

**CAMECO RESOURCES
CROW BUTTE OPERATION**



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August 26, 2014

Attn: Document Control Desk
Deputy Director, Decommissioning and Uranium Recovery Licensing Directorate
Division of Waste Management and Environmental Protection
Office of Federal and State Materials and Environmental Management Programs
Mailstop T8-F5
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

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 2014.

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

Sincerely,
CAMECO RESOURCES
CROW BUTTE OPERATION

Larry Teahon
Manager of Safety, Health, Environment & Quality

cc: Nancy Harris – NDEQ
 CBO - File

ec: CR – Cheyenne

FSME20



**CAMECO RESOURCES
CROW BUTTE OPERATION**



**First Half 2014 Semiannual Radiological Effluent
and Environmental Monitoring Report**

CROW BUTTE URANIUM PROJECT

**RADIOLOGICAL EFFLUENT
AND
ENVIRONMENTAL MONITORING
REPORT**

for

FIRST AND SECOND QUARTERS, 2014

USNRC Source Materials License SUA 1534



**First Half 2014 Semiannual Radiological Effluent
and Environmental Monitoring Report**

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**First Half 2014 Semiannual Radiological Effluent
and Environmental Monitoring Report**

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 2014.

On May 9, 2014, well CM8-28 was placed on excursion status for exceedance of upper control limits. This well was removed from excursion status on June 17, 2014.

On May 21, 2014, well SM8-6 was placed on excursion status for exceedance of upper control limits. This well was removed from excursion status on July 8, 2014.

On July 23, 2014, well SM10-18 was placed on excursion status for exceedance of upper control limits. Rain water and purge water pooling around the well have been contributing factors to the exceedance of the upper control limits. The area around the well has been re-contoured and the well casing has been extended. Currently the corrective actions in place have been effective in correcting this problem.

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 2014 follows:

Monitor Well ID	Date On Excursion	Date Off Excursion	Biweekly Sampling Resumed	Causal Factor(s)
CM8-28	09 May 14	17 Jun 14	26 Jun 14	Over Injection
SM8-6	21 May 14	8 Jul 14	15 Jul 14	High Water Table
SM10-18	23 July 14	On going		Rain/Purge Water

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.



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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 2014. The average operating production flow rate was 6,882 gpm for the first quarter and 6,818 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 1,395,091 gallons during the first quarter and 1,898,520 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 two Deep Disposal Wells (DDWs). Currently, the wells are operated on a nearly continuous basis and 61,843,871 gallons of wastewater was injected into the wells during the first half of 2014. 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 7.04×10^{-4} Curies/m³ radon release from leaching operations and the radon release calculations for the first half of 2014 use this release rate estimate.

During the first quarter, production occurred at an average flow rate of 6,882 gpm (26,051 lpm). Production was maintained continuously for 90 days during the first quarter with an operating factor of 100%. The production flow for the first quarter results in a calculated radon release of 1,711 Curies. During the second quarter, production occurred at an average flow rate of 6,818 gpm (25,809 lpm). Production was maintained continuously for 91 days during the second quarter with

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an operating factor of 99.7%. The production flow for the second quarter results in a calculated radon release of 1,709 Curies. Calculations for radon release from production operations are shown in Appendix E.

Additional wells were brought on line during the first half of 2014. Calculations for the start-up of 6.9 acres of a new wellfield are shown in Appendix E. The calculated radon released from start-up of 6.9 acres is 9 Curies.

The total radon emission due to leaching operations from the Crow Butte plant for the first half of 2014 was 3,429 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 $\mu\text{Ci/l}$. 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 $\mu\text{Ci/l}$ after adjusting for wellfield loss and ion exchange loss.

During the first half of 2014, a total of 187,818,520 gallons (710,968,226 l) of restoration water was produced from Mine Units 2, 3, 4, 5, and 6. Based upon an estimated radon concentration of 0.697 $\mu\text{Ci/l}$, the total amount of radon in the restoration solution was calculated to be 496 Curies as shown in Appendix E. The estimated release of radon through wellfield loss at 25% of this total was 124 Curies. The plant loss for ion exchange treatment of the restoration water is estimated at 10% of the remaining radon, or 37 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 $\mu\text{Ci/l}$ after adjusting for wellfield loss and ion exchange loss.

Of the total amount of restoration water produced in the first half of 2014, 138,440,726 gallons (524,053,524 l) of the water was treated by reverse osmosis. The total estimated radon release from reverse osmosis treatment was 246 Curies.

An additional 8.5 acres of wellfields were placed into restoration during the first half of 2014. The calculated radon released from start-up of 8.5 acres is 11 Curies. Calculations for the start-up of 8.5 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 2014 from restoration activities was 418 Curies. This resulted in a total estimated radon release from the Crow Butte project during the first half of 2014 of 3,847 Curies.

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2.4 Restoration

Restoration activities continued in Mine Units 2, 3, 4, 5, and 6 during the first half of 2014. Permeate continued to be injected into Mine Units 4 and 5. IX treatment continued in Mine Unit 6. On June 19, 2013, Mine Units 2 and 3 were placed into stabilization, stability monitoring continued in these two mine units during the first half of 2014. 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. Three track etch cups were deployed at each air monitoring station to check for potential variability in data using only one track etch cup. 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, 2014

CROW BUTTE RESOURCES, INC.

