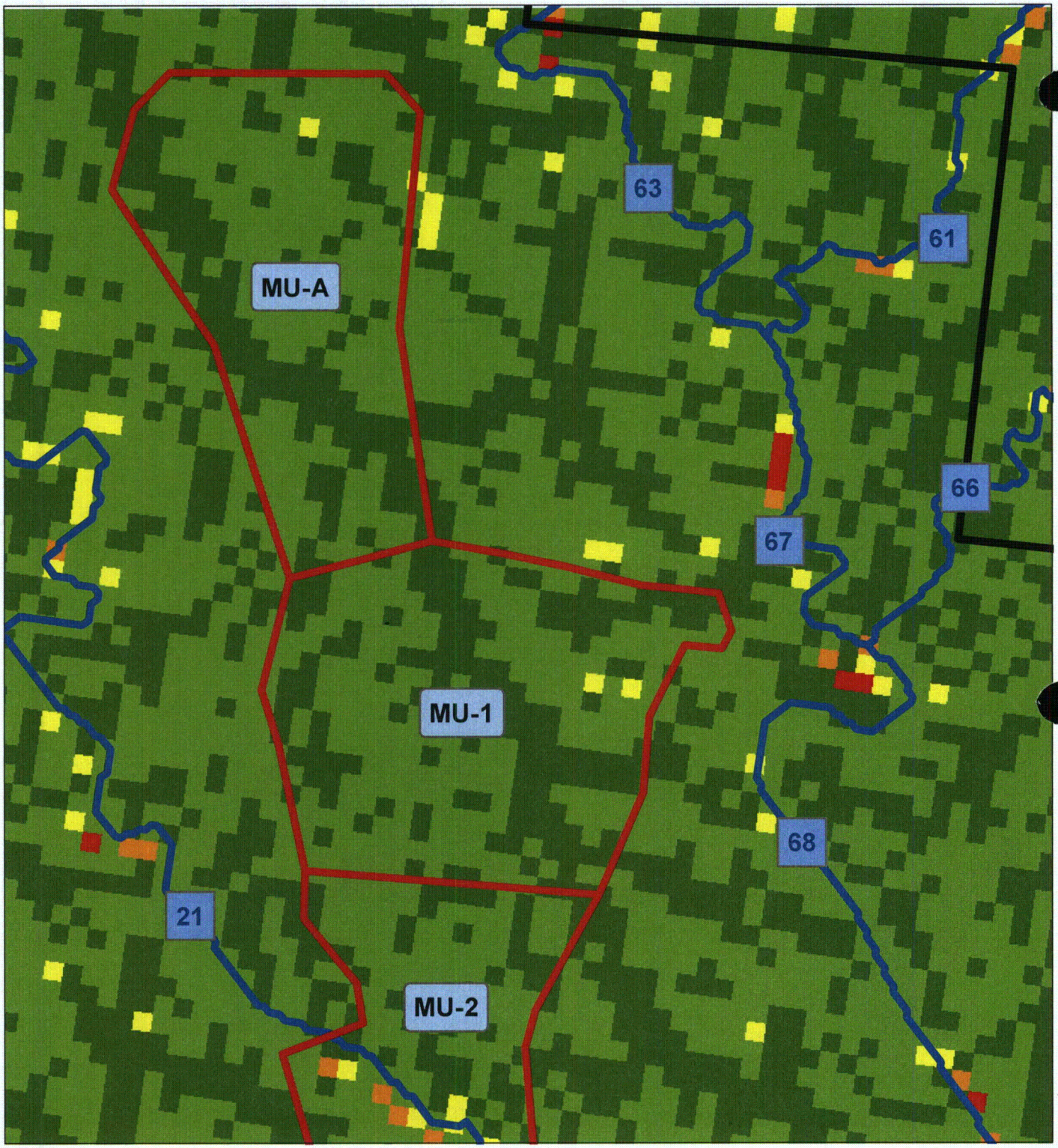

LEGEND

- Proposed Cameco/Marsland Expansion Area
- Drainage Lines
- Mine Unit Boundaries
- No Erosion (A = 0)
- Very Low Erosion (A = 0 - 3)
- Low Erosion (A = 3 - 6)
- Moderate Erosion (A = 6 - 15)
- High Erosion (A = 15 - 100)
- Very High Erosion (A > 100)

N

0 0.045 0.09 0.135 Miles

0 0.09 0.18 0.27 Kilometers

CROW BUTTE RESOURCES, INC.

FIGURE 16
MINE UNIT BOUNDARIES, DRAINAGE LINES AND SOIL LOSS FOR MU-A and MU-1

PROJECT: CO001636

ARCADIS
630 Plaza Drive, Ste. 100
Highlands Ranch, CO 80129
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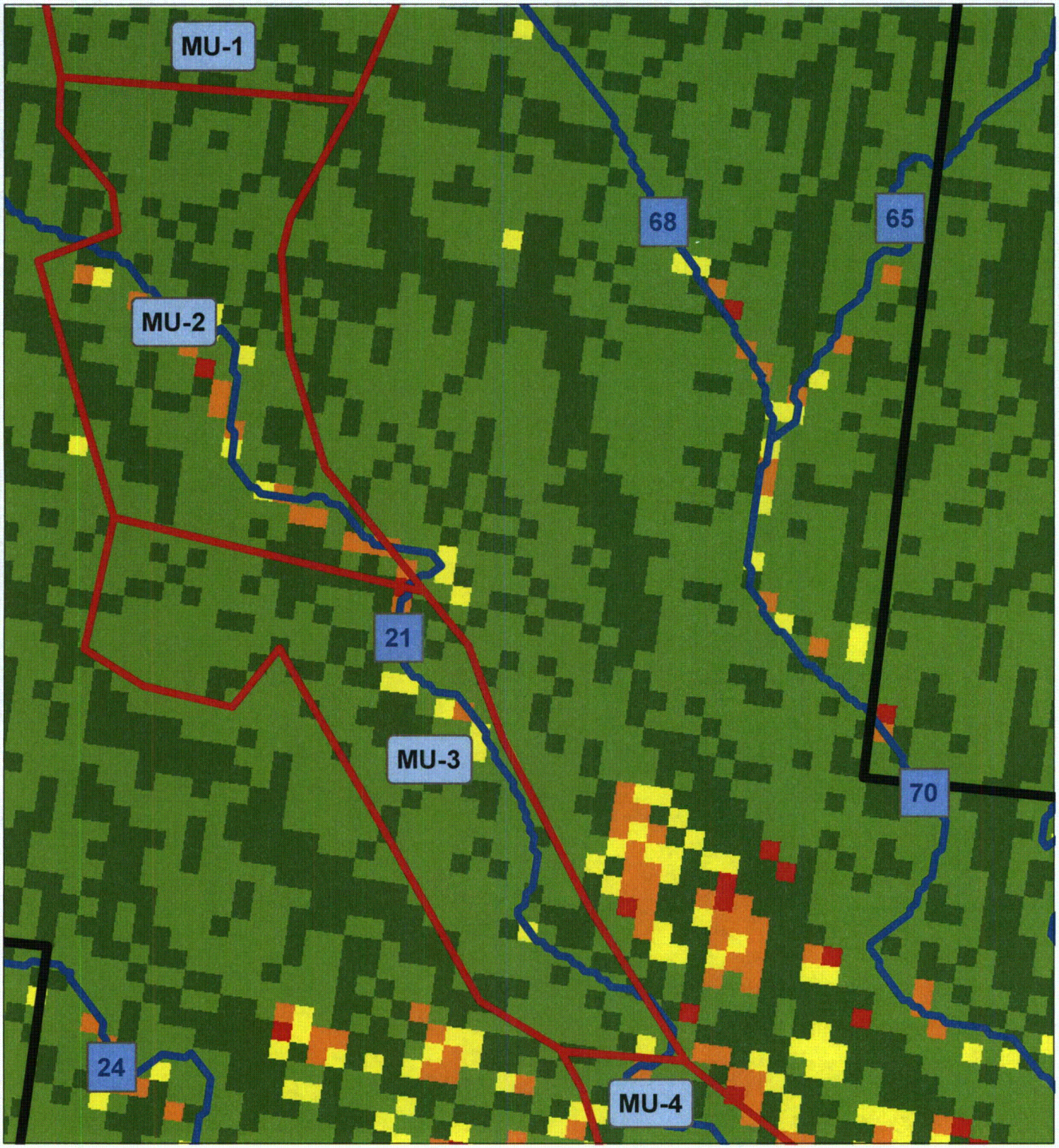
www.arcadis-us.com



