CAMECO RESOURCES
CROW BUTTE OPERATION

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August 23, 2011

United States Nuclear Regulatory Commission
Region IV
Division of Materials Safety
612 E. Lamar Blvd.
Suite 400
Arlington, Texas 76011-4125

Subject: Semiannual Radiological Effluent and Environmental Monitoring Report
Source Materials License No. SUA-1534, Docket No. 40-8943

Dear Sir or Madam:

Enclosed please find one copy of the Semiannual Radiological Effluent and Environmental Monitoring Report for the Crow Butte Uranium Project. The report is provided in accordance with License Condition 12.1 of Source Materials License SUA-1534 and 10 CFR Part 40. This report covers the first and second quarters of 2011.

If you have any questions concerning the report, please feel free to call me at (307) 316-7568.

Sincerely,
CAMECO RESOURCES

Josh Leftwich
Director of Radiation Safety and Licensing

cc: Keith I. McConnell - NRC
Jenny Coughlin – NDEQ, Lincoln Office
CBO File

ec: CR – Cheyenne Office

CAMECO RESOURCES
CROW BUTTE OPERATION

CROW BUTTE URANIUM PROJECT

RADIOLOGICAL EFFLUENT AND ENVIRONMENTAL MONITORING REPORT

for

FIRST AND SECOND QUARTERS, 2011

USNRC Source Materials License SUA 1534

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1 WATER QUALITY MONITORING DATA

1.1 Excursion Monitoring

Biweekly excursion monitoring in the shallow aquifer and perimeter monitor wells was continued in Mine Units 2 through 11 during the first and second quarters of 2011.

PR-15, a Mine Unit 2 perimeter monitor well, was successfully removed from excursion status on February 1, 2011 as a result of continued restoration along the perimeter of Mine Unit 2. This well had been on excursion status since September 26, 2006.

IJ-13, a Mine Unit 2 perimeter monitor well, was successfully removed from excursion status on March 29, 2011 as a result of continued restoration along the perimeter of Mine Unit 2. This well had been on excursion status since December 26, 2002.

CM8-8 was placed on excursion status on March 16, 2011 due to over injection of lixiviant. CM8-8 was successfully removed from excursion status on June 29, 2011.

High ground water levels due to a significant amount of precipitation received at the site in the spring caused several shallow monitor wells in Mine Units 6 and 8 to exceed the excursion parameters. The following table lists the wells and the dates they were placed on excursion. Historical data suggests that these wells in the English Creek drainage are significantly influenced by surface water. Over the last several years, these wells have responded in similar fashion to excessive springtime precipitation.

Excursion reports have been submitted to NRC as required in License Condition 12.2. Complete excursion monitoring results are available on site for inspection. A summary table for monitor wells on excursion status during the first half of 2011 follows.

Monitor Well ID	Date On Excursion	Date Off Excursion	Biweekly Sampling Resumed	Causal Factor(s)
IJ-13	27 Dec 03	29 Mar 11	05 Apr 11	Wellfield geometry
PR-15	26 Sep 06	01 Feb 11	08 Feb 11	Wellfield geometry
CM8-8	16 Mar 11	29 Jun 11	06 Jul 11	Over Injection
SM6-20	23 May 11			High water table
SM8-6	24 May 11			High water table
SM6-28	27 May 11			High water table
SM8-28	27 May 11			High water table

1.2 Water Supply Wells and Surface Water

Summary sheets of quarterly radiological analytical data for the reporting period from all surface waters and water supply wells within one kilometer of the active wellfield boundary are included in Appendix A.

The reported radiological data are within the expected ranges for each well and surface water sampling points. Samples were obtained from all sample locations with the exceptions noted in Appendix A.

2 OPERATIONAL

2.1 Production Data Summary

Mining operations continued through the first and second quarters of 2011. The average operating production flow rate was 6,432 gpm for the first quarter and 6,223 gpm for the second quarter. Injection and production totals from the totalizers and the calculated bleed totals for the reporting period are included in Appendix B.

2.2 Wastewater Summary

The total volume of wastewater discharged to the ponds was 858,758 gallons during the first quarter and 1,268,345 gallons during the second quarter. Currently, all five evaporation ponds contain wastewater.

Wastewater that is not disposed of in the evaporation ponds is injected into the Deep Disposal Well (DDW). Currently, the well is operated on a nearly continuous basis and 44,320,299 gallons of wastewater was injected into the well during the first half of 2011. A summary of the total volume of wastewater injected and the average radionuclide content is contained in Appendix D.

2.3 Effluent Release

10 CFR §40.65 requires licensees to report quantities of radionuclides in liquid and gaseous effluent releases to the environment. In the Application for Renewal of Source Materials License SUA-1534, submitted December 1995, Table 7.3(A) presented calculations of the annual radon emissions for the Crow Butte Plant. These calculations assumed a 7.04 x 10^{-4} Curies/m^3 radon release from leaching operations and the radon release calculations for the first half of 2011 use this release rate estimate.

During the first quarter, production occurred at an average flow rate of 6,432 gpm (24,345 lpm). Production was maintained nearly continuously for 90 days during the first quarter with an operating factor of 99.9 %. The production flow for the first quarter results in a calculated radon release of 1,598 Curies. During the second quarter, production occurred at an average flow rate of 6,223 gpm (23,554 lpm). Production was maintained nearly continuously for 91 days during the second quarter with an operating factor of 99.8%. The production flow for the second quarter results in a calculated radon release of 1,561 Curies. Calculations for radon release from production operations are shown in Appendix E.

Additional wells were brought on line during the first half of 2011. Calculations for the start-up of 11.1 acres of a new wellfield are shown in Appendix E. The calculated radon released from start-up of 11.1 acres is 14 Curies.

The total radon emission due to leaching operations from the Crow Butte plant for the first half of 2011 was 3,173 Curies. This calculated release rate is comparable with the releases estimated in CBR's License Renewal Application.

Radon gas is also released from restoration activities. For restoration water that is treated by ion exchange only, the radon concentration is 0.697 µCi/l. Of the total restoration production flow it is assumed that 25% of the radon is released through wellfield loss and 10% of the remaining radon is released during pressurized ion exchange treatment. For water that is treated by reverse osmosis, it is assumed that 100% of the remaining radon is released. For water treated by reverse osmosis the radon concentration is 0.470 µCi/l after adjusting for wellfield loss and ion exchange loss.

During the first half of 2011, a total of 179,745,183 gallons (680,335,518 l) of restoration water was produced from Mine Units 2, 3, 4, 5, and 6. Based upon an estimated radon concentration of

0.697 µCi/l, the total amount of radon in the restoration solution was calculated to be 289 Curies as shown in Appendix E. The estimated release of radon through wellfield loss at 25% of this total was 119 Curies. The plant loss for ion exchange treatment of the restoration water is estimated at 10% of the remaining radon, or 36 Curies. For water that is treated by reverse osmosis, it is assumed that 100% of the remaining radon is released. For water treated by reverse osmosis the radon concentration is 0.470 µCi/l after adjusting for wellfield loss and ion exchange loss.

