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CROW BUTTE OPERATION

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February 19, 2010

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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 third and fourth quarters of 2009.

If you have any questions concerning the report, please feel free to call me at (720) 879-5534.

Sincerely,
CAMECO RESOURCES

Thomas P. Young
Vice-President, Operations

cc: Mr. Keith I. McConnell, 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
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CAMECO RESOURCES
CROW BUTTE OPERATION

CROW BUTTE URANIUM PROJECT

RADIOLOGICAL EFFLUENT AND ENVIRONMENTAL MONITORING REPORT

for

THIRD AND FOURTH QUARTERS, 2009

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 10 during the third and fourth quarters of 2009.

PR-8, PR-15, and IJ-13 remain on excursion status. These monitor wells are associated with Mine Units 2 and 3, which are currently undergoing groundwater restoration.

On September 26, 2006, Mine Unit 2 perimeter monitor well PR-15 was placed on excursion status. PR-15 is a baseline restoration well in Mine Unit 1 that was chosen to monitor the boundary of Mine Unit 2 following the approval of restoration. The current restoration activity in Mine Unit 2 adjacent to PR-15 includes the injection of permeate. IJ-13 and PR-8, two other baseline restoration wells from Mine Unit 1, have remained on excursion status since December 27, 2002 and December 23, 2003, respectively. Due to the geometry of Mine Units 2 and 3, CBO is of the opinion that PR-15 will continue to exhibit the same trend as IJ-13 and PR-8 until Mine Units 2 and 3 can be fully restored along the perimeter of Mine Unit 1.

On April 28, 2009, Mine Unit 6 shallow monitor well SM6-20 was placed on excursion status. High ground water levels due to a significant amount of precipitation received at the site this year has caused several shallow monitor wells in Mine Units 6, 8 and 10 to show upward trends in the excursion parameters. The mining wells nearest SM6-20 were successfully mechanically integrity tested to verify that the exceedance of the excursion parameters is due to natural conditions and not from an operational problem. On August 27, 2009, SM6-20 was removed from excursion status and returned to bi-weekly sampling.

On June 12, 2009, Mine Unit 9 monitor well CM9-4 was placed on excursion status. By over producing in the area it has allowed the excursion parameters to return to their normal values. On July 22, 2009, CM9-4 was removed from excursion status and returned to bi-weekly sampling

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 2009 follows.

Monitor Well ID	Date On Excursion	Date Off Excursion	Biweekly Sampling Resumed	Causal Factor(s)
PR-8	23 Dec 03			Wellfield

				geometry
IJ-13	27 Dec 03			Wellfield geometry
PR-15	26 Sep 06			Wellfield geometry
SM6-20	28 Apr 09	27 Aug 09	31 Aug 09	High water table
CM9-4	12 Jun 09	22 Jul 09	23 Jul 09	Over injection

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 third and fourth quarters of 2009. The average operating production flow rate was 6986 gpm for the third quarter and 6963 gpm for the fourth 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 2,971,022 gallons during the third quarter and 1,766,210 gallons during the fourth 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 34,986,773 gallons of wastewater was injected into the well during the second half of 2009. 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 second half of 2009 use this release rate estimate.

During the third quarter, production occurred at an average flow rate of 6,986 (26,445 lpm). Production was maintained nearly continuously for 92 days during the third quarter with an operating factor of 99.8 %. The production flow for the third quarter results in a calculated radon release of 1,772 Curies. During the fourth quarter, production occurred at an average flow rate of 6,963 gpm (26,358 lpm). Production was maintained nearly continuously for 91 days during the second quarter with an operating factor of 99.7%. The production flow for the fourth quarter results in a calculated radon release of 1,745 Curies. Calculations for radon release from production operations are shown in Appendix E.

Additional wells were brought on line during the second half of 2009. Calculations for the start-up of 5.7 acres of a new wellfield are shown in Appendix E. The calculated radon released from start-up of 5.7 acres is 7 Curies.

The total radon emission due to leaching operations from the Crow Butte plant for the second half of 2009 was 3,525 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 second half of 2009, a total of 131,814,403 gallons (498,970,241 l) of restoration water was produced from Mine Units 2, 3, 4, and 5. Based upon an estimated radon concentration of 0.697 μCi/l, the total amount of radon in the restoration solution was calculated to be 348 Curies as shown in Appendix E. The estimated release of radon through wellfield loss at 25% of this total was 87 Curies. The plant loss for ion exchange treatment of the restoration water is estimated at 10% of the remaining radon, or 26 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 second half of 2009, 59,118,323 gallons (223,786,500 l) of the water was treated by reverse osmosis. An additional .61 acres of wellfields were placed in restoration during the second half of 2009. The calculated radon released from start-up of .61 acres is 1 Curie. Calculations for the start-up of .61 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 second half of 2009 from restoration activities was 219 Curies. This resulted in a total estimated radon release from the Crow Butte project during the second half of 2009 of 3,744 Curies.