LEGEND

- Proposed Cameco/Marsland Expansion Area
- Drainage Lines
- Mine Unit Boundaries
- No Erosion (A = 0)
- Very Low Erosion (A = 0 - 3)
- Low Erosion (A = 3 - 6)
- Moderate Erosion (A = 6 - 15)
- High Erosion (A = 15 - 100)
- Very High Erosion (A > 100)

N

0 0.05 0.1 0.15 Miles

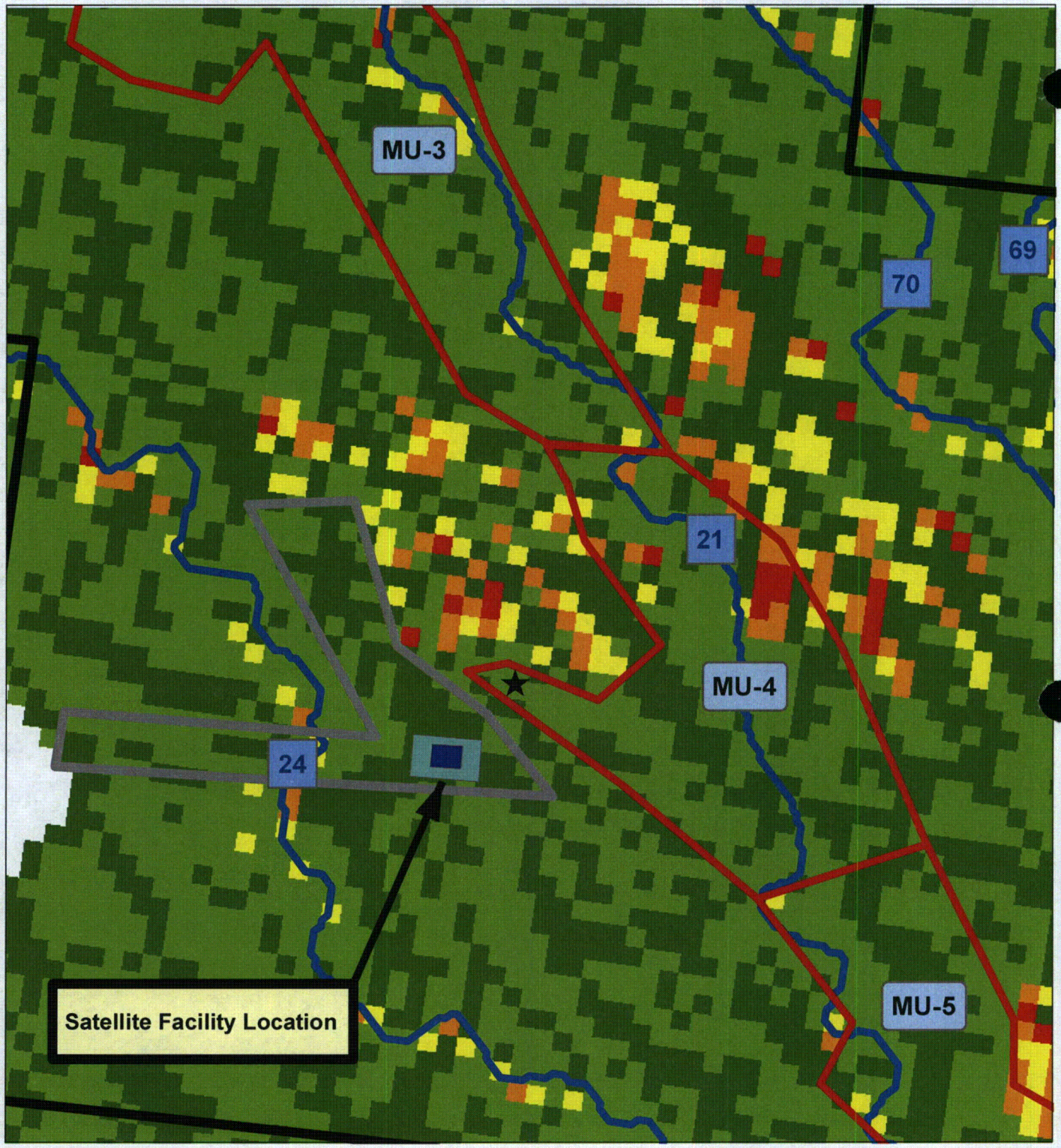
0 0.09 0.18 0.27 Kilometers

CROW BUTTE RESOURCES, INC.