Of the total amount of restoration water produced in the first half of 2011, 75,305,918 gallons (2,850,132,900 l) of the water was treated by reverse osmosis. The total estimated radon release from reverse osmosis treatment was 134 Curies. An additional .8 acres of wellfields were placed into restoration during the first half of 2011. The calculated radon released from start-up of .8 acres is 1 Curies. Calculations for the start-up of .8 acres of a wellfield placed in restoration are shown in Appendix E.

Based upon the calculations shown in Appendix E, the total estimated semiannual radon emission for the first half of 2011 from restoration activities was 289 Curies. This resulted in a total estimated radon release from the Crow Butte project during the first half of 2011 of 3,462 Curies.

2.4 Restoration

Restoration activities continued in Mine Units 2, 3, 4, 5, and 6 during the first half of 2011. Permeate continued to be injected into Mine Units 2 and 3. Mine Units 4 and 5 remained in IX treatment. CBO continues to maintain a hydrologic bleed in Mine Unit 6 for excursion control. Restoration injection and production totals are included in Appendix B. Restoration injection pressures are included in Appendix C.

3 ENVIRONMENTAL MONITORING

3.1 Air Monitor Stations

Seven air monitoring stations are used to monitor the Crow Butte Plant. Ambient radon-222 concentrations and radionuclide concentrations in air for each monitoring site are listed in Appendix F. All air monitoring results were within expected historical ranges.

3.2 TLD Monitors

Environmental TLD monitors are located at each air monitoring station. The results of the area TLD monitors fall within the expected ranges and are listed in Appendix G.

Appendix A

Private Well and Surface Water Radiological Monitoring Results

First and Second Quarter, 2011

CROW BUTTE RESOURCES, INC.

PRIVATE WELL AND SURFACE WATER RADIOLOGICAL MONITORING RESULTS

First Quarter, 2011

SAMPLE ID	DATE SAMPLED	URANIUM mg/l	URANIUM µCi/ml	RADIUM-226 pCi/l	RADIUM-226 precision ±
Well #8	03/24/11	0.0100	6.90E-09	0.33	0.14
Well #11	03/08/11	0.0065	4.40E-09	ND	0.11
Well #12	03/24/11	0.0023	1.50E-09	ND	0.09
Well #26	02/03/11	0.0058	3.90E-09	ND	0.06
Well #28	03/29/11	0.0048	3.30E-09	ND	0.1
Well #41	02/04/11	0.0049	3.30E-09	ND	0.06
Well #61	03/25/11	ND	ND	3.6	0.34
Well #63	02/04/11	0.0140	9.20E-09	ND	0.1
Well #66	03/08/11	0.0210	1.40E-08	0.31	0.13
Well #125	03/29/11	0.0062	4.20E-09	ND	0.09
Well #129	03/29/11	0.0053	3.60E-09	ND	0.1
Well #131	03/25/11	0.0036	2.40E-09	ND	0.11
Well #133	02/04/11	0.0069	4.60E-09	0.22	0.12
Well #134	03/29/11	0.0078	5.30E-09	0.35	0.13
Well #135	03/29/11	0.0120	8.40E-09	0.28	0.13
Well #138	02/04/11	0.0110	7.40E-09	0.17	0.11
Well #140	03/29/11	0.0076	5.10E-09	ND	0.12
Well #435	02/04/11	0.0054	3.70E-09	ND	0.06
Drinking Water Well	02/04/11	0.0058	3.90E-09	ND	0.06
Well #38	02/18/11	0.0028	1.90E-09	ND	0.09
Stream S-1	02/18/11	0.0035	2.40E-09	ND	0.08
Stream S-2	02/18/11	0.0035	2.40E-09	ND	0.09
Stream S-5	02/18/11	0.0039	2.60E-09	ND	0.06
Stream E-1 & E-2	02/18/11	0.0220	1.50E-08	0.27	0.13
Stream E-5	03/29/11	0.0094	6.30E-09	ND	0.09
Impoundment I-3	02/18/11	0.0490	3.30E-08	ND	0.11
Impoundment I-4	02/18/11	0.0450	3.10E-08	ND	0.1
Impoundment I-5	02/18/11	0.0080	5.40E-09	ND	0.14
Reporting Limit		**0.0003**	**2.00E-10**	**0.2**	-

ND-Not detected at the reporting limit

CROW BUTTE RESOURCES, INC.

PRIVATE WELL AND SURFACE WATER RADIOLOGICAL MONITORING RESULTS

Second Quarter, 2011

SAMPLE ID	DATE SAMPLED	URANIUM mg/l	URANIUM µCi/ml	RADIUM-226 pCi/l	RADIUM-226 precision ±
Well #8	04/29/11	0.0065	4.40E-09	0.3	0.2
Well #11	05/13/11	0.0042	2.80E-09	0.4	0.2
Well #12	04/29/11	0.0016	1.10E-09	0.3	0.1
Well #26	05/13/11	0.0032	2.10E-09	0.3	0.1
Well #28	04/26/11	0.0035	2.30E-09	0.3	0.2
Well #41	05/13/11	0.0031	2.10E-09	0.3	0.1
Well #61	04/29/11	ND	ND	3.6	0.4
Well #63	05/13/11	0.0095	6.40E-09	0.4	0.2
Well #66	05/13/11	0.0214	1.40E-08	0.6	0.2
Well #125	05/13/11	0.0031	2.10E-09	ND	0.1
Well #129	04/28/11	0.0035	2.30E-09	0.2	0.1
Well #131	05/13/11	0.0022	1.50E-09	ND	0.1
Well #133	05/13/11	0.0043	2.90E-09	0.3	0.2
Well #134	04/28/11	0.0054	3.60E-09	0.4	0.2
Well #135	04/28/11	0.0083	5.60E-09	0.4	0.2
Well #138	05/13/11	0.0087	5.90E-09	0.5	0.2
Well #140	04/28/11	0.0055	3.70E-09	0.3	0.2
Well #435	05/13/11	0.0034	2.30E-09	0.3	0.1
Drinking Water Well	05/13/11	0.0034	2.30E-09	ND	0.1
Well #38	05/13/11	0.0017	1.10E-09	ND	0.1
Stream S-1	06/09/11	0.0050	3.40E-09	ND	0.09
Stream S-2	06/09/11	0.0049	3.30E-09	ND	0.09
Stream S-5	06/09/11	0.0048	3.30E-09	ND	0.06
Stream E-1	06/09/11	0.0170	1.20E-08	ND	0.12
Stream E-5	06/09/11	0.0077	5.20E-09	ND	0.08
Impoundment I-3	06/09/11	0.0240	1.60E-08	ND	0.11
Impoundment I-4	06/09/11	0.0290	2.00E-08	ND	0.1
Impoundment I-5	06/09/11	0.0170	1.10E-08	ND	0.07
Reporting Limit		**0.0003**	**2.00E-10**	**0.2**	-