2.4 Restoration

Restoration activities resumed in Mine Units 2, 3, 4, and 5 during the second half of 2009. The restoration circuit was shut off on August 9, 2007 so that additional IX and R.O. treatment could be added to the circuit. On May 26, 2009 the reverse osmosis units were started with the permeate being injected into Mine Unit 2. 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.

3.3 Annual Dose to the Public (2009)

10 CFR 20.1301 requires that each NRC licensee conduct their operations in such a manner that the total effective dose equivalent (TEDE) to members of the public does not exceed 0.1 rem (100 mrem) in a year, and that the dose from external sources in any unrestricted area does not exceed 0.002 rem (2 mrem) in any one hour.

Additionally, 10 CFR 20.1302 requires that each NRC licensee annually show compliance with the above described dose limits by demonstrating one of the following:

1) Show by actual measurement or calculation that the TEDE to the public does not exceed 100 mrem; or

2) Show that the annual average concentrations of radioactive effluents released at the restricted area boundary do not exceed the values in Table 2 of Appendix B to 10 CFR 20 and that the external dose to an individual continuously present in an unrestricted area would not exceed 2 mrem in an hour and 50 mrem in a year.

The Dose to the Public table in Appendix F compares the 2009 annual average concentrations of radioactive effluents from the Crow Butte Project to the 10 CFR 20, Table 2 limits of Appendix B. The table also shows the calculated TEDE at unrestricted area sampling locations (AM-2 – Nearest Downwind Residence) and the Site Area location (AM – 8) assuming a person was continuously in the area for the entire year. As shown in the table, all measured concentrations of radioactive effluents are less than the Table 2 limits of Appendix B, confirming compliance with 10 CFR 20.1302(b)(2)(i) and (ii). Additionally, the calculated TEDE for the two locations confirms compliance with 10 CFR 20.11302(b)(1).

3.4 Stream Sediments

Sediment samples are collected from three locations on Squaw Creek (S-1, S-2, and S-5), two locations on English Creek (E-1, and E-5), and from three impoundments on English Creek (I-3, I-4, and I-5) on an annual basis during the fourth quarter. The results of sediment sampling for 2009 are included in Appendix H.

The concentration of natural uranium at the upper end of English Creek was above the regional background levels. CBR has noted these elevated concentrations in the English Creek drainage during preoperational monitoring, which indicates that these levels are anomalous natural background concentrations. Composite samples obtained from E-1 and E-2 as part of the preoperational sampling program from 1982 through 1986 had average results with elevated natural uranium (3.4 pCi/g) and lead-210 (1.4 pCi/g) when compared with the other surface water sample locations. Samples obtained in 1998 before mining operations began in this area showed similar elevated uranium concentrations.

This sample location is in a wetland area in the upper course of English Creek. The area has a large amount of organic matter and low water flows as compared with the other surface water sampling locations for the project. CBR believes that the upper courses of English Creek are an area with reducing conditions that favor deposition of radionuclides. Due to the drought conditions in this

area, the streams and wetland areas have been dry. Appendix H contains a trend graph for English Creek sediment sample points since 1998 that shows the elevated uranium concentrations noted in past sediment samples along with a trend graph for Squaw Creek showing the elevated uranium concentrations upstream from the current operation.

Appendix A

Private Well and Surface Water Radiological Monitoring Results

Third and Fourth Quarter, 2009

CROW BUTTE RESOURCES, INC.

PRIVATE WELL AND SURFACE WATER RADIOLOGICAL MONITORING RESULTS

THIRD QUARTER, 2009

SAMPLE ID	DATE SAMPLED	URANIUM mg/l	URANIUM µCi/ml	RADIUM-226 pCi/l	RADIUM-226 precision ±
Well #8	07/31/09	0.0120	8.50E-09	ND	0.16
Well #11	NO SAMPLE-OWNER SHUT WELL OFF				
Well #12	08/13/09	0.0037	2.50E-09	ND	0.14
Well #26	07/17/09	0.0063	4.30E-09	ND	0.11
Well #28	07/31/09	0.0059	4.00E-09	ND	0.18
Well #41	07/31/09	0.0074	5.00E-09	ND	0.17
Well #61	08/10/09	ND	ND	4.1	0.17
Well #63	08/10/09	0.0140	9.70E-09	ND	0.17
Well #66	07/31/09	0.0280	1.90E-08	0.32	0.18
Well #125	08/12/09	0.0056	3.80E-09	ND	0.17
Well #129	08/12/09	0.0056	3.80E-09	ND	0.15
Well #131	08/07/09	0.0051	3.50E-09	ND	0.17
Well #133	07/17/09	0.0081	5.50E-09	0.35	0.18
Well #134	07/31/09	0.0081	5.50E-09	ND	0.17
Well #135	08/10/09	0.0140	9.80E-09	0.18	0.17
Well #138	07/17/09	0.0140	9.20E-09	0.21	0.17
Well #140	07/31/09	0.0096	6.50E-09	ND	0.17
Well #435	07/31/09	0.0066	4.50E-09	ND	0.17
Drinking Water Well	08/12/09	0.0062	4.20E-09	ND	0.18
Stream S-1	07/31/09	0.0036	2.40E-09	ND	0.17
Stream S-2	07/31/09	0.0035	2.30E-09	ND	0.18
Stream S-5	07/31/09	0.0042	2.80E-09	ND	0.16
Stream E-1 & E-2	08/10/09	0.0110	7.20E-09	0.2	0.16
Stream E-5	08/10/09	0.0013	8.60E-10	ND	0.17
Impoundment I-3	08/10/09	0.0032	2.20E-09	ND	0.19
Impoundment I-4	08/10/09	0.0063	4.30E-09	ND	0.17
Impoundment I-5	08/10/09	0.0024	1.70E-09	ND	0.19
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