FIGURE 17
MINE UNIT BOUNDARIES, DRAINAGE LINES AND SOIL LOSS FOR MU-2 and MU-3

PROJECT: CO001636

ARCADIS
630 Plaza Drive, Ste. 100
Highlands Ranch, CO 80129
P: 720-344-3500 F: 720-344-3535
www.arcadis-us.com



LEGEND

- Proposed Cameco/Marsland Expansion Area
- Drainage Lines
- Mine Unit Boundaries
- Satellite facility, deep disposal well and access road boundary
- ★ Proposed Deep Disposal Well

- No Erosion (A = 0)
- Very Low Erosion (A = 0 - 3)
- Low Erosion (A = 3 - 6)
- Moderate Erosion (A = 6 - 15)
- High Erosion (A = 15 - 100)
- Very High Erosion (A > 100)

N

0 0.045 0.09 0.135 Miles

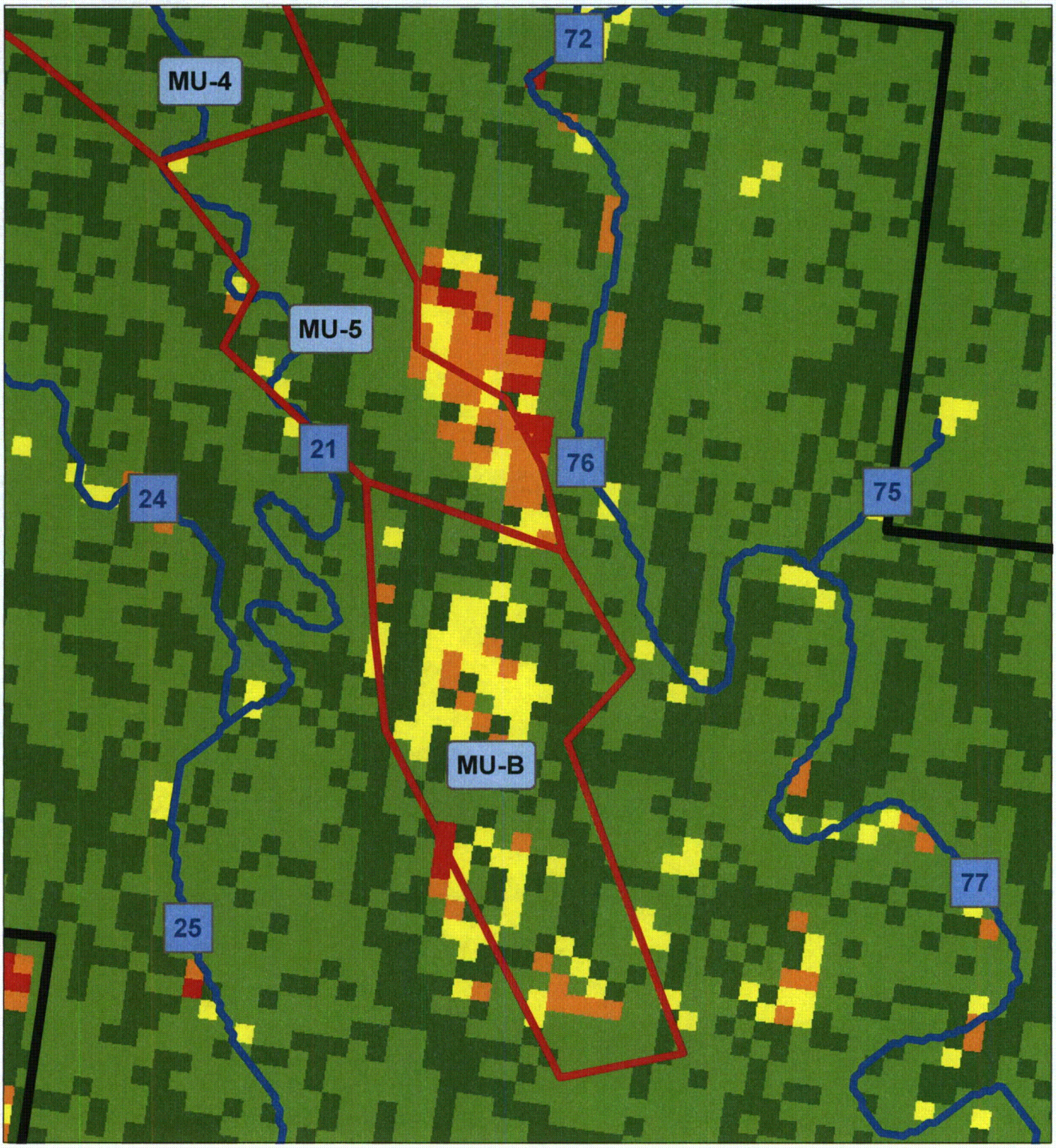
0 0.09 0.18 0.27 Kilometers

CROW BUTTE RESOURCES, INC.

FIGURE 18
MINE UNIT BOUNDARIES, DRAINAGE LINES AND SOIL LOSS FOR MU-3 and MU-4

PROJECT: CO001636

ARCADIS
630 Plaza Drive, Ste. 100
Highlands Ranch, CO 80129
P: 720-344-3500 F: 720-344-3535
www.arcadis-us.com



LEGEND

- Proposed Cameco/Marsland Expansion Area
- Drainage Lines
- Mine Unit Boundaries
- No Erosion (A = 0)
- Very Low Erosion (A = 0 - 3)
- Low Erosion (A = 3 - 6)
- Moderate Erosion (A = 6 - 15)
- High Erosion (A = 15 - 100)
- Very High Erosion (A > 100)