ND-Not detected at the reporting limit

Appendix B

Plant Production and Waste Totals

First and Second Quarter, 2011

WASTE VOLUME
First Quarter 2011

TOTALIZER	PLANT TO PONDS	PLANT TO DDW	RESTORATION TO DDW	CLEAN WATER INTO PLANT	DDW TOTAL INJECTED	TRUCKS TO POND
January	186,230	3,519,297	3,595,655	570,272	7,114,852	26,918
February	243,360	3,416,922	2,969,023	555,888	6,385,945	18,831
March	232,960	4,013,543	3,604,187	658,758	7,617,730	152,459
TOTAL GAL. EOQ	662,550	10,949,762	10,168,865	1,784,918	21,118,627	196,208

TOTAL 1st QTR VOLUME DISCHARGED TO WASTE PONDS =	858,758	GALLONS
TOTAL 1st QTR VOLUME DISCHARGED TO DEEP WELL=	21,118,627	GALLONS
TOTAL 1st QTR VOLUME DISCHARGED TO WASTE PONDS + DPWELL =	21,977,385	GALLONS
TOTAL 1st QTR VOLUME WF BLEED FROM WELLFIELDS=	19,996,261	GALLONS

WELLFIELD BLEED
First Quarter 2011

MONTH	January	February	March
BLEED	1.1%	1.2%	1.3%

PLANT FLOW
First Quarter 2011

AVERAGE OPERATING FLOW RATE=	6,223	GPM EOQ
TOTAL GALLONS PRODUCED=	806,446,734	GALLONS EOQ
TOTAL GALLONS INJECTED=	796,619,338	GALLONS EOQ

	TOTAL GALS. PRODUCED	TOTAL GALS. INJECTED	HOURS IN MONTH	HOURS IN PRODUCTION	AVERAGE PROD. GPM	AVERAGE COM INJ GPM	AVERAGE REST INJ GPM	HRS. DOWN TIME
Prev. YTD	0	0	0	0	0	0	0	0
January	284,282,986	281,147,731	744	744	6,368	6,298	930	0
February	254,030,574	250,926,180	672	669	6,300	6,223	616	3
March	268,133,174	264,545,427	744	744	6,007	5,926	694	0
EOQ TOTAL	806,446,734	796,619,338	2,160	2,157	6,223	6,147	751	3
YTD TOTAL	806,446,734	796,619,338	2,160	2,157	6,223	6,147	751	3

	TOTAL MUII GALS PRODUCED	TOTAL MUIII GALS PRODUCED	TOTAL MUIV GALS PRODUCED	TOTAL MUV GALS PRODUCED	TOTAL MUVI GALS PRODUCED	MUII BLEED TO WASTE	MUIII BLEED TO WASTE	MUIV BLEED TO WASTE	MUV BLEED TO WASTE	MUVI BLEED TO WASTE
Prev. YTD	0	0	0	0	0	0	0	0	0	0
January	3,700,022	8,801,319	16,090,680	11,344,668	725,250	-391,418	-433,450	622,202	-1,274,899	725,250
February	3,725,298	9,072,948	8,436,767	5,558,458	615,826	268,881	1,378,490	1,358,159	-863,575	615,826
March	4,027,937	10,001,453	11,549,780	7,268,759	656,230	136,624	317,184	315,932	1,090,990	656,230
EOQ TOTAL	11,453,257	27,875,718	36,077,227	24,171,885	1,997,306	14,087	1,262,224	2,294,293	-1,047,484	1,997,306
YTD TOTAL	11,453,257	27,875,718	36,077,227	24,171,885	1,997,306	14,087	1,262,224	2,294,293	-1,047,484	1,997,306

	TOTAL BRINE GALS PRODUCED	TOTAL PERM GALS PRODUCED	COMM BLEED TO RO FEED
Prev. YTD	0	0	0
January	3,571,288	12,126,977	0
February	2,944,656	9,624,236	0
March	3,579,820	12,469,102	0
EOQ TOTAL	10,095,764	34,220,315	0
YTD TOTAL	10,095,764	34,220,315	0

WASTE VOLUME
Second Quarter 2011

TOTALIZER	PLANT TO PONDS	PLANT TO DDW	RESTORATION TO DDW	CLEAN WATER INTO PLANT	DDW TOTAL INJECTED	TRUCKS TO POND
April	181,790	3,747,145	3,423,016	662,231	7,170,161	203,255
May	414,570	6,187,884	1,571,865	691,432	7,759,529	108,409
June	223,910	6,604,786	1,667,196	701,397	8,271,982	136,411
TOTAL GAL. EOQ	820,270	16,539,395	6,662,077	2,055,060	23,201,672	448,075

TOTAL 2nd QTR VOLUME DISCHARGED TO WASTE PONDS =	1,268,345 GALLONS
TOTAL 2nd QTR VOLUME DISCHARGED TO DEEP WELL=	23,201,672 GALLONS
TOTAL 2nd QTR VOLUME DISCHARGED TO WASTE PONDS + DPWELL =	24,470,017 GALLONS
TOTAL 2nd QTR VOLUME WF BLEED FROM WELLFIELDS=	21,966,682 GALLONS

WELLFIELD BLEED
Second Quarter 2011

MONTH	April	May	June
BLEED	1.2%	2.0%	2.2%

PLANT FLOW
Second Quarter 2011

AVERAGE OPERATING FLOW RATE=	6,432 GPM EOQ
TOTAL GALLONS PRODUCED=	842,907,211 GALLONS EOQ
TOTAL GALLONS INJECTED=	825,547,346 GALLONS EOQ

	TOTAL GALS. PRODUCED	TOTAL GALS. INJECTED	HOURS IN MONTH	HOURS IN PRODUCTION	AVERAGE PROD. GPM	AVERAGE COM INJ GPM	AVERAGE REST INJ GPM	HRS. DOWN TIME
Prev. YTD	806,446,734	796,619,338	2,160	2,157	6,223	6,147	751	3
April	268,103,869	264,174,934	720	719	6,206	6,115	593	1
May	292,354,007	285,751,773	744	740	6,549	6,401	571	4
June	282,449,335	275,620,639	720	720	6,538	6,380	505	0
EOQ TOTAL	842,907,211	825,547,346	2,184	2,179	6,432	6,300	557	5
YTD TOTAL	1,649,353,945	1,622,166,684	4,344	4,336	6,328	6,224	653	8