PRIVATE WELL AND SURFACE WATER RADIOLOGICAL MONITORING RESULTS

First Quarter, 2014

SAMPLE ID	DATE SAMPLED	URANIUM mg/l	URANIUM μCi/ml	RADIUM-226 pCi/l	RADIUM-226 precision \pm
Well #8	03/25/14	0.0134	9.10E-09	0.4	0.1
Well #11	03/28/14	0.0085	5.80E-09	0.2	0.1
Well #12	03/25/14	0.0032	2.20E-09	ND	0.1
Well #26	03/20/14	0.0063	4.30E-09	ND	0.1
Well #28	03/25/14	0.0070	4.70E-09	0.3	0.1
Well #41	03/28/14	0.0079	5.40E-09	ND	0.1
Well #61	03/28/14	ND	ND	3.5	0.2
Well #63	03/21/14	0.0271	1.83E-08	0.3	0.1
Well #66	03/28/14	0.0228	1.54E-08	0.2	0.1
Well #125	03/21/14	0.0091	6.20E-09	ND	0.04
Well #129	03/21/14	0.0099	6.70E-09	ND	0.1
Well #131	03/21/14	0.0078	5.30E-09	ND	0.1
Well #133	03/21/14	0.0142	9.60E-09	0.3	0.1
Well #134	03/21/14	0.0108	7.30E-09	0.2	0.1
Well #135	03/21/14	0.0248	1.68E-08	0.2	0.1
Well #138	03/28/14	0.0141	9.60E-09	0.3	0.1
Well #140	03/25/14	0.0106	7.20E-09	ND	0.1
Well #435	03/28/14	0.0075	5.10E-09	0.3	0.1
Drinking Water Well	03/21/14	0.0119	8.10E-09	ND	0.04
Well #38	03/20/14	0.0035	2.40E-09	ND	0.04
Well #445	03/21/14	0.0196	1.33E-08	ND	0.03
Stream S-1	03/20/14	0.0042	1.73E-07	ND	0.03
Stream S-2	03/20/14	0.0044	3.00E-09	ND	0.04
Stream S-5	03/20/14	0.0050	3.40E-09	ND	0.03
Stream E-1	03/20/14	0.0046	3.10E-09	0.3	0.1
Stream E-5	03/20/14	0.0183	1.24E-08	ND	0.1
Impoundment I-3	03/20/14	0.0731	4.95E-08	ND	0.1
Impoundment I-4	03/20/14	0.0667	4.52E-08	ND	0.04
Impoundment I-5	03/20/14	0.0262	1.77E-08	ND	0.1
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, 2014

SAMPLE ID	DATE SAMPLED	URANIUM mg/l	URANIUM μCi/ml	RADIUM-226 pCi/l	RADIUM-226 precision \pm
Well #8	06/19/14	0.0109	7.40E-09	0.2	0.1
Well #11	No Sample-Well off				
Well #12	06/19/14	0.0036	2.40E-09	0.2	0.1
Well #26	06/19/14	0.0060	4.10E-09	0.2	0.1
Well #28	06/19/14	0.0059	4.00E-09	ND	0.1
Well #41	06/20/14	0.0087	5.90E-09	ND	0.1
Well #61	06/20/14	ND	ND	2.8	0.3
Well #63	06/05/14	0.0136	9.20E-09	0.5	0.2
Well #66	06/20/14	0.0218	1.48E-08	0.4	0.1
Well #125	06/20/14	0.0060	4.10E-09	0.4	0.1
Well #129	06/20/14	0.0053	3.60E-09	ND	0.1
Well #131	06/20/14	0.0043	2.90E-09	0.2	0.1
Well #133	06/20/14	0.0081	5.50E-09	0.3	0.1
Well #134	06/20/14	0.0072	4.90E-09	0.2	0.1
Well #135	06/20/14	0.0140	9.50E-09	ND	0.1
Well #138	06/19/14	0.0334	2.26E-08	0.3	0.1
Well #140	06/19/14	0.0094	6.40E-09	ND	0.1
Well #435	06/20/14	0.0065	4.40E-09	0.2	0.1
Drinking Water Well	06/20/14	0.0006	4.00E-10	ND	0.1
Well #38	06/20/14	0.0030	2.00E-09	ND	0.1
Well #445	06/19/14	0.0098	6.60E-09	ND	0.1
Stream S-1	06/20/14	0.0034	2.30E-09	ND	0.1
Stream S-2	06/20/14	0.0036	2.40E-09	ND	0.1
Stream S-5	06/20/14	0.0037	2.50E-09	ND	0.1
Stream E-1	06/20/14	0.0158	1.07E-08	0.3	0.1
Stream E-5	06/05/14	0.0060	4.10E-09	ND	0.1
Impoundment I-3	06/20/14	0.0109	7.40E-09	ND	0.1
Impoundment I-4	06/05/14	0.0093	6.30E-09	0.2	0.2
Impoundment I-5	06/20/14	0.0065	4.40E-09	ND	0.1
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, 2014