N

0 0.05 0.1 0.15 Miles

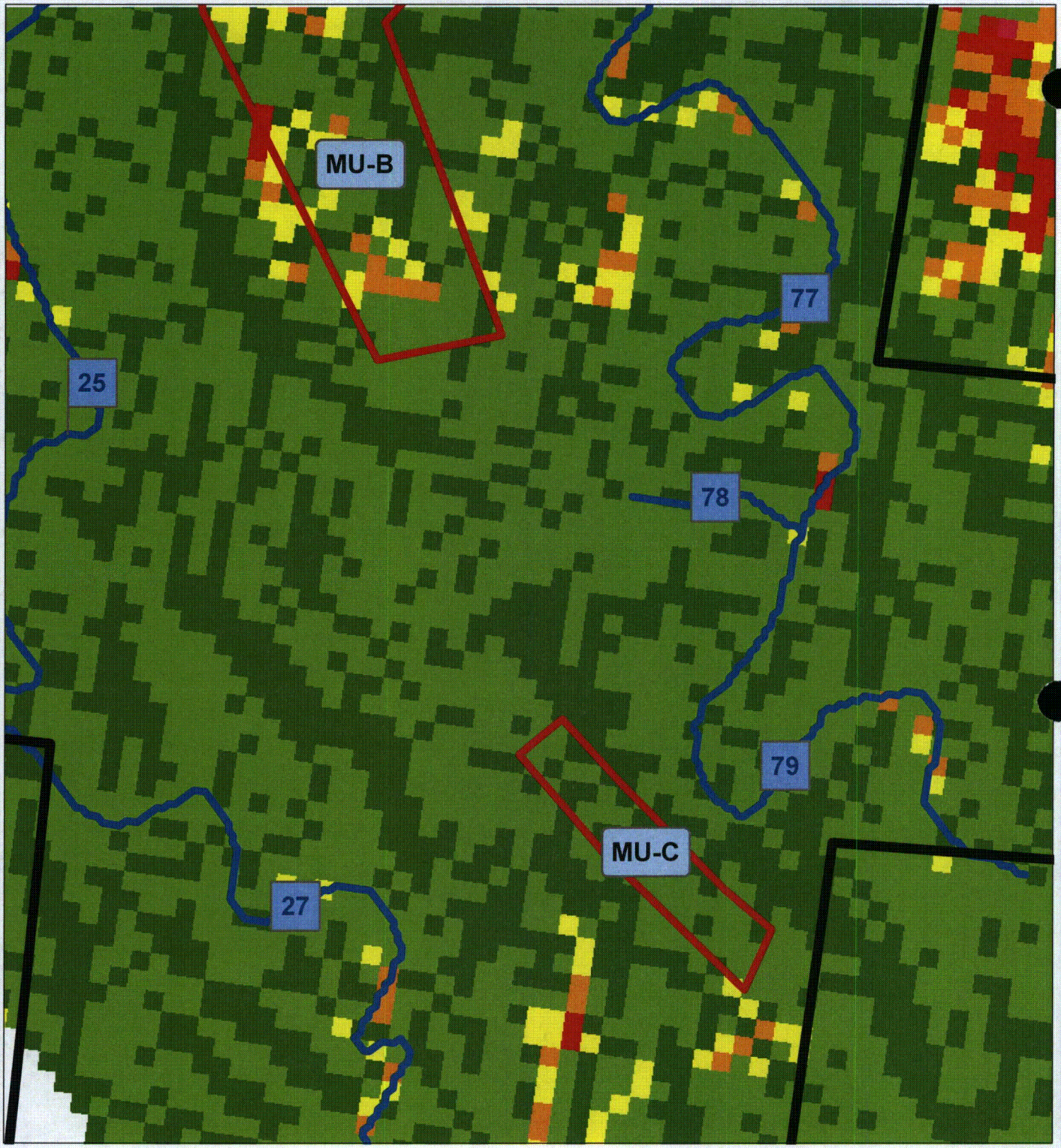
0 0.09 0.18 0.27 Kilometers

CROW BUTTE RESOURCES, INC.

FIGURE 19
MINE UNIT BOUNDARIES, DRAINAGE LINES AND SOIL LOSS FOR MU-5 and MU-B

PROJECT: CO001636

ARCADIS
630 Plaza Drive, Ste. 100
Highlands Ranch, CO 80129
P: 720-344-3500 F: 720-344-3535
www.arcadis-us.com



LEGEND

- Proposed Cameco/Marsland Expansion Area
- Drainage Lines
- Mine Unit Boundaries
- No Erosion (A = 0)
- Very Low Erosion (A = 0 - 3)
- Low Erosion (A = 3 - 6)
- Moderate Erosion (A = 6 - 15)
- High Erosion (A = 15 - 100)
- Very High Erosion (A > 100)

N

0 0.05 0.1 0.15 Miles

0 0.09 0.18 0.27 Kilometers

CROW BUTTE RESOURCES, INC.

FIGURE 20
MINE UNIT BOUNDARIES, DRAINAGE LINES AND SOIL LOSS FOR MU-B and MU-C

PROJECT: CO001636

ARCADIS
630 Plaza Drive, Ste. 100
Highlands Ranch, CO 80129
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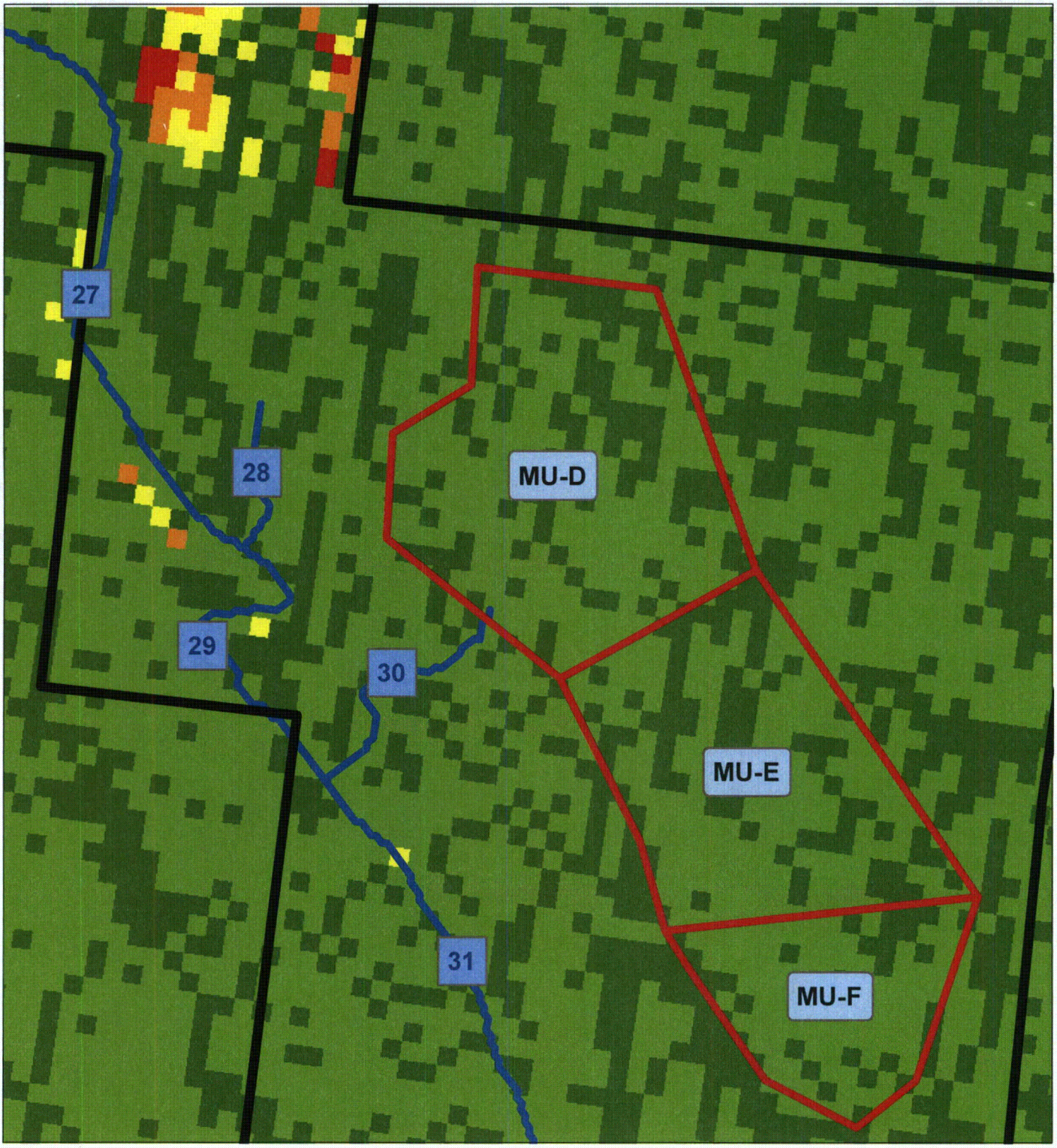

LEGEND

- Proposed Cameco/Marsland Expansion Area
- Drainage Lines
- Mine Unit Boundaries
- No Erosion (A = 0)
- Very Low Erosion (A = 0 - 3)
- Low Erosion (A = 3 - 6)
- Moderate Erosion (A = 6 - 15)
- High Erosion (A = 15 - 100)
- Very High Erosion (A > 100)

N

0 0.05 0.1 0.15 Miles

0 0.09 0.18 0.27 Kilometers

CROW BUTTE RESOURCES, INC.