FOURTH QUARTER, 2009

SAMPLE ID	DATE SAMPLED	URANIUM mg/l	URANIUM µCi/ml	RADIUM-226 pCi/l	RADIUM-226 precision ±
Well #8	10/19/09	0.0130	8.50E-09	ND	0.16
Well #11	10/09/09	0.0079	5.30E-09	ND	0.18
Well #12	10/19/09	0.0035	2.40E-09	ND	0.18
Well #26	10/09/09	0.0069	4.70E-09	ND	0.16
Well #28	10/16/09	0.0061	4.10E-09	ND	0.19
Well #41	10/09/09	0.0065	4.40E-09	ND	0.19
Well #61	10/09/09	ND	ND	3.2	0.2
Well #63	10/16/09	0.0140	9.80E-09	ND	0.16
Well #66	10/09/09	0.0210	1.40E-08	0.3	0.16
Well #125	10/09/09	0.0057	3.90E-09	ND	0.17
Well #129	10/16/09	0.0056	3.80E-09	ND	0.18
Well #131	10/09/09	0.0043	2.90E-09	ND	0.17
Well #133	10/09/09	0.0081	5.50E-09	ND	0.19
Well #134	10/16/09	0.0089	6.10E-09	ND	0.19
Well #135	10/16/09	0.0150	1.00E-08	ND	0.19
Well #138	10/09/09	0.0160	1.10E-08	ND	0.18
Well #140	10/16/09	0.0095	6.40E-09	ND	0.18
Well #435	10/09/09	0.0067	4.50E-09	ND	0.19
Drinking Water Well	10/09/09	0.0060	4.10E-09	ND	0.19
Stream S-1	10/23/09	0.0033	2.20E-09	ND	0.19
Stream S-2	10/23/09	0.0034	2.30E-09	ND	0.18
Stream S-5	10/23/09	0.0037	2.50E-09	ND	0.18
Stream E-1 & E-2	10/23/09	0.0530	3.60E-08	ND	0.17
Stream E-5	10/23/09	0.0048	3.20E-09	ND	0.17
Impoundment I-3	10/23/09	0.0230	1.60E-08	ND	0.18
Impoundment I-4	10/23/09	0.0110	7.80E-09	ND	0.16
Impoundment I-5	10/23/09	0.0068	4.60E-09	ND	0.17
Reporting Limit		**0.0003**	**2.00E-10**	**0.2**	**-**

ND-Not detected at the reporting limit

Appendix B

Plant Production and Waste Totals

Third and Fourth Quarter, 2009

WASTE VOLUME
Third Quarter 2009

TOTALIZER	PLANT TO PONDS	PLANT TO DDW	RESTORATION TO DDW	CLEAN WATER INTO PLANT	DDW TOTAL INJECTED	TRUCKS TO POND
July	916,490	2,962,723	2,504,684	N/A	5,467,407	149,459
August	848,460	3,418,957	2,100,174	N/A	5,519,131	102,050
September	821,750	3,308,218	2,110,350	N/A	5,418,568	132,813
TOTAL GAL. EOQ	2,586,700	9,689,898	6,715,208	0	16,405,106	384,322

TOTAL 3rd QTR VOLUME DISCHARGED TO WASTE PONDS =	2,971,022 GALLONS
TOTAL 3rd QTR VOLUME DISCHARGED TO DEEP WELL=	16,405,106 GALLONS
TOTAL 3rd QTR VOLUME DISCHARGED TO WASTE PONDS + DPWELL =	19,376,128 GALLONS
TOTAL 3rd QTR VOLUME WF BLEED FROM WELLFIELDS=	18,991,806 GALLONS

WELLFIELD BLEED
Third Quarter 2009

MONTH	July	August	September
BLEED	1.5%	1.6%	1.5%

PLANT FLOW
Third Quarter 2009

AVERAGE OPERATING FLOW RATE=	6,986 GPM EOQ
TOTAL GALLONS PRODUCED=	925,506,237 GALLONS EOQ
TOTAL GALLONS INJECTED=	913,229,639 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	1,607,549,107	1,585,246,627	4,344	4,295	6,168	6,082	392	50
July	306,729,785	302,850,572	744	743	6,871	6,784	473	1
August	312,999,299	308,731,882	744	741	7,012	6,916	412	3
September	305,777,153	301,647,185	720	720	7,078	6,983	371	0
EOQ TOTAL	925,506,237	913,229,639	2,208	2,204	6,986	6,893	419	4
YTD TOTAL	2,533,055,344	2,498,476,266	6,552	6,499	6,443	6,356	404	54