	TOTAL MUII GALS PRODUCED	TOTAL MUIII GALS PRODUCED	TOTAL MUIV GALS PRODUCED	TOTAL MUV GALS PRODUCED	TOTAL MUVI GALS PRODUCED	MUII BLEED TO WASTE	MUIII BLEED TO WASTE	MUIV BLEED TO WASTE	MUV BLEED TO WASTE	MUVI BLEED TO WASTE
Prev. YTD	11,453,257	27,875,718	36,077,227	24,171,885	1,997,306	14,087	1,262,224	2,294,293	-1,047,484	1,997,306
April	3,432,646	8,966,988	9,833,461	5,745,089	532,466	290,779	-300,031	1,042,552	1,342,804	532,466
May	3,585,635	9,142,970	8,768,635	4,482,415	568,092	496,727	-1,435,395	658,736	1,020,287	568,092
June	3,445,232	8,729,371	7,195,163	3,491,156	450,471	655,947	-436,687	99,192	720,178	450,471
EOQ TOTAL	10,463,513	26,839,329	25,597,259	13,718,660	1,551,029	1,443,453	-2,172,113	1,800,480	3,083,269	1,551,029
YTD TOTAL	21,916,770	54,715,047	61,674,486	37,890,545	3,548,335	1,457,540	-909,889	4,094,773	2,035,785	3,548,335

	TOTAL BRINE GALS PRODUCED	TOTAL PERM GALS PRODUCED	COMM BLEED TO RO FEED
Prev. YTD	10,095,764	34,220,315	0
April	3,423,016	11,210,092	0
May	1,571,865	5,053,165	0
June	1,667,196	8,064,505	0
EOQ TOTAL	6,662,077	24,327,762	0
YTD TOTAL	16,757,841	58,548,077	0

Appendix C

Wellfield Injection Pressures

First and Second Quarter, 2011

WELLFIELD INJECTION PRESSURE - PSI
First Quarter 2011

	WF HOUSE #3		WF HOUSE #4		WF HOUSE #5		WF HOUSE #6		WF HOUSE #7	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
January	25	38	30	42	19	33	21	59	5	10
February	25	35	29	34	20	32	21	24	5	8
March	34	40	37	43	27	35	29	35	14	60
AVERAGE	28	40	32	43	22	35	24	59	8	60
	WF HOUSE #8		WF HOUSE #9		WF HOUSE #10		WF HOUSE #11		WF HOUSE #12	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
January	14	25	69	78	59	64	58	64	1	4
February	14	18	31	82	21	64	19	63	1	4
March	23	54	40	46	31	41	28	38	0	4
AVERAGE	17	54	47	82	37	64	36	64	1	4
	WF HOUSE #13		WF HOUSE #14		WF HOUSE #15		WF HOUSE #16		WF HOUSE #17	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
January	0	0	65	70	0	0	78	88	59	67
February	0	0	35	70	0	2	12	86	26	84
March	0	0	47	65	0	2	1	34	34	41
AVERAGE	0	0	50	70	0	2	31	88	40	84
	WF HOUSE #18		WF HOUSE #19		WF HOUSE #20		WF HOUSE #21		WF HOUSE #22	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
January	70	79	30	80	66	78	81	86	10	16
February	37	75	0	2	28	66	46	88	1	4
March	49	58	0	2	38	60	54	63	0	2
AVERAGE	52	79	11	80	45	78	61	88	4	16
	WF HOUSE #23		WF HOUSE #24		WF HOUSE #25		WF HOUSE #26		WF HOUSE #27	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
January	4	6	19	38	0	0	0	0	0	2
February	2	4	0	2	0	0	0	0	0	0
March	1	4	0	2	0	0	0	0	0	2
AVERAGE	2	6	7	38	0	0	0	0	0	2
	WF HOUSE #28		WF HOUSE #29		WF HOUSE #30		WF HOUSE #31		WF HOUSE #32	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
January	61	65	60	63	58	65	33	37	40	44
February	60	70	59	68	55	62	32	38	38	50
March	68	90	66	75	45	65	40	50	46	56
AVERAGE	63	90	62	75	53	65	35	50	41	56
	WF HOUSE #33		WF HOUSE #34		WF HOUSE #35		WF HOUSE #36		WF HOUSE #37	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
January	40	44	83	85	77	79	56	84	93	95
February	39	50	82	88	78	82	60	94	94	95
March	46	51	88	94	86	92	68	83	94	95
AVERAGE	42	51	84	94	80	92	62	94	94	95
	WF HOUSE #38		WF HOUSE #39		WF HOUSE #40		WF HOUSE #41		WF HOUSE #42	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
January	94	94	94	95	94	95	92	94	95	96
February	94	95	94	95	94	95	92	94	95	96
March	94	95	95	96	94	95	92	94	95	96
AVERAGE	94	95	94	96	94	95	92	94	95	96
	WF HOUSE #43		WF HOUSE #44		WF HOUSE #45		WF HOUSE #46		WF HOUSE #46A	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
January	96	97	95	96	95	97	83	85	90	91
February	95	96	94	96	94	96	83	90	90	95
March	95	97	95	96	95	96	83	84	91	92
AVERAGE	95	97	95	96	95	97	83	90	90	95
	WF HOUSE #47		WF HOUSE #47A		WF HOUSE #48		WF HOUSE #49		WF HOUSE #50	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
January	95	96	81	87	59	61	50	63	45	58
February	94	96	79	82	60	82	53	62	43	50
March	95	98	80	82	66	80	58	68	43	52
AVERAGE	94	98	80	87	62	82	54	68	43	58
	WF HOUSE #51		WF HOUSE #52		WF HOUSE #53		WF HOUSE #54			
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM		
January	59	65	58	67	56	60	28	38		
February	61	65	60	64	59	66	27	32		
March	69	80	67	77	65	78	37	46		
AVERAGE	65	80	62	77	60	78	31	46		
	WF HOUSE #60		WF HOUSE #61							
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM						
January			49	72						
February			78	93						
March			86	92						
AVERAGE			71	93						