FIGURE 21
MINE UNIT BOUNDARIES, DRAINAGE LINES AND SOIL LOSS FOR MU-D. MU-E and MU-F

PROJECT: CO001636

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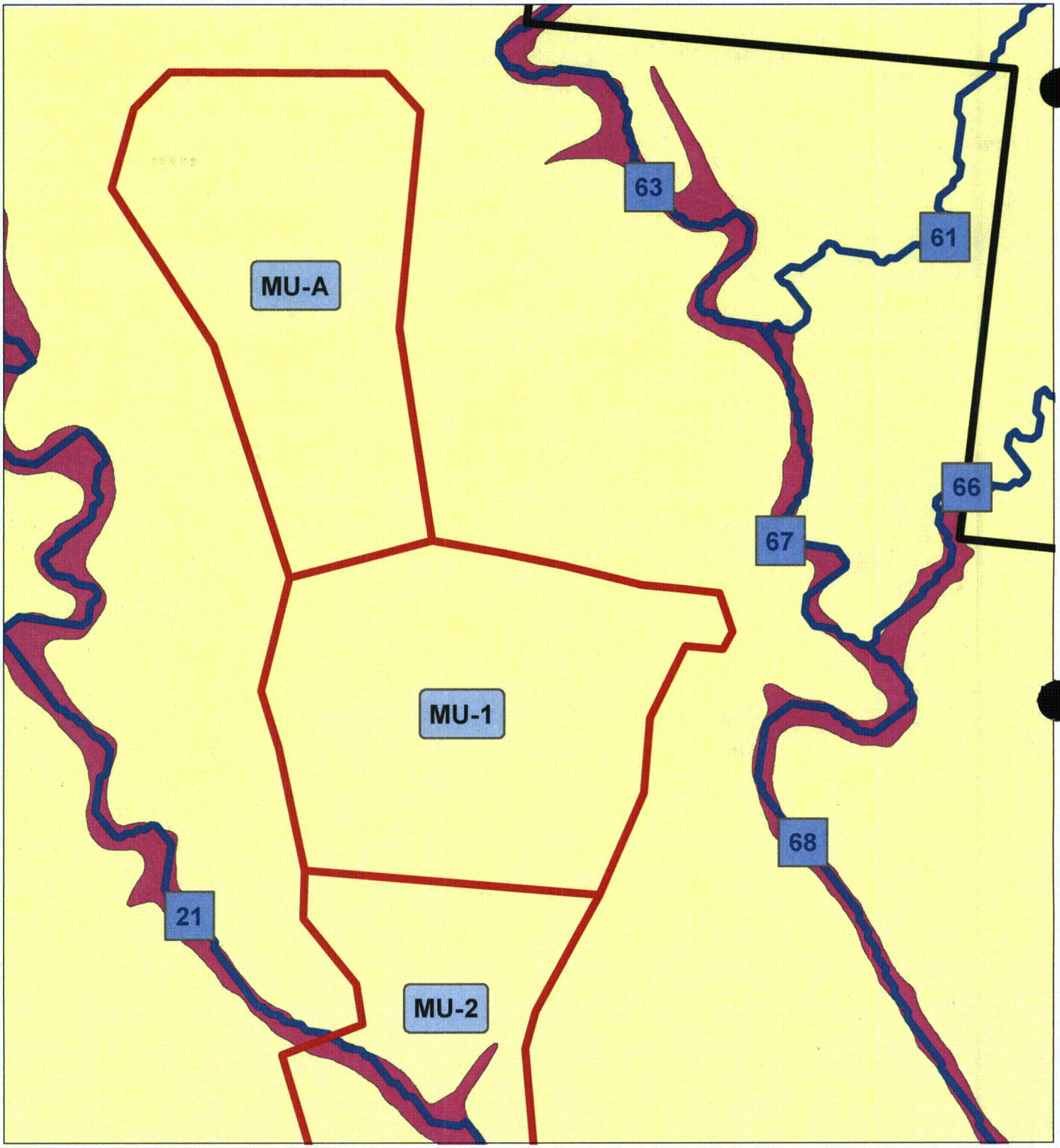

LEGEND

- Proposed Cameco/Marsland Expansion Area
- Drainage Lines
- Mine Unit Boundaries
- FEMA DFIRM 100 year Flood Plain

N

0 0.045 0.09 0.135 Miles

0 0.09 0.18 0.27 Kilometers

CROW BUTTE RESOURCES, INC.