WASTE VOLUME First Quarter 2014						
TOTALIZER	PLANT TO PONDS	PLANT TO DDW 1 & 2	RESTORATION TO DDW	CLEAN WATER INTO PLANT	DDW TOTAL INJECTED	TRUCKS TO POND
January	227,200	5,324,333	5,613,718	600,227	10,938,051	3,699
February	272,290	4,719,597	5,819,164	544,343	10,538,761	2,022
March	881,680	4,597,560	5,853,902	640,937	10,451,462	8,200
TOTAL GAL. EOQ	1,381,170	14,641,490	17,286,784	1,785,507	31,928,274	13,921

TOTAL 1st QTR VOLUME DISCHARGED TO WASTE PONDS =	1,395,091 GALLONS
TOTAL 1st QTR VOLUME DISCHARGED TO DEEP WELL=	31,928,274 GALLONS
TOTAL 1st QTR VOLUME DISCHARGED TO WASTE PONDS + DPWELL =	33,323,365 GALLONS
TOTAL 1st QTR VOLUME WF BLEED FROM WELLFIELDS=	31,523,937 GALLONS

WELLFIELD BLEED First Quarter 2014			
MONTH	January	February	March
BLEED	2.5%	2.5%	2.4%

PLANT FLOW First Quarter 2014	
AVERAGE OPERATING FLOW RATE=	6,882 GPM EOQ
TOTAL GALLONS PRODUCED=	891,870,732 GALLONS EOQ
TOTAL GALLONS INJECTED=	875,848,072 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	309,196,528	303,644,995	744	744	6,926	6,802	502	0
February	278,955,366	273,963,479	672	672	6,919	6,795	537	0
March	303,718,838	298,239,598	744	744	6,804	6,681	568	0
EOQ TOTAL	891,870,732	875,848,072	2,160	2,160	6,882	6,758	536	0
YTD TOTAL	891,870,732	875,848,072	2,160	2,160	6,882	6,758	536	0

	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	0	0	11,712,754	9,882,336	6,320,990	0	0	2,026,553	2,789,413	700,346
February	0	2	10,216,588	11,946,560	4,784,707	0	2	2,035,277	2,576,024	688,317
March	24,319	16,948	12,008,474	13,678,769	4,413,878	24,319	16,948	1,398,347	2,646,178	681,629
EOQ TOTAL	24,319	16,950	33,937,816	35,507,665	15,519,575	24,319	16,950	5,460,177	8,011,615	2,070,292
YTD TOTAL	24,319	16,950	33,937,816	35,507,665	15,519,575	24,319	16,950	5,460,177	8,011,615	2,070,292

	TOTAL BRINE GALS PRODUCED	TOTAL PERM GALS PRODUCED	COMM BLEED TO RO FEED
Prev. YTD	0	0	0
January	5,613,718	14,056,932	0
February	5,819,164	16,169,236	0
March	5,853,902	17,665,540	0
EOQ TOTAL	17,286,784	47,891,708	0
YTD TOTAL	17,286,784	47,891,708	0

WASTE VOLUME
Second Quarter 2014

TOTALIZER	PLANT TO PONDS	PLANT TO DDW 1 & 2	RESTORATION TO DDW	CLEAN WATER INTO PLANT	DDW TOTAL INJECTED	TRUCKS TO POND
April	911,380	4,380,195	5,475,333	635,797	9,855,528	1,220
May	745,240	5,354,732	3,789,210	542,905	9,143,942	18,900
June	219,980	4,910,393	6,005,734	520,242	10,916,127	1,800
TOTAL GAL. EOQ	1,876,600	14,645,320	15,270,277	1,698,944	29,915,597	21,920

TOTAL 2nd QTR VOLUME DISCHARGED TO WASTE PONDS =	1,898,520 GALLONS
TOTAL 2nd QTR VOLUME DISCHARGED TO DEEP WELL=	29,915,597 GALLONS
TOTAL 2nd QTR VOLUME DISCHARGED TO WASTE PONDS + DPWELL =	31,814,117 GALLONS
TOTAL 2nd QTR VOLUME WF BLEED FROM WELLFIELDS=	30,093,253 GALLONS

WELLFIELD BLEED
Second Quarter 2014

MONTH	April	May	June
BLEED	2.4%	2.3%	2.6%

PLANT FLOW

Second Quarter 2014

AVERAGE OPERATING FLOW RATE=	6,818 GPM EOQ
TOTAL GALLONS PRODUCED=	893,425,397 GALLONS EOQ
TOTAL GALLONS INJECTED=	876,903,477 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	891,870,732	875,848,072	2,160	2,160	6,882	6,758	536	0
April	295,076,940	289,785,365	720	720	6,830	6,708	605	0
May	306,754,335	300,654,363	744	744	6,872	6,735	663	0
June	291,594,122	286,463,749	720	713	6,750	6,631	739	7
EOQ TOTAL	893,425,397	876,903,477	2,184	2,177	6,818	6,692	669	7
YTD TOTAL	1,785,296,129	1,752,751,549	4,344	4,337	6,850	6,725	603	7