WELLFIELD INJECTION PRESSURE - PSI
Second Quarter 2011

	WF HOUSE #3		WF HOUSE #4		WF HOUSE #5		WF HOUSE #6		WF HOUSE #7	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
April	29	46	33	52	22	40	24	40	9	23
May	41	68	45	74	36	75	37	72	21	74
June	34	50	38	57	27	45	28	45	12	28
AVERAGE	34	68	38	74	29	75	30	72	14	74
	WF HOUSE #8		WF HOUSE #9		WF HOUSE #10		WF HOUSE #11		WF HOUSE #12	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
April	17	32	55	63	46	58	43	50	0	2
May	31	68	60	72	51	62	50	60	0	2
June	22	50	61	70	53	62	51	60	0	0
AVERAGE	23	68	59	72	50	62	48	60	0	2
	WF HOUSE #13		WF HOUSE #14		WF HOUSE #15		WF HOUSE #16		WF HOUSE #17	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
April	0	0	63	70	0	2	1	15	50	58
May	0	0	68	80	0	3	0	3	56	68
June	0	0	69	78	0	0	0	0	57	66
AVERAGE	0	0	67	80	0	3	0	15	54	68
	WF HOUSE #18		WF HOUSE #19		WF HOUSE #20		WF HOUSE #21		WF HOUSE #22	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
April	15	60	0	3	53	68	62	71	0	2
May	27	58	0	0	62	76	63	90	0	4
June	63	78	0	0	59	70	51	69	0	0
AVERAGE	35	78	0	3	58	76	59	90	0	4
	WF HOUSE #23		WF HOUSE #24		WF HOUSE #25		WF HOUSE #26		WF HOUSE #27	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
April	1	4	0	1	0	0	0	0	0	2
May	0	4	0	2	0	0	0	0	0	2
June	3	96	0	0	0	0	0	0	0	0
AVERAGE	1	96	0	2	0	0	0	0	0	2
	WF HOUSE #28		WF HOUSE #29		WF HOUSE #30		WF HOUSE #31		WF HOUSE #32	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
April	67	71	66	71	57	62	40	56	45	50
May	70	76	69	76	64	72	44	97	49	54
June	65	78	63	76	60	75	38	52	43	57
AVERAGE	68	78	66	76	60	75	41	97	46	57
	WF HOUSE #33		WF HOUSE #34		WF HOUSE #35		WF HOUSE #36		WF HOUSE #37	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
April	47	66	91	95	93	97	78	92	90	95
May	49	54	91	94	94	96	88	96	94	95
June	43	58	90	94	92	96	83	89	91	95
AVERAGE	46	66	91	95	93	97	83	96	92	95
	WF HOUSE #38		WF HOUSE #39		WF HOUSE #40		WF HOUSE #41		WF HOUSE #42	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
April	91	95	87	95	91	95	91	96	93	95
May	92	96	89	94	94	95	92	95	94	95
June	88	94	84	90	91	95	88	94	90	96
AVERAGE	90	96	87	96	92	95	90	96	92	96
	WF HOUSE #43		WF HOUSE #44		WF HOUSE #45		WF HOUSE #46		WF HOUSE #46A	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
April	94	96	94	97	94	96	80	84	92	94
May	95	96	94	96	95	96	84	93	93	94
June	93	96	92	97	92	97	83	84	92	93
AVERAGE	94	96	94	97	94	97	82	93	92	94
	WF HOUSE #47		WF HOUSE #47A		WF HOUSE #48		WF HOUSE #49		WF HOUSE #50	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
April	93	95	79	92	80	95	72	87	58	90
May	94	95	77	88	90	94	84	90	86	88
June	91	96	55	60	86	91	83	86	84	87
AVERAGE	93	96	70	92	85	95	80	90	85	90
	WF HOUSE #51		WF HOUSE #52		WF HOUSE #53		WF HOUSE #54		WF HOUSE #55	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
April	79	92	79	92	81	92	49	64		0
May	89	98	88	92	89	92	61	68	72	75
June	87	93	86	90	88	91	58	62	66	72
AVERAGE	88	98	87	92	88	92	56	68	69	75
	WF HOUSE #60		WF HOUSE #61							
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM						
April			85	92						
May			87	91						
June			83	92						
AVERAGE			85	92						

Appendix D

Deep Disposal Well Injection Radiological Data

First and Second Quarter, 2011

Crow Butte Uranium Mine

Deep Disposal Well Injection Radiological Data

Month	Total Gallons Injected	Average Natural Uranium (mg/l)	Total Natural Uranium Injected (mg)	Total Natural Uranium Injected (uCi)	Average Radium-226 (pCi/l)	Total Radium-226 Injected (uCi)
January-11	7,114,952	11	2.96E+08	2.01E+05	893	2.41E+04
February-11	6,385,945	7	1.69E+08	1.15E+05	668	1.61E+04
March-11	7,617,730	6	1.73E+08	1.17E+05	579	1.67E+04
April-11	7,170,161	5	1.36E+08	9.19E+04	969	2.63E+04
May-11	7,759,529	6	1.76E+08	1.19E+05	721	2.12E+04
June-11	8,271,982	8	2.50E+08	1.70E+05	766	2.40E+04
Totals	44,320,299		1.20E+09	8.13E+05		1.28E+05

Appendix E

Radon Release Calculations

First and Second Quarter, 2011

Radon Effluent Release Calculation (Production and Startup)

First Quarter 2011 Radon Release from Leaching Operations:

Curies/M3	Production Flow (liters)	Radon-222 Decay Constant	Operating Days	Operating Factor	M3/liter conversion	Hours/Day Conversion	Minutes/Hour Conversion	Total Radon Release from Leaching
7.04E-04	24,345	0.72	90	99.9%	0.001	24	60	1,598

Second Quarter 2011 Radon Release from Leaching Operations:

Curies/M3	Production Flow (liters)	Radon-222 Decay Constant	Operating Days	Operating Factor	M3/liter conversion	Hours/Day Conversion	Minutes/Hour Conversion	Total Radon Release from Leaching
7.04E-04	23,554	0.72	91	99.8%	0.001	24	60	1,561

First Half 2011 Radon Release From Startup:

Curies/M3	Total Acres of New Wellfield	Meter3/Acre Conversion	Orebody Thickness (meters)	Porosity	Total Radon Release from Startup
7.04E-04	11.1	4,074	1.52	0.29	14

Total Estimated Radon Release from Production: **3,173**

Radon Effluent Release Calculation (Restoration)

First Half 2011 Radon Release From Restoration:

Total Restoration Flow (liters)	Microcuries/liter	Curies/Microcurie	Production Potential
680,335,518	0.697	1.00E-06	474

Wellfield Loss (25% of Production Potential):	119
Ion Exchange Loss (10% of Production Potential minus Wellfield Loss):	36
Reverse Osmosis Loss (100% of remaining activity at 0.470 microcuries/liter)	134

Total Reverse Osmosis Flow (liters)	Microcuries/liter	Curies/Microcurie
285,032,900	0.470	1.00E-06

First Half 2011 Radon Release From Startup of New Restoration:

Curies/M3	Total Acres of New Wellfield	Meter3/Acre Conversion	Orebody Thickness (meters)	Porosity	Total Radon Release from Startup
7.04E-04	0.8	4074	1.52	0.29	1

Total Estimated Radon Release from Restoration: **289**

Total Estimated Radon Release, First Half 2011: **3,462**

Appendix F

Environmental Air Monitoring Results

First and Second Quarter, 2011

Crow Butte Resources, Inc.
Crow Butte Uranium Project

Track Etch Cup Ambient Radon Concentrations

Air Monitoring Station No.