FIGURE 22
MINE UNIT BOUNDARIES, DRAINAGE LINES AND POTENTIAL FLOOD PLAIN

PROJECT: CO001636

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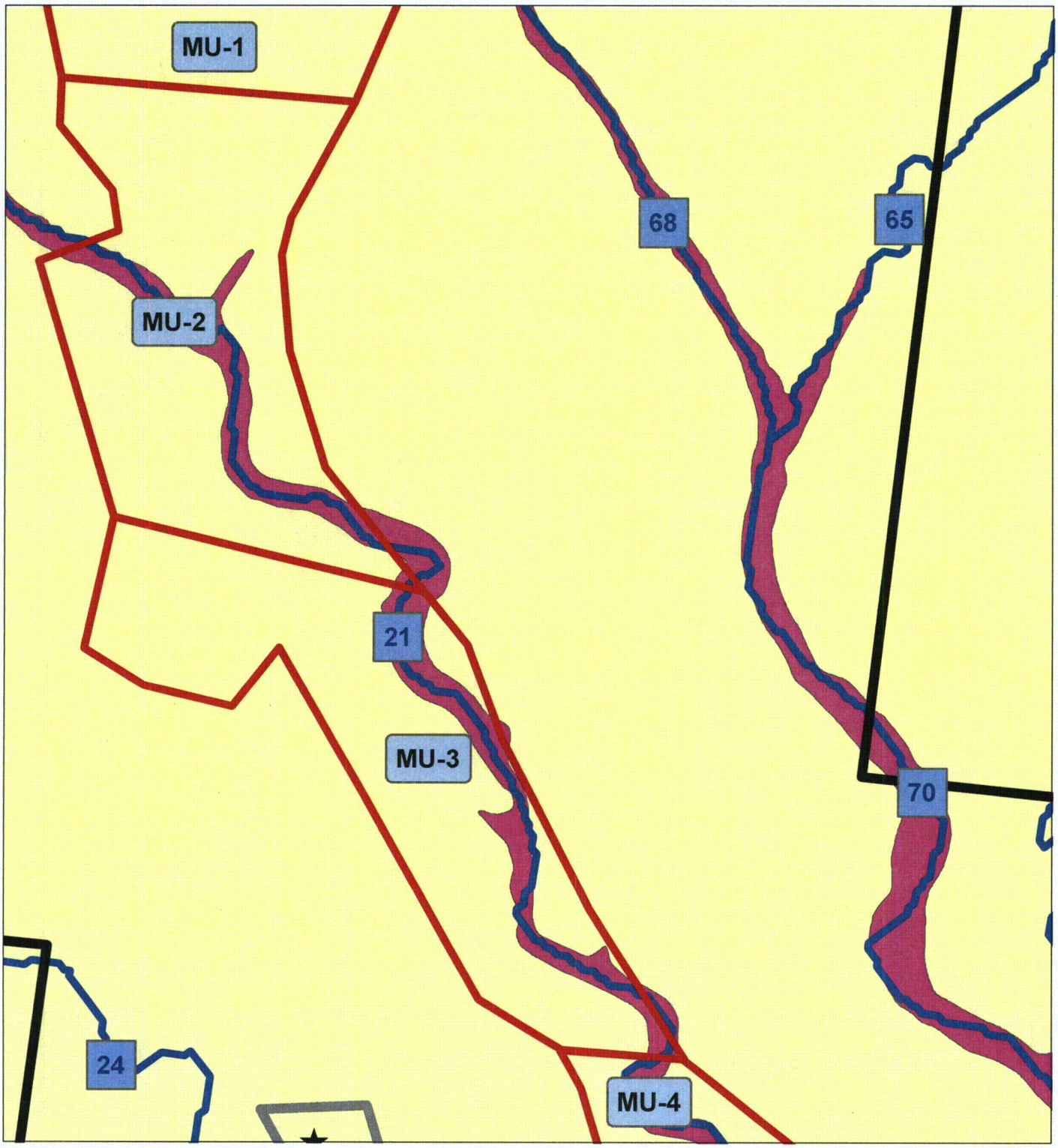

LEGEND

- Proposed Cameco/Marsland Expansion Area
- Drainage Lines
- Mine Unit Boundaries
- FEMA DFIRM 100 year Flood Plain

N

0 0.05 0.1 0.15 Miles

0 0.09 0.18 0.27 Kilometers

CROW BUTTE RESOURCES, INC.

FIGURE 23
MINE UNIT BOUNDARIES, DRAINAGE LINES AND POTENTIAL FLOOD PLAIN

PROJECT: CO001636

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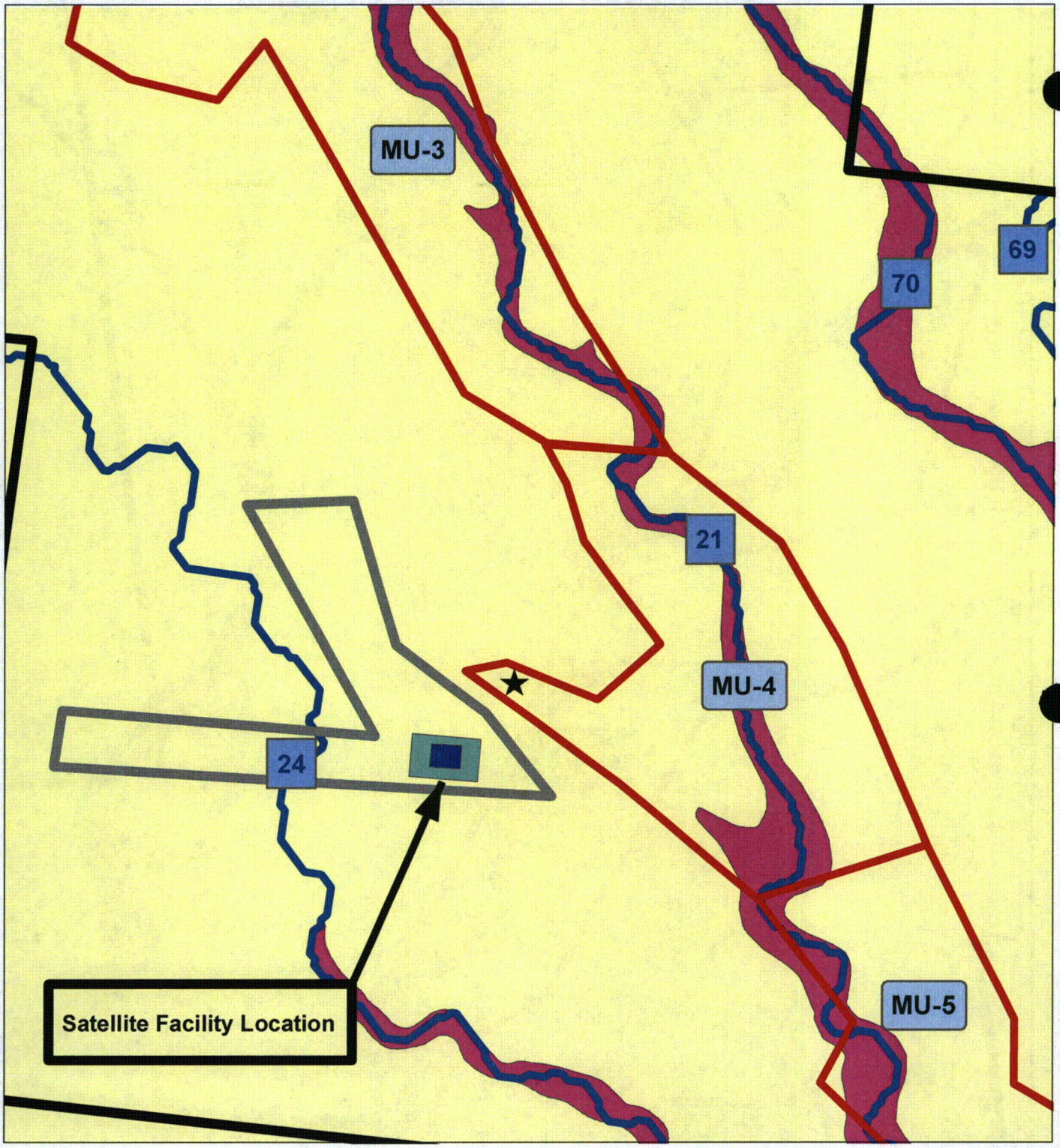

LEGEND

- Proposed Cameco/Marsland Expansion Area
- Drainage Lines
- Mine Unit Boundaries
- FEMA DFIRM 100 year Flood Plain
- Satellite facility, deep disposal well and access road boundary
- ★ Proposed Deep Disposal Well

N

0 0.045 0.09 0.135 Miles

0 0.09 0.18 0.27 Kilometers

CROW BUTTE RESOURCES, INC.