	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	24,319	16,950	33,937,816	35,507,665	15,519,575	0	0	0	0	0
April	0	0	12,577,557	13,815,162	4,374,123	0	0	1,162,980	2,845,055	603,029
May	0	62	16,790,725	12,847,752	4,253,484	0	62	904,333	2,742,368	634,720
June	23,534	1	21,314,751	12,630,980	4,184,064	23,534	1	2,200,153	3,754,310	551,330
EOQ TOTAL	23,534	63	50,683,033	39,293,894	12,811,671	23,534	63	4,267,466	9,341,733	1,789,079
YTD TOTAL	47,853	17,013	84,620,849	74,801,559	28,331,246	23,534	63	4,267,466	9,341,733	1,789,079

	TOTAL BRINE GALS PRODUCED	TOTAL PERM GALS PRODUCED	COMM BLEED TO RO FEED
Prev. YTD	0	0	0
April	5,475,333	18,424,850	0
May	3,789,210	14,631,313	0
June	6,005,734	24,935,794	0
EOQ TOTAL	15,270,277	57,991,957	0
YTD TOTAL	15,270,277	57,991,957	0

Appendix C

Wellfield Injection Pressures

First and Second Quarter, 2014

WELLFIELD INJECTION PRESSURE - PSI										
First Quarter 2014										
	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	65	78	71	83	58	72	64	82	49	60
February	65	76	71	81	58	68	66	78	50	59
March	65	76	71	83	59	72	63	80	47	60
AVERAGE	65	78	71	83	58	72	64	82	49	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	61	72	75	82	63	70	58	65	26	40
February	63	72	80	83	69	74	64	83	27	65
March	60	72	77	81	66	71	60	66	48	80
AVERAGE	61	72	77	83	66	74	61	83	34	80
	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	1	3	65	80	0	2	75	88	51	77
February	2	4	63	70	1	2	74	82	50	74
March	1	2	60	72	16	58	71	83	46	58
AVERAGE	1	4	63	80	6	58	73	88	49	77
	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	66	84	73	84	0	10	69	74	74	77
February	64	77	71	80	0	0	58	63	75	85
March	62	80	69	81	2	62	48	64	71	75
AVERAGE	64	84	71	84	1	62	58	74	73	85
	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	71	75	89	91	90	91	80	81	89	90
February	75	84	90	93	90	92	81	82	90	90
March	69	78	85	92	87	92	77	82	87	90
AVERAGE	72	84	88	93	89	92	79	82	89	90
	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	86	92	87	92	81	86	58	62	63	69
February	81	88	82	86	77	82	53	57	58	62
March	84	90	84	90	79	85	55	60	60	67
AVERAGE	84	92	84	92	79	86	55	62	60	69
	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	70	88	89	90	90	94	87	89	90	92
February	64	68	89	91	88	95	88	90	90	92
March	66	72	89	91	88	90	89	90	89	90
AVERAGE	67	88	89	91	89	95	88	90	89	92
	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	88	90	83	88	88	90	86	88	90	94
February	87	90	81	86	88	90	86	88	91	94
March	87	94	82	86	88	91	87	89	92	95
AVERAGE	87	94	82	88	88	91	86	89	91	95
	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	84	86	84	88	75	78	86	88	91	94
February	84	88	86	89	75	80	86	88	89	93
March	85	88	86	90	76	79	87	88	84	96
AVERAGE	84	88	85	90	75	80	87	88	88	96
	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	64	66	45	48	89	90	88	90	89	90
February	64	66	45	48	89	92	89	90	89	90
March	64	67	45	48	90	92	89	90	88	90
AVERAGE	64	67	45	48	89	92	89	90	89	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
January	90	91	89	90	90	93	69	80	77	81
February	89	90	89	90	90	92	68	70	78	80
March	89	90	90	91	88	90	69	78	77	81
AVERAGE	89	91	89	91	89	93	69	80	78	81
	WF HOUSE #56		WF HOUSE #57							
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM						
January	69	72	80	82						
February	69	79	80	83						
March	71	91	82	85						
AVERAGE	70	91	81	85						
	WF HOUSE #60		WF HOUSE #61		WF HOUSE #62		WF HOUSE #63		WF HOUSE #64	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
January	85	88	83	87	79	82	91	94	90	92
February	83	90	81	85	77	80	90	94	89	95
March	88	90	83	86	78	82	91	96	92	96
AVERAGE	86	90	82	87	78	82	91	96	91	96