	TOTAL MUII GALS PRODUCED	TOTAL MUIII GALS PRODUCED	TOTAL MUIV GALS PRODUCED	TOTAL MUV GALS PRODUCED	MUII BLEED TO WASTE	MUIII BLEED TO WASTE	MUIV BLEED TO WASTE	MUV BLEED TO WASTE
Prev. YTD	26,876,403	10,829,891	19,114,227	55,218,322	3,484,891	583,508	4,628,970	1,155,306
July	9,714,157	2,996,080	972,617	9,917,589	470,879	313,921	821,476	898,408
August	7,542,964	2,339,933	2,383,484	8,152,338	448,883	333,080	637,798	680,413
September	4,590,772	2,346,693	2,801,671	8,413,836	-39,488	572,917	483,727	1,093,194
EOQ TOTAL	21,847,893	7,682,706	6,157,772	26,483,763	880,274	1,219,918	1,943,001	2,672,015
YTD TOTAL	48,724,296	18,512,597	25,271,999	81,702,085	4,365,165	1,803,426	6,571,971	3,827,321

	TOTAL BRINE GALS PRODUCED	TOTAL PERM GALS PRODUCED	COMM BLEED TO RO FEED
Prev. YTD	3,308,077	12,610,933	0
July	2,279,593	8,791,960	0
August	1,869,763	6,742,050	0
September	1,602,992	4,358,891	0
EOQ TOTAL	5,752,348	19,892,901	0
YTD TOTAL	9,060,425	32,503,834	0

WASTE VOLUME
Fourth Quarter 2009

TOTALIZER	PLANT TO PONDS	PLANT TO DDW	RESTORATION TO DDW	CLEAN WATER INTO PLANT	DDW TOTAL INJECTED	TRUCKS TO POND
October	804,190	3,286,548	2,504,684	N/A	5,791,232	75,900
November	529,230	3,960,016	2,100,174	N/A	6,060,190	69,600
December	216,990	3,626,503	3,103,742	N/A	6,730,245	70,300
TOTAL GAL. EOQ	1,550,410	10,873,067	7,708,600	N/A	18,581,667	215,800

TOTAL 4th QTR VOLUME DISCHARGED TO WASTE PONDS =	1,766,210 GALLONS
TOTAL 4th QTR VOLUME DISCHARGED TO DEEP WELL=	18,581,667 GALLONS
TOTAL 4th QTR VOLUME DISCHARGED TO WASTE PONDS + DPWELL =	20,347,877 GALLONS
TOTAL 4th QTR VOLUME WF BLEED FROM WELLFIELDS=	20,132,077 GALLONS

WELLFIELD BLEED
Fourth Quarter 2009

MONTH	October	November	December
BLEED	1.7%	1.6%	1.5%

PLANT FLOW
Fourth Quarter 2009

AVERAGE OPERATING FLOW RATE=	6,963 GPM EOQ
TOTAL GALLONS PRODUCED=	914,048,426 GALLONS EOQ
TOTAL GALLONS INJECTED=	901,624,949 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	2,533,055,344	2,498,476,266	6,552	6,499	6,443	6,356	404	54
October	311,179,733	307,088,995	744	743	6,971	6,879	457	1
November	299,358,236	294,868,990	720	720	6,930	6,826	447	0
December	303,510,457	299,666,964	724	719	6,987	6,898	508	5
EOQ TOTAL	914,048,426	901,624,949	2,188	2,182	6,963	6,868	470	6
YTD TOTAL	3,447,103,770	3,400,101,215	8,740	8,681	6,573	6,484	421	60

	TOTAL MUII GALS PRODUCED	TOTAL MUIII GALS PRODUCED	TOTAL MUIV GALS PRODUCED	TOTAL MUV GALS PRODUCED	MUII BLEED TO WASTE	MUIII BLEED TO WASTE	MUIV BLEED TO WASTE	MUV BLEED TO WASTE
Prev. YTD	48,724,296	18,512,597	25,271,999	81,702,085	4,365,165	1,803,426	6,571,971	3,827,321
October	5,954,106	3,200,252	2,486,087	10,624,854	-211,582	691,663	399,377	1,026,072
November	6,072,170	5,173,347	611,011	10,508,166	-26,001	1,331,329	611,011	1,143,316
December	4,061,045	9,241,922	717,914	10,991,395	-364,758	1,029,628	643,456	1,795,416
EOQ TOTAL	16,087,321	17,615,521	3,815,012	32,124,415	-602,341	3,052,620	1,653,844	3,964,804
YTD TOTAL	64,811,617	36,128,118	29,087,011	113,826,500	3,762,824	4,856,046	8,225,815	7,792,125