Period: January 4, 2011 to June 30, 2011

	Gross Count	Average Radon Concentration ($\times 10^{-9}$ µCi/ml)	Accuracy ($\times 10^{-9}$ µCi/ml)	Percent Effluent Concentration
AM-1	109.0	0.2	0.02	2.0%
AM-2	84.0	0.2	0.02	2.0%
AM-3	56.0	0.2	0.03	2.0%
AM-4	66.0	0.2	0.02	2.0%
AM-5	145.0	0.4	0.03	4.0%
AM-6	67.0	0.2	0.02	2.0%
AM-8	90.0	0.2	0.02	2.0%
AB-1 (AM-1 Duplicate)	73.0	0.2	0.02	2.0%
AB-2 (AM-2 Duplicate)	118.0	0.2	0.02	2.0%
AB-6 (AM-6 Duplicate)	90.0	0.2	0.02	2.0%
LLD ($\times 10^{-9}$ µCi/ml)				0.2
Effluent Concentration Limit, 10 CFR 20 App B Column 2:				10

HIGH VOLUME AIR SAMPLING REPORT

CLIENT: Crow Butte Resources
PROJECT: 2nd Quarter 2011 Env Air Sampling Composites
REPORT DATE: August 2, 2011

SAMPLE ID: AM-1

Quarter/Date Sampled Air Volume	Radionuclide	Concentration µCi/mL	Counting Precision µCi/mL	MDC µCi/mL	L.L.D. µCi/mL	Effluent Conc.* µCi/mL	% Effluent Concentration
C11040070-001	^{nat}U	1E-16	N/A	N/A	1E-16	9E-14	1E-01
First Quarter 2011	^{226}Ra	< 1E-16	4E-17	1E-16	1E-16	9E-13	< 1E-02
Air Volume in mLs	^{210}Pb	1.2E-14	1E-15	2E-15	2E-15	6E-13	2.0E+00
5.18E+09							

Quarter/Date Sampled Air Volume	Radionuclide	Concentration µCi/mL	Counting Precision µCi/mL	MDC µCi/mL	L.L.D. µCi/mL	Effluent Conc.* µCi/mL	% Effluent Concentration
C11070096-001	^{nat}U	1E-16	N/A	N/A	1E-16	9E-14	1E-01
Second Quarter 2011	^{226}Ra	< 1E-16	5E-17	9E-17	1E-16	9E-13	< 1E-02
Air Volume in mLs	^{210}Pb	8.6E-15	2E-15	3E-15	2E-15	6E-13	1.4E+00
5.48E+09							

L.L.D's are from Reg. Guide 4.14
*Effluent Concentration from the NEW 10 CFR Part 20 - Appendix B - Table 2
Year for Natural Uranium
Year for Thorium-230
Week for Radium-226
Day for Lead-210

HIGH VOLUME AIR SAMPLING REPORT

CLIENT: Crow Butte Resources
PROJECT: 2nd Quarter 2011 Env Air Sampling Composites
REPORT DATE: August 2, 2011

SAMPLE ID: AM-2

Quarter/Date Sampled Air Volume	Radionuclide	Concentration µCi/mL	Counting Precision µCi/mL	MDC µCi/mL	L.L.D. µCi/mL	Effluent Conc.* µCi/mL	% Effluent Concentration
C11040070-002	^{nat}U	1E-16	N/A	N/A	1E-16	9E-14	2E-01
First Quarter 2011	^{226}Ra	< 1E-16	4E-17	1E-16	1E-16	9E-13	< 1E-02
Air Volume in mLs	^{210}Pb	1.3E-14	1E-15	2E-15	2E-15	6E-13	2.1E+00
4.94E+09							

Quarter/Date Sampled Air Volume	Radionuclide	Concentration µCi/mL	Counting Precision µCi/mL	MDC µCi/mL	L.L.D. µCi/mL	Effluent Conc.* µCi/mL	% Effluent Concentration
C11070096-002	^{nat}U	2E-16	N/A	N/A	1E-16	9E-14	2E-01
Second Quarter 2011	^{226}Ra	< 1E-16	5E-17	9E-17	1E-16	9E-13	< 1E-02
Air Volume in mLs	^{210}Pb	9.7E-15	2E-15	2E-15	2E-15	6E-13	1.6E+00
5.20E+09							

LLD's are from Reg. Guide 4.14
*Effluent Concentration from the NEW 10 CFR Part 20 - Appendix B - Table 2
Year for Natural Uranium
Year for Thorium-230
Week for Radium-226
Day for Lead-210

HIGH VOLUME AIR SAMPLING REPORT

CLIENT: Crow Butte Resources
PROJECT: 2nd Quarter 2011 Env Air Sampling Composites
REPORT DATE: August 2, 2011

SAMPLE ID: AM-3

Quarter/Date Sampled Air Volume	Radionuclide	Concentration µCi/mL	Counting Precision µCi/mL	MDC µCi/mL	L.L.D. µCi/mL	Effluent Conc.* µCi/mL	% Effluent Concentration
C11040070-003	^{nat}U	1E-16	N/A	N/A	1E-16	9E-14	1E-01
First Quarter 2011	^{226}Ra	< 1E-16	4E-17	1E-16	1E-16	9E-13	< 1E-02
Air Volume in mLs	^{210}Pb	1.3E-14	1E-15	2E-15	2E-15	6E-13	2.1E+00
5.41E+09							

Quarter/Date Sampled Air Volume	Radionuclide	Concentration µCi/mL	Counting Precision µCi/mL	MDC µCi/mL	L.L.D. µCi/mL	Effluent Conc.* µCi/mL	% Effluent Concentration
C11070096-003	^{nat}U	< 1E-16	N/A	N/A	1E-16	9E-14	< 1E-01
Second Quarter 2011	^{226}Ra	< 3E-16	1E-16	3E-16	1E-16	9E-13	< 3E-02
Air Volume in mLs	^{210}Pb	9.9E-15	1E-15	2E-15	2E-15	6E-13	1.6E+00
5.69E+09							

LLD's are from Reg. Guide 4.14
*Effluent Concentration from the NEW 10 CFR Part 20 - Appendix B - Table 2
Year for Natural Uranium
Year for Thorium-230
Week for Radium-226
Day for Lead-210

HIGH VOLUME AIR SAMPLING REPORT

CLIENT: Crow Butte Resources
PROJECT: 2nd Quarter 2011 Env Air Sampling Composites
REPORT DATE: August 2, 2011

SAMPLE ID: AM-4

Quarter/Date Sampled Air Volume	Radionuclide	Concentration µCi/mL	Counting Precision µCi/mL	MDC µCi/mL	L.L.D. µCi/mL	Effluent Conc.* µCi/mL	% Effluent Concentration
C11040070-004	^{nat}U	1E-16	N/A	N/A	1E-16	9E-14	1E-01
First Quarter 2011	^{226}Ra	< 1E-16	4E-17	1E-16	1E-16	9E-13	< 1E-02
Air Volume in mLs	^{210}Pb	1.2E-14	1E-15	2E-15	2E-15	6E-13	2.0E+00
5.21E+09							

Quarter/Date Sampled Air Volume	Radionuclide	Concentration µCi/mL	Counting Precision µCi/mL	MDC µCi/mL	L.L.D. µCi/mL	Effluent Conc.* µCi/mL	% Effluent Concentration
C11070096-004	^{nat}U	1E-16	N/A	N/A	1E-16	9E-14	1E-01
Second Quarter 2011	^{226}Ra	< 3E-16	2E-16	3E-16	1E-16	9E-13	< 3E-02
Air Volume in mLs	^{210}Pb	1.0E-14	2E-15	2E-15	2E-15	6E-13	1.7E+00
5.47E+09							