WELLFIELD INJECTION PRESSURE - PSI										
Second Quarter 2014										
	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	38	50	43	55	31	42	36	50	24	35
May	30	82	33	48	21	36	25	38	14	28
June	58	78	64	91	52	73	56	80	42	61
AVERAGE	42	82	46	91	34	73	39	80	26	61
	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	32	44	50	74	41	64	35	59	49	72
May	24	42	66	80	55	69	49	63	64	78
June	58	80	51	70	41	54	34	44	50	66
AVERAGE	38	80	56	80	46	69	39	63	55	78
	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	1	4	33	54	24	36	44	55	20	44
May	46	68	21	35	13	25	35	60	10	20
June	44	55	51	74	43	65	65	86	40	77
AVERAGE	30	68	35	74	27	65	48	86	23	77
	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	32	45	40	70	0	0	4	6	73	77
May	22	35	32	76	1	8	4	4	74	76
June	51	72	59	81	2	71	4	6	74	77
AVERAGE	35	72	44	81	1	71	4	6	74	77
	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	70	72	87	89	89	90	79	80	89	90
May	73	79	90	92	90	92	80	82	90	92
June	79	91	89	94	90	92	80	83	90	92
AVERAGE	74	91	89	94	90	92	80	83	90	92
	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	85	89	86	90	81	85	58	89	62	66
May	79	89	85	91	79	86	55	61	61	67
June	84	94	89	92	82	86	59	62	65	68
AVERAGE	82	94	87	92	81	86	57	89	63	68
	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	68	73	90	90	89	91	88	90	88	89
May	67	76	89	92	89	92	89	90	88	98
June	71	84	90	92	88	90	88	90	88	89
AVERAGE	69	84	90	92	89	92	88	90	88	98
	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	87	88	82	85	88	90	87	88	92	94
May	88	90	82	88	89	91	86	88	90	93
June	88	90	82	86	89	92	86	89	91	93
AVERAGE	87	90	82	88	89	92	86	89	91	94
	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	85	86	87	90	76	78	86	88	78	86
May	83	87	85	89	75	77	86	87	78	79
June	82	85	86	88	75	77	86	89	90	93
AVERAGE	83	87	86	90	75	78	86	89	82	93
	WF HOUSE #47		WF HOUSE #47A/65		WF HOUSE #48		WF HOUSE #49		WF HOUSE #50	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
April	63	66	49	86	90	94	89	90	88	95
May	62	67	84	87	89	94	89	90	88	88
June	63	66	84	87	90	92	90	90	89	90
AVERAGE	63	67	72	87	89	94	89	90	88	95
	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	89	90	90	90	90	92	70	90	80	90
May	89	91	89	90	91	92	69	78	80	83
June	88	90	89	90	91	92	70	90	78	82
AVERAGE	89	91	89	90	91	92	70	90	79	90
	WF HOUSE #56		WF HOUSE #57							
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM						
April	71	81	81	84						
May	70	73	81	84						
June	72	84	82	84						
AVERAGE	71	84	81	84						
	WF HOUSE #60		WF HOUSE #61		WF HOUSE #62		WF HOUSE #63		WF HOUSE #64	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
April	89	92	82	86	78	81	91	94	93	95
May	89	96	84	88	78	86	91	95	91	96
June	90	92	84	86	78	81	92	94	92	94
AVERAGE	89	96	83	88	78	86	91	95	92	96

Appendix D

Deep Disposal Wells Injection Radiological Data

First and Second Quarter, 2014

Crow Butte Uranium Mine
Deep Disposal Well #1 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-14	9,367,209	4	1.42E+08	9.60E+04	914	3.24E+04
February-14	9,124,931	4	1.38E+08	9.35E+04	831	2.87E+04
March-14	8,906,060	4	1.35E+08	9.13E+04	576	1.94E+04
April-14	8,371,873	11	3.49E+08	2.36E+05	1,200	3.80E+04
May-14	7,706,604	8	2.33E+08	1.58E+05	1,530	4.46E+04
June-14	9,484,707	6	2.15E+08	1.46E+05	1,190	4.27E+04
Totals	52,961,384		1.21E+09	8.21E+05		2.06E+05

Crow Butte Uranium Mine
Deep Disposal Well #2 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-14	1,570,842	1	5.95E+06	4.03E+03	799	4.75E+03
February-14	1,413,830	2	1.07E+07	7.25E+03	701	3.75E+03
March-14	1,545,402	1	5.85E+06	3.96E+03	447	2.61E+03
April-14	1,483,655	1	5.62E+06	3.80E+03	700	3.93E+03
May-14	1,437,338	0	0.00E+00	0.00E+00	678	3.69E+03
June-14	1,431,420	1	5.42E+06	3.67E+03	681	3.69E+03
Totals	8,882,487		3.35E+07	2.27E+04		2.24E+04

Appendix E

Radon Release Calculations

First and Second Quarter, 2014

Radon Effluent Release Calculation (Production and Startup)

First Quarter 2014 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	26,051	0.72	90	100.0%	0.001	24	60	1,711

Second Quarter 2014 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	25,809	0.72	91	99.7%	0.001	24	60	1,709

First Half 2014 Radon Release From Startup:

Curies/M3	Total Acres of New Wellfield	Meter2/Acre Conversion	Orebody Thickness (meters)	Porosity	Total Radon Release from Startup
7.04E-04	6.9	4,074	1.52	0.29	9

Total Estimated Radon Release from Production:

3,429

Radon Effluent Release Calculation (Restoration)

First Half 2014 Radon Release From Restoration:

Total Restoration Flow (liters)	Microcuries/liter	Curies/Microcurie	Production Potential
710,968,226	0.697	1.00E-06	496
Wellfield Loss (25% of Production Potential):			
124			
Ion Exchange Loss (10% of Production Potential minus Wellfield Loss):			
37			
Reverse Osmosis Loss (100% of remaining activity at 0.470 microcuries/liter)			
246			
Total Reverse Osmosis Flow (liters)	Microcuries/liter	Curies/Microcurie	
524,053,524	0.470	1.00E-06	