FIGURE 24
MINE UNIT BOUNDARIES, DRAINAGE LINES AND POTENTIAL FLOOD PLAIN

PROJECT: CO001636

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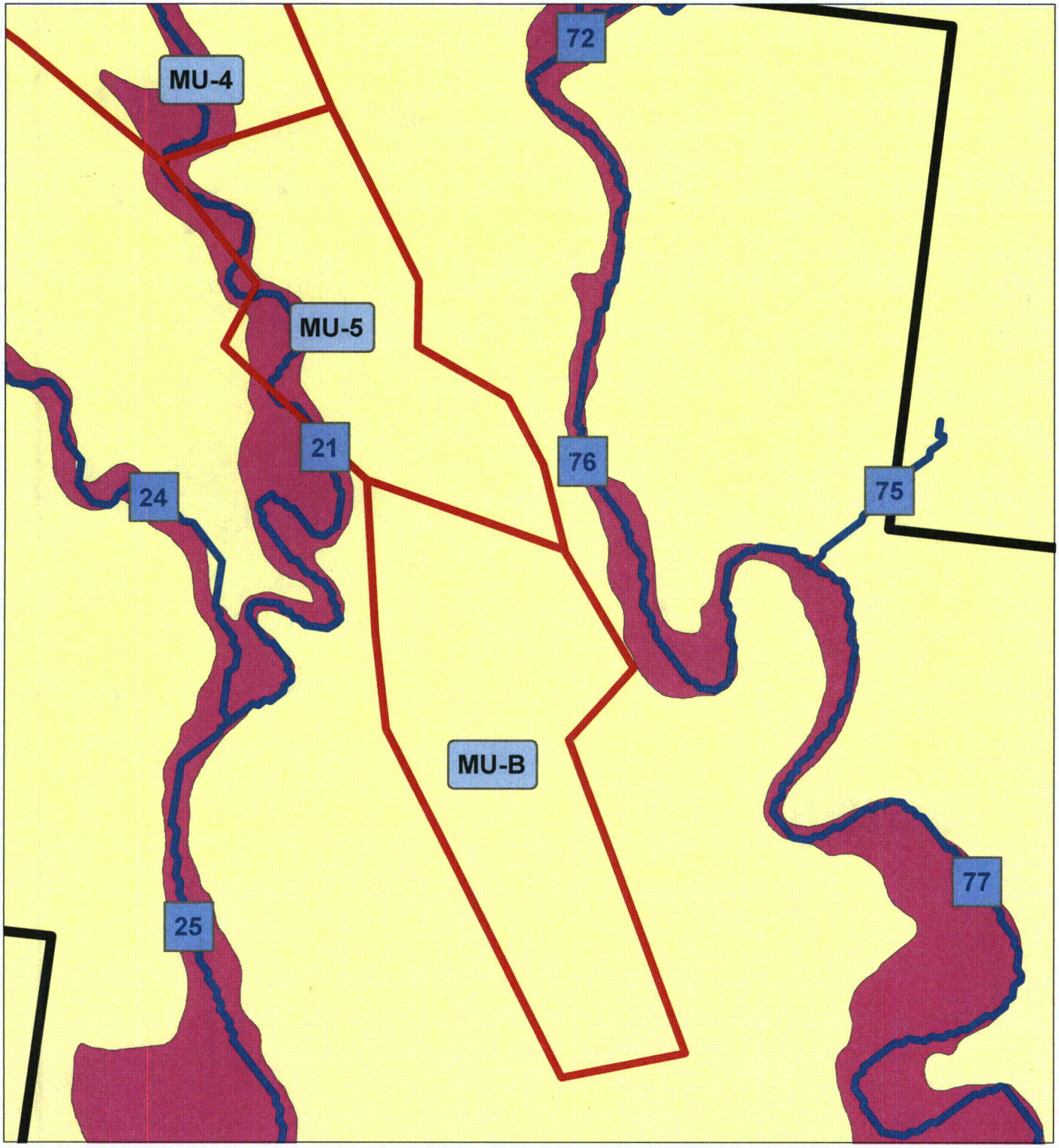

LEGEND

- Proposed Cameco/Marsland Expansion Area
- Drainage Lines
- Mine Unit Boundaries
- FEMA DFIRM 100 year Flood Plain

N

0 0.05 0.1 0.15 Miles

0 0.09 0.18 0.27 Kilometers

CROW BUTTE RESOURCES, INC.