LLD's are from Reg. Guide 4.14
*Effluent Concentration from the NEW 10 CFR Part 20 - Appendix B - Table 2
Year for Natural Uranium
Year for Thorium-230
Week for Radium-226
Day for Lead-210

HIGH VOLUME AIR SAMPLING REPORT

CLIENT: Crow Butte Resources
PROJECT: 2nd Quarter 2011 Env Air Sampling Composites
REPORT DATE: August 2, 2011

SAMPLE ID: AM-5

Quarter/Date Sampled Air Volume	Radionuclide	Concentration µCi/mL	Counting Precision µCi/mL	MDC µCi/mL	L.L.D. µCi/mL	Effluent Conc.* µCi/mL	% Effluent Concentration
C11040070-005	^{nat}U	2E-16	N/A	N/A	1E-16	9E-14	2E-01
First Quarter 2011	^{226}Ra	< 1E-16	6E-17	1E-16	1E-16	9E-13	< 2E-02
Air Volume in mLs	^{210}Pb	1.1E-14	1E-15	2E-15	2E-15	6E-13	1.9E+00
5.17E+09							

Quarter/Date Sampled Air Volume	Radionuclide	Concentration µCi/mL	Counting Precision µCi/mL	MDC µCi/mL	L.L.D. µCi/mL	Effluent Conc.* µCi/mL	% Effluent Concentration
C11070096-005	^{nat}U	2E-16	N/A	N/A	1E-16	9E-14	2E-01
Second Quarter 2011	^{226}Ra	< 1E-16	6E-17	9E-17	1E-16	9E-13	< 1E-02
Air Volume in mLs	^{210}Pb	8.8E-15	1E-15	2E-15	2E-15	6E-13	1.5E+00
5.50E+09							

LLD's are from Reg. Guide 4.14
*Effluent Concentration from the NEW 10 CFR Part 20 - Appendix B - Table 2
Year for Natural Uranium
Year for Thorium-230
Week for Radium-226
Day for Lead-210

HIGH VOLUME AIR SAMPLING REPORT

CLIENT: Crow Butte Resources
PROJECT: 2nd Quarter 2011 Env Air Sampling Composites
REPORT DATE: August 2, 2011

SAMPLE ID: AM-6

Quarter/Date Sampled Air Volume	Radionuclide	Concentration µCi/mL	Counting Precision µCi/mL	MDC µCi/mL	L.L.D. µCi/mL	Effluent Conc.* µCi/mL	% Effluent Concentration
C11040070-006	^{nat}U	< 1E-16	N/A	N/A	1E-16	9E-14	< 1E-01
First Quarter 2011	^{226}Ra	< 1E-16	5E-17	1E-16	1E-16	9E-13	< 1E-02
Air Volume in mLs	^{210}Pb	1.3E-14	1E-15	2E-15	2E-15	6E-13	2.1E+00
5.25E+09							

Quarter/Date Sampled Air Volume	Radionuclide	Concentration µCi/mL	Counting Precision µCi/mL	MDC µCi/mL	L.L.D. µCi/mL	Effluent Conc.* µCi/mL	% Effluent Concentration
C11070096-006	^{nat}U	< 1E-16	N/A	N/A	1E-16	9E-14	< 1E-01
Second Quarter 2011	^{226}Ra	< 1E-16	6E-17	9E-17	1E-16	9E-13	< 1E-02
Air Volume in mLs	^{210}Pb	9.9E-15	1E-15	2E-15	2E-15	6E-13	1.7E+00
5.56E+09							

LLD's are from Reg. Guide 4.14
*Effluent Concentration from the NEW 10 CFR Part 20 - Appendix B - Table 2
Year for Natural Uranium
Year for Thorium-230
Week for Radium-226
Day for Lead-210

HIGH VOLUME AIR SAMPLING REPORT

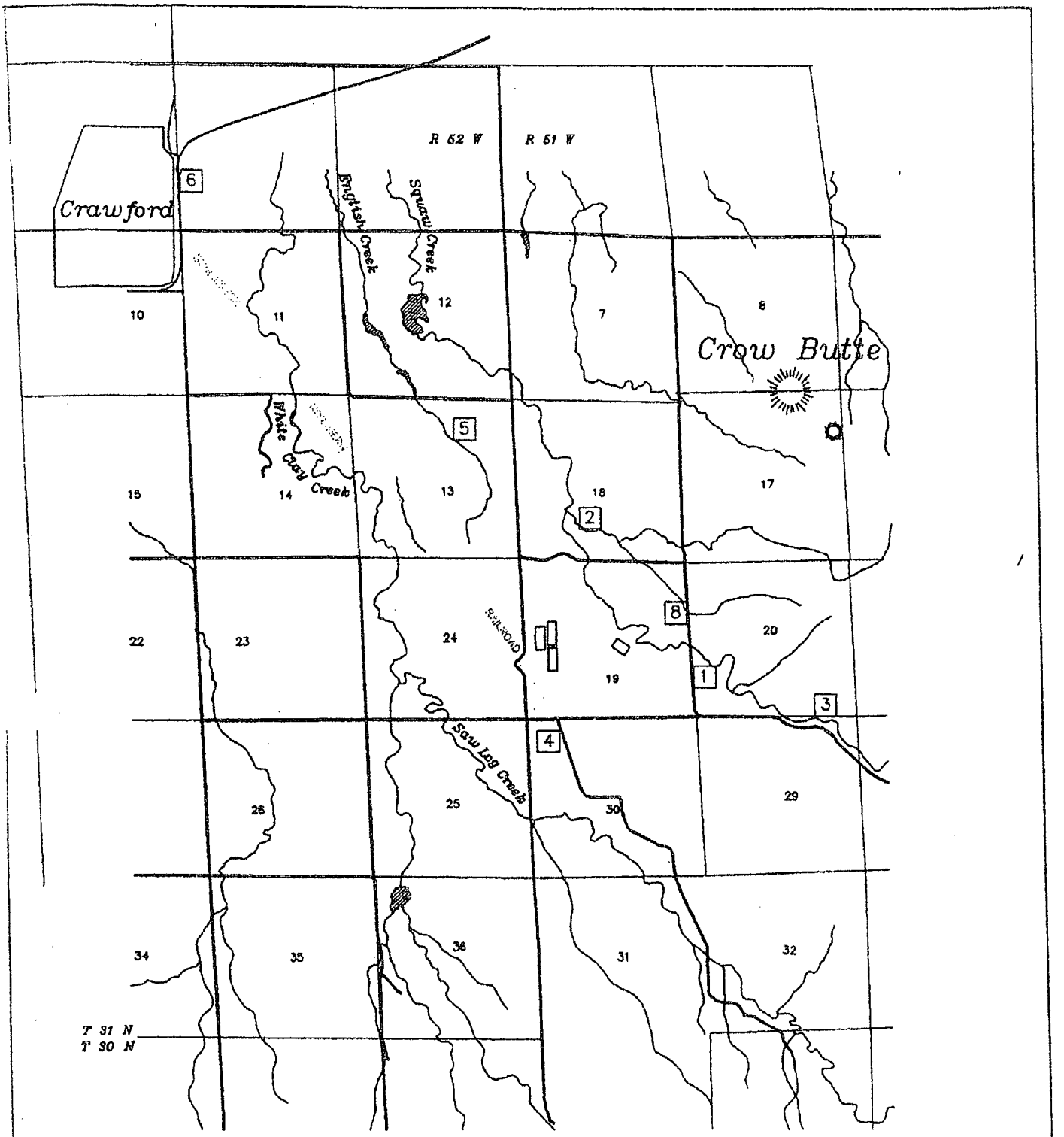
CLIENT: Crow Butte Resources
PROJECT: 2nd Quarter 2011 Env Air Sampling Composites
REPORT DATE: August 2, 2011