First Half 2014 Radon Release From Startup of New Restoration:

Curies/M3	Total Acres of New Wellfield	Meter2/Acre Conversion	Orebody Thickness (meters)	Porosity	Total Radon Release from Startup
7.04E-04	8.5	4074	1.52	0.29	11

Total Estimated Radon Release from Restoration:

418

Total Estimated Radon Release, First Half 2014:

3,847

Appendix F
Environmental Air Monitoring Results
First and Second Quarter, 2014

Crow Butte Resources, Inc.
Crow Butte Uranium Project

Track Etch Cup Ambient Radon Concentrations

*Air Monitoring Station
No.*

Period: January 2, 2014 to July 2, 2014

	Gross Count	Average Radon Concentration (x 10 ⁻⁹ µCi/ml)	Accuracy (x 10 ⁻⁹ µCi/ml)	Percent Effluent Concentration
AM-1A	105.0	0.2	0.02	2.0%
AM-1B	73.0	0.2	0.02	2.0%
AM-1C	88.0	0.2	0.02	2.0%
AM-2A	95.0	0.2	0.02	2.0%
AM-2B	110.0	0.2	0.02	2.0%
AM-2C	88.0	0.2	0.02	2.0%
AM-3A	75.0	0.2	0.02	2.0%
AM-3B	73.0	0.2	0.02	2.0%
AM-3C	60.0	0.2	0.03	2.0%
AM-4A	78.0	0.2	0.02	2.0%
AM-4B	110.0	0.2	0.02	2.0%
AM-4C	84.0	0.2	0.02	2.0%
AM-5A	129.0	0.3	0.03	3.0%
AM-5B	119.0	0.2	0.02	2.0%
AM-5C	92.0	0.2	0.02	2.0%
AM-6A	89.0	0.2	0.02	2.0%
AM-6B	61.0	0.2	0.03	2.0%
AM-6C	84.0	0.2	0.02	2.0%
AM-8A	108.0	0.2	0.02	2.0%
AM-8B	88.0	0.2	0.02	2.0%
AM-8C	97.0	0.2	0.02	2.0%

LLD (x 10⁻⁹ µCi/ml) 0.2

Effluent Concentration Limit, 10 CFR 20 App B Column 2: 10

**Crow Butte Resources
Crow Butte Uranium Project**

Perimeter Air Monitoring Stations

Analyte	Result	Precision +	Result	Precision +	RL	10 CFR Pt 20 Effluent Limit	Effluent	% Effluent
	pCi/filter	pCi/filter	uCi/ml	uCi/ml	uCi/ml		Class	Concentration
First Quarter 2014								
AM-1 [Sample Air Volume 6338739 liters]								
Lead 210	86.6	5.6	1E-14	9E-16	2E-15	6E-13	Day	1.70
Radium 226	0.6	0.2	<1E-16	-	1E-16	9E-13	Week	0.00
Thorium	<0.2	-	<1E-16	-	1E-16	3E-14	Year	0.00
Uranium	0.3	-	<1E-16	-	1E-16	9E-14	Year	0.00
AM-2 [Sample Air Volume 6335106 liters]								
Lead 210	93.7	5.9	2E-14	9E-16	2E-15	6E-13	Day	3.30
Radium 226	0.4	0.1	<1E-16	-	1E-16	9E-13	Week	0.00
Thorium	<0.2	-	<1E-16	-	1E-16	3E-14	Year	0.00
Uranium	0.5	-	<1E-16	-	1E-16	9E-14	Year	0.00
AM-3 [Sample Air Volume 6341799 liters]								
Lead 210	89.7	5.7	1E-14	9E-16	2E-15	6E-13	Day	1.70
Radium 226	0.8	0.2	1E-16	3E-17	1E-16	9E-13	Week	0.01
Thorium	<0.2	-	<1E-16	-	1E-16	3E-14	Year	0.00
Uranium	<0.3	-	<1E-16	-	1E-16	9E-14	Year	0.00
AM-4 [Sample Air Volume 6347843 liters]								
Lead 210	101.0	6.1	2E-14	1E-15	2E-15	6E-13	Day	3.30
Radium 226	<0.3	-	<1E-16	-	1E-16	9E-13	Week	0.00
Thorium	<0.2	-	<1E-16	-	1E-16	3E-14	Year	0.00
Uranium	0.4	-	<1E-16	-	1E-16	9E-14	Year	0.00
AM-5 [Sample Air Volume 6340878 liters]								
Lead 210	97.1	5.9	2E-14	9E-16	2E-15	6E-13	Day	3.30
Radium 226	<0.3	-	<1E-16	-	1E-16	9E-13	Week	0.00
Thorium	<0.2	-	<1E-16	-	1E-16	3E-14	Year	0.00
Uranium	0.5	-	<1E-16	-	1E-16	9E-14	Year	0.00
AM-6 [Sample Air Volume 6335924 liters]								
Lead 210	95.2	5.8	2E-14	9E-16	2E-15	6E-13	Day	3.30
Radium 226	<0.3	-	<1E-16	-	1E-16	9E-13	Week	0.00
Thorium	<0.2	-	<1E-16	-	1E-16	3E-14	Year	0.00
Uranium	0.4	-	<1E-16	-	1E-16	9E-14	Year	0.00
AM-8 [Sample Air Volume 6339589 liters]								
Lead 210	90.5	5.7	1E-14	9E-16	2E-15	6E-13	Day	1.70
Radium 226	<0.3	-	<1E-16	-	1E-16	9E-13	Week	0.00
Thorium	<0.2	-	<1E-16	-	1E-16	3E-14	Year	0.00
Uranium	0.3	-	<1E-16	-	1E-16	9E-14	Year	0.00