FIGURE 25
MINE UNIT BOUNDARIES, DRAINAGE LINES AND POTENTIAL FLOOD PLAIN

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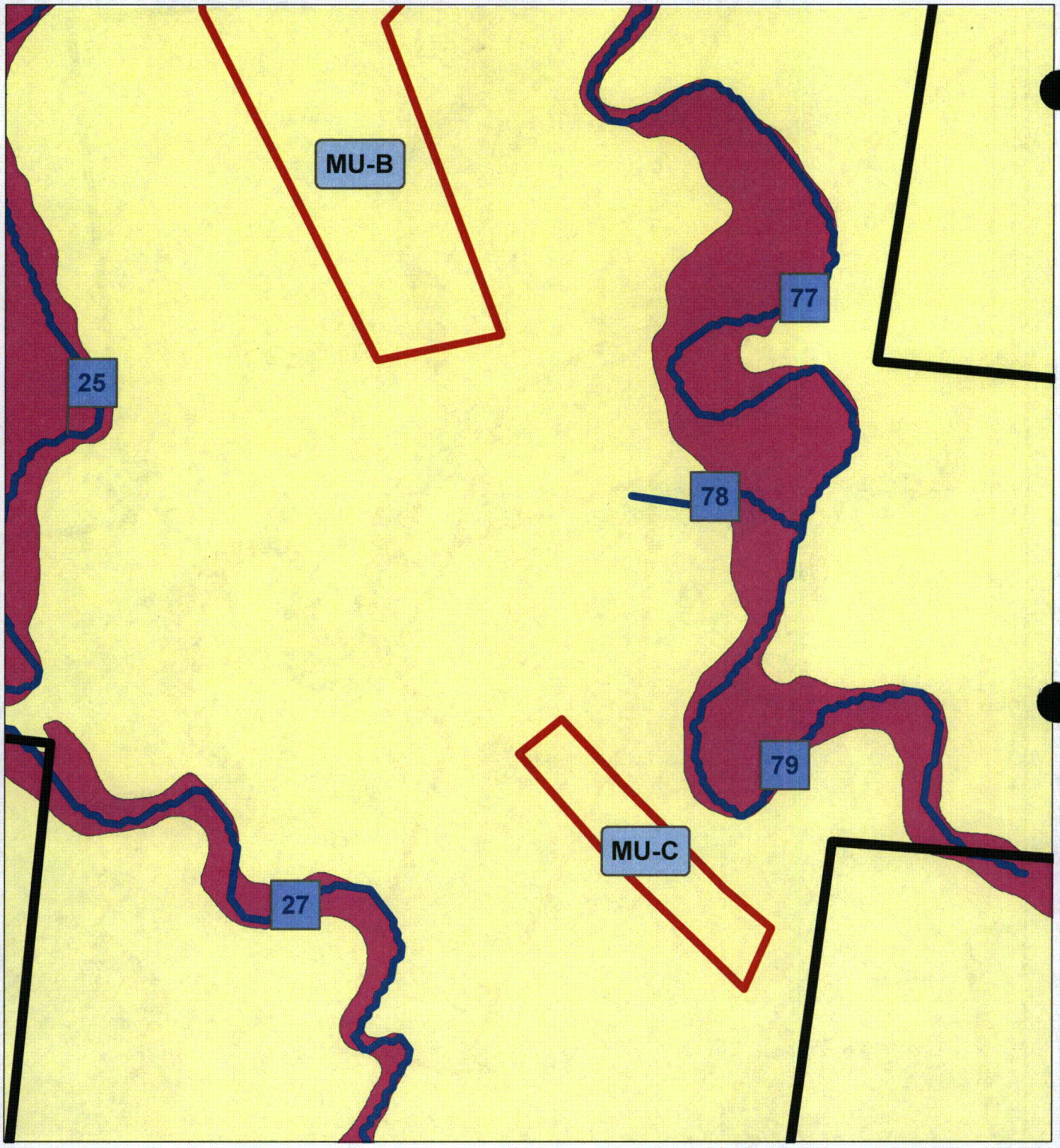

LEGEND

- Proposed Cameco/Marsland Expansion Area
- Drainage Lines
- Mine Unit Boundaries
- FEMA DFIRM 100 year Flood Plain

N

0 0.05 0.1 0.15 Miles

0 0.09 0.18 0.27 Kilometers

CROW BUTTE RESOURCES, INC.

FIGURE 26
MINE UNIT BOUNDARIES, DRAINAGE LINES AND POTENTIAL FLOOD PLAIN

PROJECT: CO001636

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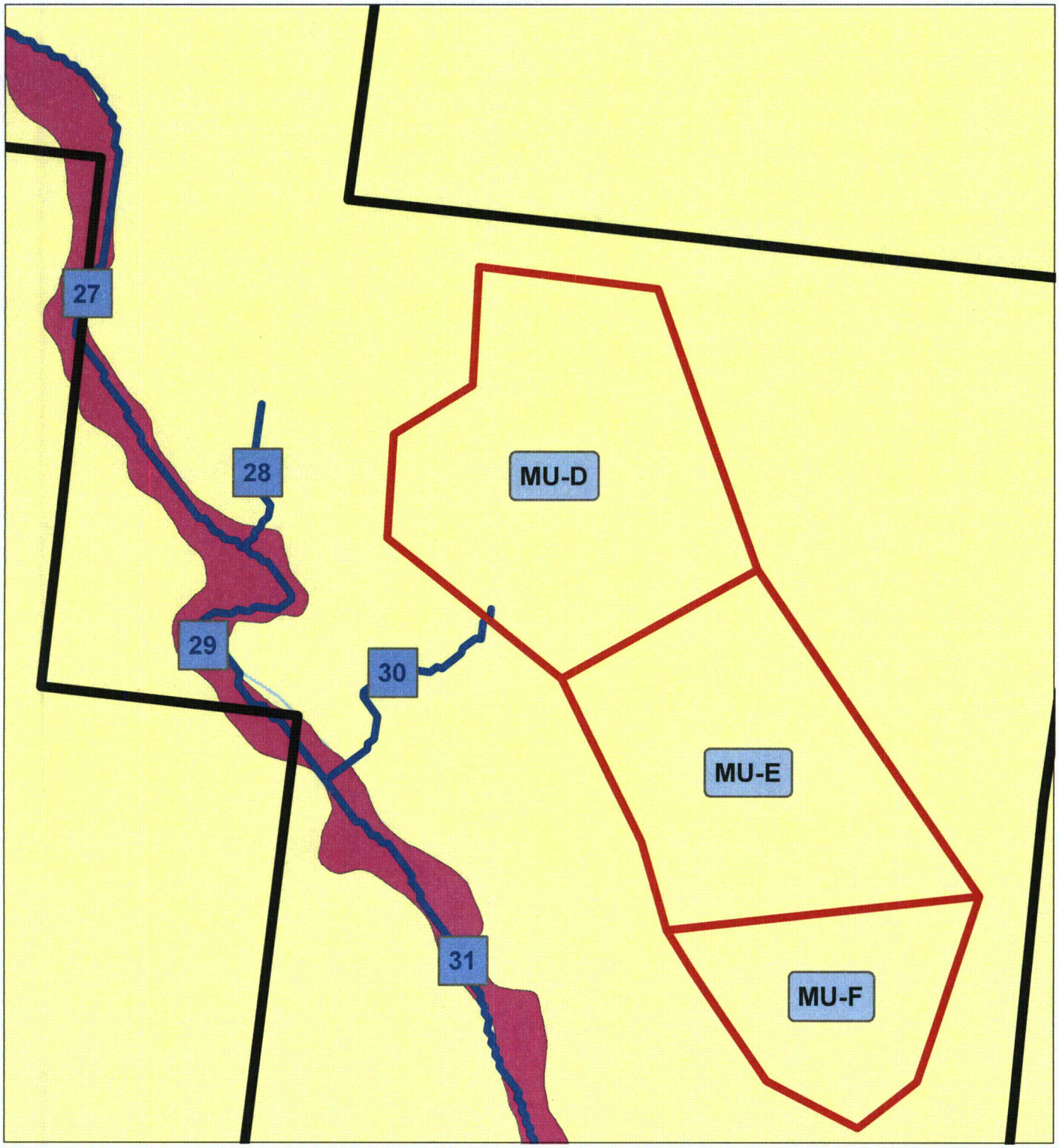

LEGEND

- Proposed Cameco/Marsland Expansion Area
- Drainage Lines
- Mine Unit Boundaries
- FEMA DFIRM 100 year Flood Plain

N

0 0.05 0.1 0.15 Miles

0 0.09 0.18 0.27 Kilometers

CROW BUTTE RESOURCES, INC.

FIGURE 27
MINE UNIT BOUNDARIES, DRAINAGE LINES AND POTENTIAL FLOOD PLAIN

PROJECT: CO001636

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