SAMPLE ID: AM-8

Quarter/Date Sampled Air Volume	Radionuclide	Concentration µCi/mL	Counting Precision µCi/mL	MDC µCi/mL	L.L.D. µCi/mL	Effluent Conc.* µCi/mL	% Effluent Concentration
C11040070-007	^{nat}U	2E-16	N/A	N/A	1E-16	9E-14	2E-01
First Quarter 2011	^{226}Ra	< 1E-16	6E-17	1E-16	1E-16	9E-13	< 1E-02
Air Volume in mLs	^{210}Pb	1.4E-14	1E-15	2E-15	2E-15	6E-13	2.3E+00
4.87E+09							

Quarter/Date Sampled Air Volume	Radionuclide	Concentration µCi/mL	Counting Precision µCi/mL	MDC µCi/mL	L.L.D. µCi/mL	Effluent Conc.* µCi/mL	% Effluent Concentration
C11070096-007	^{nat}U	2E-16	N/A	N/A	1E-16	9E-14	3E-01
Second Quarter 2011	^{226}Ra	< 1E-16	5E-17	1E-16	1E-16	9E-13	< 1E-02
Air Volume in mLs	^{210}Pb	1.3E-14	2E-15	3E-15	2E-15	6E-13	2.1E+00
4.15E+09							

LLD's are from Reg. Guide 4.14
*Effluent Concentration from the NEW 10 CFR Part 20 - Appendix B - Table 2
Year for Natural Uranium
Year for Thorium-230
Week for Radium-226
Day for Lead-210



8 Air Monitoring Stations

N

– PERMIT AREA

1/4 MILE 1/2 MILE
5280' (ONE MILE)

CROW BUTTE RESOURCES, INC.

Environmental Air Sample Locations

Date: 1/5/2010

Fig. 1

Appendix G

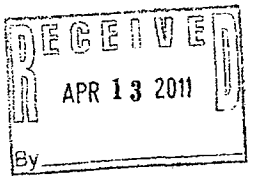
Environmental TLD Monitoring Results

First and Second Quarter, 2011

LANDAUER

Landauer, Inc. 2 Science Road Glenwood, Illinois 60425-1586 Telephone: (708) 755-7000 Facsimile: (708) 755-7016

ENVIRONMENTAL / LOW LEVEL DOSIMETRY REPORT



ADDRESS

CROW BUTTE RESOURCES
ATTN : RHONDA GRANTHAM
PO BOX 169
CRAWFORD, NE 69339

ACCOUNT NO. 306192

SERIES CODE

FOR EXPOSURE PERIOD 01/01/2011

LOCATION ID NUMBER	IDENTIFIER (CLIENT SUPPLIED)	NOTE CODE	EXPOSURE OF DOSIMETER (MILLIREMS AMBIENT DOSE EQUIVALENT)		NET CUMULATIVE TOTALS (MILLIREMS) CALENDAR QUARTER	YEAR TO DATE	PERMANENT	ADJUST-MENTS	NUMBER OF DOSIMETERS REPORTED	INCEPTION DATE OF PERM. TOTAL
			GROSS	NET						
00000	TRANSIT CONTROL		26.2	0.3						
000X9	DEPLOY CONTROL		25.9	0.0						
01001	AM-1		30.8	4.9	4.9	4.9	103.3		11	/ /
01002	AM-2		30.0	4.1	4.1	4.1	104.8		11	/ /
01003	AM-6		31.2	5.3	5.3	5.3	104.0		11	/ /
01008	AM-8		33.4	7.5	7.5	7.5	135.6		11	/ /
01009	AM-3		29.8	3.9	3.9	3.9	113.7		11	/ /
01010	AM-4		28.9	3.0	3.0	3.0	81.6		11	/ /
01011	AM-5		29.1	3.2	3.2	3.2	111.2		11	/ /

Q.C. Release	Process No.	Reported Date	Date Processed	Date Received	Minimum Detectable Dose In This Process, Millirems Ambient Dose Equivalent	ONLY PAGE
sb	B5B004	04/08/2011	04/06/2011	04/04/2011	0.10	1

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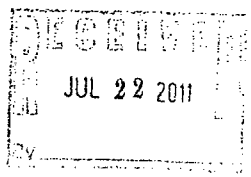

ACCOUNT NO. SERIES CODE

306192

FOR EXPOSURE PERIOD 04/01/2011

LOCATION ID NUMBER	IDENTIFIER (CLIENT SUPPLIED)	NOTE CODE	EXPOSURE OF DOSIMETER (MILLIREMS AMBIENT DOSE EQUIVALENT) GROSS	NET	NET CUMULATIVE TOTALS (MILLIREMS) CALENDAR QUARTER	YEAR TO DATE	PERMANENT	ADJUST-MENTS	NUMBER OF DOSIMETERS REPORTED	INCEPTION DATE OF PERM. TOTAL
00000	TRANSIT CONTROL		25.1	-1.5						
000X9	DEPLOY CONTROL		26.6	0.0						
01001	AM-1		34.3	7.7	7.7	12.6	111.0		12	/ /
01002	AM-2		30.9	4.3	4.3	8.3	109.0		12	/ /
01003	AM-6		33.5	6.9	6.9	12.2	110.8		12	/ /
01008	AM-8		38.8	12.1	12.1	19.6	147.8		12	/ /
01009	AM-3		34.3	7.7	7.7	11.6	121.3		12	/ /
01010	AM-4		32.8	6.2	6.2	9.2	87.8		12	/ /
01011	AM-5		35.1	8.5	8.5	11.7	119.6		12	/ /

Q.C. Release	Process No.	Reported Date	Date Processed	Date Received	Minimum Detectable Dose In This Process, Millirems Ambient Dose Equivalent	ONLY PAGE
sb	B7W004	07/12/2011	07/11/2011	07/06/2011	0.10	1