	TOTAL BRINE GALS PRODUCED	TOTAL PERM GALS PRODUCED	COMM BLEED TO RO FEED
Prev. YTD	9,060,425	32,503,834	0
October	1,800,325	5,889,623	0
November	2,432,852	8,731,008	0
December	3,315,651	11,303,615	0
EOQ TOTAL	7,548,828	25,924,246	0
YTD TOTAL	16,609,253	58,428,080	0

Appendix C

Wellfield Injection Pressures

Third and Fourth Quarter, 2009

WELLFIELD INJECTION PRESSURE - PSI
Third Quarter 2009

	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
July	70	92	72	90	64	81	29	48	0	0
August	56	80	58	83	52	78	0	0	0	0
September	55	79	60	81	53	72	0	0	0	0
AVERAGE	61	92	64	90	56	81	10	48	0	0

	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
July	38	54	26	76	0	4	0	0	0	5
August	37	58	17	44	0	0	0	0	0	4
September	36	56	20	42	0	0	0	0	1	14
AVERAGE	37	58	21	76	0	4	0	0	0	14

	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
July	0	0	0	0	0	0	1	18	11	14
August	0	0	0	0	0	0	0	2	12	14
September	0	0	0	5	0	0	0	2	11	13
AVERAGE	0	0	0	5	0	0	0	18	12	14

	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
July	65	86	72	85	58	82	80	85	90	98
August	49	75	55	80	0	7	78	85	91	99
September	50	70	58	94	0	0	85	92	92	93
AVERAGE	55	86	62	94	19	82	81	92	91	99

	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
July	0	0	93	95	92	95	94	96	0	0
August	0	0	94	98	92	95	94	97	0	0
September	41	96	60	98	93	95	95	98	1	10
AVERAGE	14	96	82	98	93	95	94	98	0	10

	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
July	75	81	72	81	74	78	52	72	57	60
August	71	97	68	78	69	78	46	52	50	55
September	59	69	56	67	57	63	32	40	38	43
AVERAGE	69	97	65	81	67	78	44	72	48	60

	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
July	58	61	83	90	88	92	77	87	93	98
August	53	59	82	85	89	92	77	80	92	94
September	41	48	87	93	77	93	84	89	93	94
AVERAGE	51	61	84	93	85	93	79	89	93	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
July	93	95	89	93	91	95	93	97	96	97
August	93	95	91	94	92	94	92	96	95	99
September	94	96	93	95	94	97	93	95	96	97
AVERAGE	93	96	91	95	93	97	93	97	96	99

	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
July	95	96	95	98	95	98	83	98	89	92
August	95	98	95	98	95	96	84	98	90	93
September	96	98	96	99	95	98	81	95	88	91
AVERAGE	95	98	95	99	95	98	83	98	89	93

	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
July	96	98	80	90	77	80	63	92	72	78
August	95	98	80	95	77	86	61	70	74	81
September	96	98	80	82	84	97	69	88	81	87
AVERAGE	95	98	80	95	79	97	64	92	77	87

	WF HOUSE #51	
	AVERAGE	MAXIMUM
July	73	75
August	74	76
September	81	86
AVERAGE	78	86

WELLFIELD INJECTION PRESSURE - PSI
Fourth Quarter 2009

	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
October	1	30	67	81	59	72	0	0	0	0
November	27	60	72	79	64	96	0	0	24	60
December	28	30	65	80	56	71	17	71	43	68
AVERAGE	19	60	68	81	60	96	6	71	22	68
	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
October	37	80	17	32	0	0	0	0	1	4
November	53	67	0	0	0	0	0	0	3	47
December	51	65	0	0	0	0	0	0	1	4
AVERAGE	47	80	6	32	0	0	0	0	2	47
	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
October	0	0	0	0	0	0	0	0	11	16
November	1	37	0	0	0	0	2	60	12	70
December	0	0	0	0	0	0	0	0	1	10
AVERAGE	0	37	0	0	0	0	1	60	8	70
	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
October	50	71	56	68	0	0	82	88	89	93
November	52	74	61	72	0	0	81	85	88	94
December	45	59	53	65	0	0	83	94	91	99
AVERAGE	49	74	57	72	0	0	82	94	89	99
	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
October	91	95	92	99	91	96	91	96	50	99
November	90	95	91	96	90	96	90	98	90	96
December	91	98	90	97	90	96	90	98	92	98
AVERAGE	91	98	91	99	90	96	91	98	77	99
	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
October	68	97	64	92	64	72	39	98	46	53
November	69	93	63	76	64	70	38	44	46	52
December	66	74	62	70	65	97	38	48	45	54
AVERAGE	68	97	63	92	64	97	39	98	46	54
	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
October	48	54	90	95	92	98	85	95	91	97
November	46	52	88	96	90	97	81	90	89	96
December	46	56	88	98	91	97	81	91	89	96
AVERAGE	47	56	89	98	91	98	82	95	90	97
	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
October	94	98	85	96	91	96	93	95	95	97
November	91	97	82	98	90	95	91	98	92	98
December	94	97	87	94	91	95	94	95	95	95
AVERAGE	93	98	85	98	91	96	93	98	94	98
	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
October	95	98	95	97	95	97	81	88	88	93
November	92	98	91	96	92	98	81	86	88	93
December	94	96	95	95	95	96	83	92	89	94
AVERAGE	94	98	94	97	94	98	82	92	88	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
October	95	96	81	83	86	99	70	81	84	96
November	92	98	79	83	82	96	68	79	80	90
December	95	96	82	94	85	94	73	90	80	89
AVERAGE	94	98	81	94	84	99	70	90	80	96