RL – Reporting Limit

uCi/ml – microuries per milliliter

pCi/filter – picouries per filter

**Crow Butte Resources
Crow Butte Uranium Project**

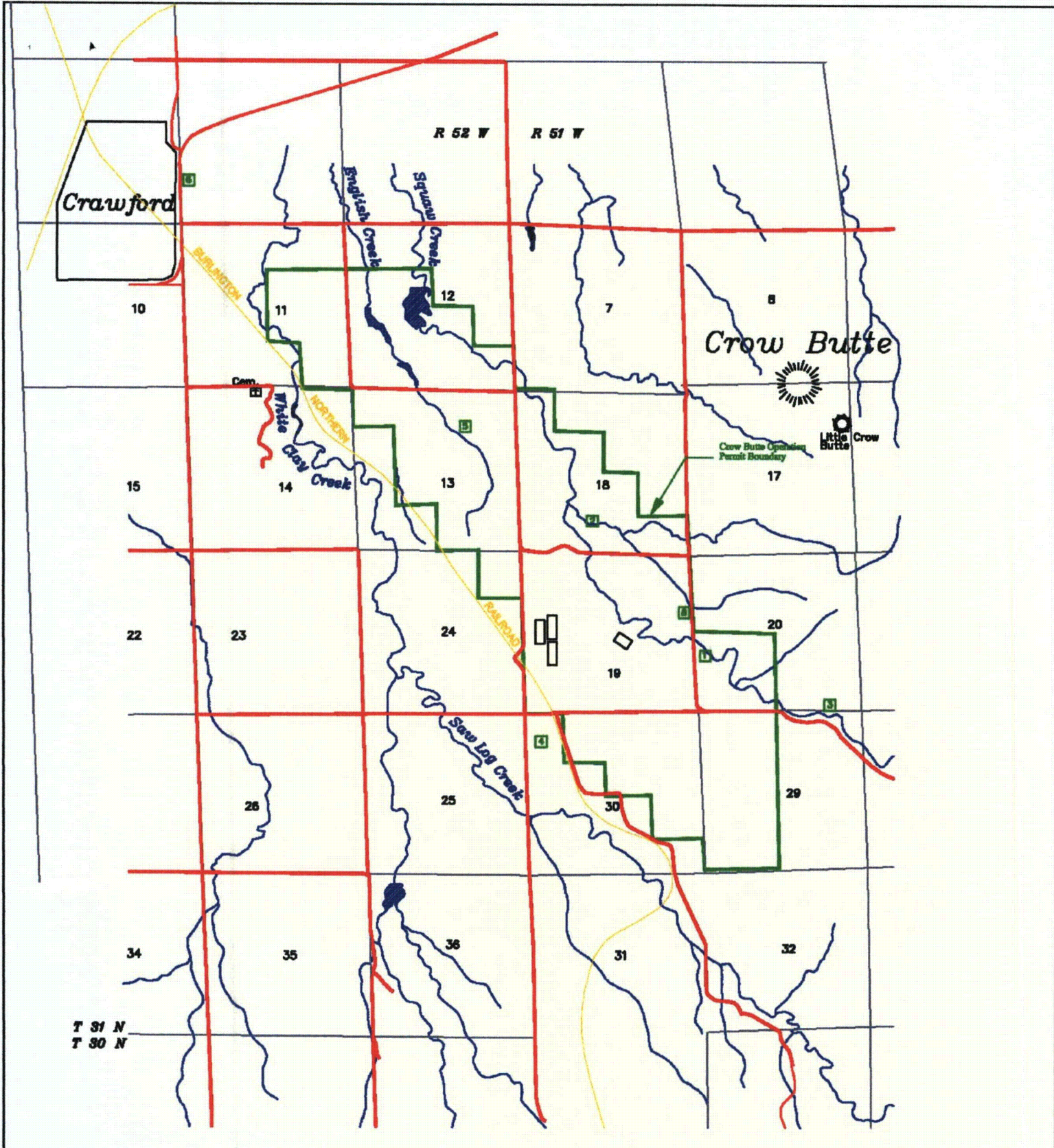
Perimeter Air Monitoring Stations

Analyte	Result	Precision ±	Result	Precision ±	RL	10 CFR Pt 20	Effluent	% Effluent
	pCi/filter	pCi/filter	uCi/ml	uCi/ml	uCi/ml	Effluent Limit	Class	Concentration
Second Quarter 2014								
AM-1 [Sample Air Volume 6,592,618 liters]								
Lead 210	73.7	5.6	1E-14	9E-16	2E-15	6E-13	Day	1.70
Radium 226	<0.3	--	<1E-16	--	1E-16	9E-13	Week	0.00
Thorium	<0.2	--	<1E-16	--	1E-16	3E-14	Year	0.00
Uranium	0.7	--	1E-16	--	1E-16	9E-14	Year	0.11
AM-2 [Sample Air Volume 6,591,208 liters]								
Lead 210	84.2	5.8	1E-14	9E-16	2E-15	6E-13	Day	1.70
Radium 226	0.3	0.1	<1E-16	--	1E-16	9E-13	Week	0.00
Thorium	<0.2	--	<1E-16	--	1E-16	3E-14	Year	0.00
Uranium	1.0	--	2E-16	--	1E-16	9E-14	Year	0.22
AM-3 [Sample Air Volume 6,416,740 liters]								
Lead 210	60.4	5.3	9E-15	8E-16	2E-15	6E-13	Day	1.50
Radium 226	<0.3	--	<1E-16	--	1E-16	9E-13	Week	0.00
Thorium	0.2	0.2	<1E-16	--	1E-16	3E-14	Year	0.00
Uranium	0.5	--	<1E-16	--	1E-16	9E-14	Year	0.00
AM-4 [Sample Air Volume 6,588,160 liters]								
Lead 210	74.2	5.6	1E-14	9E-16	2E-15	6E-13	Day	1.70
Radium 226	<0.3	--	<1E-16	--	1E-16	9E-13	Week	0.00
Thorium	<0.2	--	<1E-16	--	1E-16	3E-14	Year	0.00
Uranium	0.7	--	1E-16	--	1E-16	9E-14	Year	0.11
AM-5 [Sample Air Volume 6,587,962 liters]								
Lead 210	77.2	5.7	1E-14	9E-16	2E-15	6E-13	Day	1.70
Radium 226	3.3	0.3	5E-16	5E-17	1E-16	9E-13	Week	0.06
Thorium	0.3	0.2	<1E-16	--	1E-16	3E-14	Year	0.00
Uranium	0.8	--	1E-16	--	1E-16	9E-14	Year	0.11
AM-6 [Sample Air Volume 6,348,479 liters]								
Lead 210	74.0	5.6	1E-14	9E-16	2E-15	6E-13	Day	1.70
Radium 226	1.3	0.2	2E-16	3E-17	1E-16	9E-13	Week	0.02
Thorium	<0.2	--	<1E-16	--	1E-16	3E-14	Year	0.00
Uranium	0.4	--	<1E-16	--	1E-16	9E-14	Year	0.00
AM-8 (Sample Air Volume 5,161,810 liters)								
Lead 210	59.3	5.1	1E-14	1E-15	2E-15	6E-13	Day	1.70
Radium 226	0.5	0.1	<1E-16	--	1E-16	9E-13	Week	0.00
Thorium	<0.2	--	<1E-16	--	1E-16	3E-14	Year	0.00
Uranium	0.5	--	<1E-16	--	1E-16	9E-14	Year	0.00

RL – Reporting Limit

uCi/ml – microuries per milliliter

pCi/filter – picocuries per filter



CROW BUTTE RESOURCES, INC.

Environmental Sample Locations

Date: 8-21-2012

Fig. 1

Appendix G
Environmental OSL Monitoring Results
First and Second Quarter, 2014

Crow Butte Resources
Crow Butte Uranium Project
Perimeter Air Monitoring Stations

Gamma Exposure Results

Location	Exposure of Dosimeter		Net Cumulative Totals		
	(mrems ambient dose equivalent)				
	Gross	Net	Calendar Quarter	Year to Date	Permanent
01/01/2014 - 03/31/2014					
Transient Control	--	0.0	Q1	2014	--
Deploy Control	29.5	0.0	--	--	--
AM-1	34.7	5.2	5.2	5.2	195.5
AM-2	37.6	8.0	8.0	8.0	204.1
AM-3	33.6	4.1	4.1	4.1	222.2
AM-4	34.8	5.3	5.3	5.3	163.5
AM-5	38.7	9.2	9.2	9.2	219.2
AM-6	36.6	7.1	7.1	7.1	200.0
AM-8	38.7	9.2	9.2	9.2	273.1

mrem – millirems

AM-1 air sampling locations

Minimum Detectable Dose = 0.1 mrems ambient dose equivalent

Crow Butte Resources
Crow Butte Uranium Project
Perimeter Air Monitoring Stations

Gamma Exposure Results

Location	Exposure of Dosimeter		Net Cumulative Totals		
	(mrems ambient dose equivalent)				
	Gross	Net	Calendar Quarter	Year to Date	Permanent
04/01/2014 - 06/30/2014					
Transient Control	--	0.0	Q2	2014	--
Deploy Control	31.5	0.0	--	--	--
AM-1	38.1	6.6	6.6	11.8	202.0
AM-2	41.6	10.1	10.1	18.1	214.2
AM-3	41.7	10.2	10.2	14.3	232.4
AM-4	39.3	7.8	7.8	13.1	171.3
AM-5	41.6	10.1	10.1	19.3	229.3
AM-6	40.4	8.9	8.9	16.0	208.9
AM-8	40.5	9.0	9.0	18.2	282.1

mrem -- millirems

AM-1 air sampling locations

Minimum Detectable Dose = 0.1 mrems ambient dose equivalent