	WF HOUSE #51			WF HOUSE #52	
	AVERAGE	MAXIMUM		AVERAGE	MAXIMUM
October	83	97	October	88	97
November	81	90	November	83	97
December	83	90	December	83	93
AVERAGE	82	97	AVERAGE	83	97

Appendix D

Deep Disposal Well Injection Radiological Data

Third and Fourth Quarter, 2009

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)
July-09	5,467,407	3	6.21E+07	4.20E+04	1,120	2.32E+04
August-09	5,519,131	6	1.25E+08	8.49E+04	991	2.07E+04
September-09	5,418,568	5	1.03E+08	6.94E+04	652	1.34E+04
October-09	5,791,232	4	8.77E+07	5.94E+04	866	1.90E+04
November-09	6,060,190	6	1.38E+08	9.32E+04	1,090	2.50E+04
December-09	6,730,245	7	1.78E+08	1.21E+05	1,250	3.18E+04
Totals	34,986,773		6.94E+08	4.70E+05		1.33E+05

Appendix E

Radon Release Calculations

Third and Fourth Quarter, 2009

Radon Effluent Release Calculation (Production and Startup)

Third Quarter 2009 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	26,445	0.72	92	99.8%	0.001	24	60	1,772

Fourth Quarter 2009 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	26,358	0.72	91	99.7%	0.001	24	60	1,745

Second Half 2009 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	5.7	4,074	1.52	0.29	7

Total Estimated Radon Release from Production: 3,525

Radon Effluent Release Calculation (Restoration)

Second Half 2009 Radon Release From Restoration:

Total Restoration Flow (liters)	*Microcuries/liter*	*Curies/Microcurie*	*Production Potential*
498,970,241	0.697	1.00E-06	348

Wellfield Loss (25% of Production Potential):	87
Ion Exchange Loss (10% of Production Potential minus Wellfield Loss):	26
Reverse Osmosis Loss (100% of remaining activity at 0.470 microcuries/liter)	105

Total Reverse Osmosis Flow (liters)	*Microcuries/liter*	*Curies/Microcurie*
223,786,500	0.470	1.00E-06

Second Half 2009 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	0.6	4074	1.52	0.29	1

Total Estimated Radon Release from Restoration: 219

Total Estimated Radon Release, Second Half 2009: 3,744

Appendix F

Environmental Air Monitoring Results

Third and Fourth Quarter, 2009

Crow Butte Resources, Inc.
Crow Butte Uranium Project

Track Etch Cup Ambient Radon Concentrations

Air Monitoring Station No.

Period: June 29, 2009 to January 4, 2010

	Gross Count	Average Radon Concentration ($x\ 10^{-9}$ µCi/ml)	Accuracy ($x\ 10^{-9}$ µCi/ml)	Percent Effluent Concentration
AM-1	30.0	0.2	0.01	2.0%
AM-2	31.5	0.2	0.01	2.0%
AM-3	30.0	0.2	0.02	2.0%
AM-4	30.0	0.2	0.01	2.0%
AM-5	74.4	0.4	0.03	4.0%
AM-6	30.5	0.2	0.01	2.0%
AM-8	37.5	0.2	0.02	2.0%
AB-1 (AM-1 Duplicate)	44.5	0.2	0.02	2.0%
AB-2 (AM-2 Duplicate)	65.4	0.3	0.03	3.0%
AB-6 (AM-6 Duplicate)	30.0	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

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HIGH VOLUME AIR SAMPLING REPORT

CLIENT: Crow Butte Resources
PROJECT: 4th Quarter Env Air Sampling Composites
REPORT DATE: February 5, 2010

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
C09040202-001	^{nat}U	< 1.00E-16	N/A	N/A	1.00E-16	9.00E-14	< 1.11E-01
First Quarter 2009	^{226}Ra	< 1.00E-16	1.44E-17	3.44E-17	1.00E-16	9.00E-13	< 1.11E-02
Air Volume in mLs	^{210}Pb	1.51E-14	3.40E-15	5.41E-15	2.00E-15	6.00E-13	2.51E+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
C09070028-001	^{nat}U	2.26E-16	N/A	N/A	1.00E-16	9.00E-14	2.51E-01
Second Quarter 2009	^{226}Ra	< 1.00E-16	1.78E-17	3.11E-17	1.00E-16	9.00E-13	< 1.11E-02
Air Volume in mLs	^{210}Pb	5.64E-15	1.68E-15	2.64E-15	2.00E-15	6.00E-13	9.40E-01
5.14E+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
C09100086-001	^{nat}U	8.27E-15	N/A	N/A	1.00E-16	9.00E-14	9.19E+00
Third Quarter 2009	^{226}Ra	< 1.00E-16	4.70E-17	8.61E-17	1.00E-16	9.00E-13	< 1.11E-02
Air Volume in mLs	^{210}Pb	1.78E-14	2.66E-15	4.13E-15	2.00E-15	6.00E-13	2.97E+00
5.54E+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
C10010108-001	^{nat}U	3.00E-16	N/A	N/A	1.00E-16	9.00E-14	3.33E-01
Fourth Quarter 2009	^{226}Ra	< 1.00E-16	3.20E-17	4.14E-17	1.00E-16	9.00E-13	< 1.11E-02
Air Volume in mLs	^{210}Pb	6.73E-15	1.23E-15	1.91E-15	2.00E-15	6.00E-13	1.12E+00
5.81E+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

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HIGH VOLUME AIR SAMPLING REPORT

CLIENT: Crow Butte Resources
PROJECT: 4th Quarter Env Air Sampling Composites
REPORT DATE: February 5, 2010

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
C09040202-002	^{nat}U	< 1.00E-16	N/A	N/A	1.00E-16	9.00E-14	< 1.11E-01
First Quarter 2009	^{226}Ra	< 1.00E-16	2.95E-17	5.15E-17	1.00E-16	9.00E-13	< 1.11E-02
Air Volume in mLs	^{210}Pb	1.36E-14	3.45E-15	5.54E-15	2.00E-15	6.00E-13	2.27E+00
5.06E+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
C09070028-002	^{nat}U	6.21E-16	N/A	N/A	1.00E-16	9.00E-14	6.90E-01
Second Quarter 2009	^{226}Ra	< 1.00E-16	1.81E-17	3.07E-17	1.00E-16	9.00E-13	< 1.11E-02
Air Volume in mLs	^{210}Pb	1.07E-14	1.77E-15	2.66E-15	2.00E-15	6.00E-13	1.78E+00
5.11E+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
C09100086-002	^{nat}U	8.12E-16	N/A	N/A	1.00E-16	9.00E-14	9.02E-01
Third Quarter 2009	^{226}Ra	< 1.00E-16	5.04E-17	9.81E-17	1.00E-16	9.00E-13	< 1.11E-02
Air Volume in mLs	^{210}Pb	1.25E-14	2.66E-15	4.26E-15	2.00E-15	6.00E-13	2.08E+00
5.42E+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
C10010108-002	^{nat}U	1.76E-16	N/A	N/A	1.00E-16	9.00E-14	1.95E-01
Fourth Quarter 2009	^{226}Ra	< 1.00E-16	3.14E-17	4.21E-17	1.00E-16	9.00E-13	< 1.11E-02
Air Volume in mLs	^{210}Pb	1.23E-14	1.37E-15	2.00E-15	2.00E-15	6.00E-13	2.05E+00
5.57E+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

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HIGH VOLUME AIR SAMPLING REPORT

CLIENT: Crow Butte Resources
PROJECT: 4th Quarter Env Air Sampling Composites
REPORT DATE: February 5, 2010

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
C09040202-003	^{nat}U	< 1.00E-16	N/A	N/A	1.00E-16	9.00E-14	< 1.11E-01
First Quarter 2009	^{226}Ra	1.07E-16	3.48E-17	4.76E-17	1.00E-16	9.00E-13	1.19E-02
Air Volume in mLs	^{210}Pb	1.65E-14	3.92E-15	6.29E-15	2.00E-15	6.00E-13	2.75E+00
4.45E+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
C09070028-003	^{nat}U	< 1.00E-16	N/A	N/A	1.00E-16	9.00E-14	< 1.11E-01
Second Quarter 2009	^{226}Ra	< 1.00E-16	1.97E-17	2.88E-17	1.00E-16	9.00E-13	< 1.11E-02
Air Volume in mLs	^{210}Pb	8.95E-15	1.72E-15	2.62E-15	2.00E-15	6.00E-13	1.49E+00
5.19E+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
C09100086-003	^{nat}U	2.79E-16	N/A	N/A	1.00E-16	9.00E-14	3.10E-01
Third Quarter 2009	^{226}Ra	< 1.04E-16	5.67E-17	1.04E-16	1.00E-16	9.00E-13	< 1.16E-02
Air Volume in mLs	^{210}Pb	1.97E-14	2.68E-15	4.13E-15	2.00E-15	6.00E-13	3.29E+00
5.54E+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
C10010108-003	^{nat}U	1.19E-16	N/A	N/A	1.00E-16	9.00E-14	1.32E-01
Fourth Quarter 2009	^{226}Ra	< 1.00E-16	2.99E-17	4.17E-17	1.00E-16	9.00E-13	< 1.11E-02
Air Volume in mLs	^{210}Pb	8.07E-15	1.36E-15	2.07E-15	2.00E-15	6.00E-13	1.35E+00
5.73E+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

ENERGY LABORATORIES, INC. • 2393 Salt Creek Highway (82601) • P.O. Box 3258 • Casper, WY 82602
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HIGH VOLUME AIR SAMPLING REPORT

CLIENT: Crow Butte Resources
PROJECT: 4th Quarter Env Air Sampling Composites
REPORT DATE: February 5, 2010

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
C09040202-004	^{nat}U	< 1.00E-16	N/A	N/A	1.00E-16	9.00E-14	< 1.11E-01
First Quarter 2009	^{226}Ra	< 1.00E-16	2.22E-17	3.95E-17	1.00E-16	9.00E-13	< 1.11E-02
Air Volume in mLs	^{210}Pb	1.46E-14	3.26E-15	5.20E-15	2.00E-15	6.00E-13	2.44E+00
5.39E+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
C09070028-004	^{nat}U	2.73E-16	N/A	N/A	1.00E-16	9.00E-14	3.03E-01
Second Quarter 2009	^{226}Ra	< 1.00E-16	1.91E-17	2.70E-17	1.00E-16	9.00E-13	< 1.11E-02
Air Volume in mLs	^{210}Pb	1.11E-14	1.68E-15	2.51E-15	2.00E-15	6.00E-13	1.85E+00
5.42E+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
C09100086-004	^{nat}U	7.13E-16	N/A	N/A	1.00E-16	9.00E-14	7.92E-01
Third Quarter 2009	^{226}Ra	< 1.05E-16	6.03E-17	1.05E-16	1.00E-16	9.00E-13	< 1.17E-02
Air Volume in mLs	^{210}Pb	1.84E-14	2.56E-15	3.98E-15	2.00E-15	6.00E-13	3.07E+00
5.78E+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
C10010108-004	^{nat}U	1.38E-16	N/A	N/A	1.00E-16	9.00E-14	1.53E-01
Fourth Quarter 2009	^{226}Ra	< 1.00E-16	3.67E-17	4.67E-17	1.00E-16	9.00E-13	< 1.11E-02
Air Volume in mLs	^{210}Pb	1.13E-14	1.46E-15	2.18E-15	2.00E-15	6.00E-13	1.89E+00
5.09E+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

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HIGH VOLUME AIR SAMPLING REPORT

CLIENT: Crow Butte Resources
PROJECT: 4th Quarter Env Air Sampling Composites
REPORT DATE: February 5, 2010

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
C09040202-005	^{nat}U	1.10E-16	N/A	N/A	1.00E-16	9.00E-14	1.23E-01
First Quarter 2009	^{226}Ra	< 1.00E-16	2.51E-17	3.70E-17	1.00E-16	9.00E-13	< 1.11E-02
Air Volume in mLs	^{210}Pb	1.43E-14	3.51E-15	5.63E-15	2.00E-15	6.00E-13	2.39E+00
4.98E+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
C09070028-005	^{nat}U	2.52E-16	N/A	N/A	1.00E-16	9.00E-14	2.80E-01
Second Quarter 2009	^{226}Ra	< 1.00E-16	2.59E-17	3.01E-17	1.00E-16	9.00E-13	< 1.11E-02
Air Volume in mLs	^{210}Pb	7.82E-15	1.87E-15	2.91E-15	2.00E-15	6.00E-13	1.30E+00
4.68E+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
C09100086-005	^{nat}U	5.74E-16	N/A	N/A	1.00E-16	9.00E-14	6.38E-01
Third Quarter 2009	^{226}Ra	1.23E-16	6.98E-17	9.00E-17	1.00E-16	9.00E-13	1.37E-02
Air Volume in mLs	^{210}Pb	2.14E-14	2.86E-15	4.43E-15	2.00E-15	6.00E-13	3.57E+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
C10010108-005	^{nat}U	1.67E-16	N/A	N/A	1.00E-16	9.00E-14	1.86E-01
Fourth Quarter 2009	^{226}Ra	< 1.00E-16	3.71E-17	4.30E-17	1.00E-16	9.00E-13	< 1.11E-02
Air Volume in mLs	^{210}Pb	1.69E-14	1.40E-15	1.97E-15	2.00E-15	6.00E-13	2.82E+00
5.65E+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

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HIGH VOLUME AIR SAMPLING REPORT

CLIENT: Crow Butte Resources
PROJECT: 4th Quarter Env Air Sampling Composites
REPORT DATE: February 5, 2010

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
C09040202-006	^{nat}U	< 1.00E-16	N/A	N/A	1.00E-16	9.00E-14	< 1.11E-01
First Quarter 2009	^{226}Ra	< 1.00E-16	2.06E-17	3.56E-17	1.00E-16	9.00E-13	< 1.11E-02
Air Volume in mLs	^{210}Pb	1.66E-14	3.23E-15	5.12E-15	2.00E-15	6.00E-13	2.77E+00
5.48E+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
C09070028-006	^{nat}U	< 1.00E-16	N/A	N/A	1.00E-16	9.00E-14	< 1.11E-01
Second Quarter 2009	^{226}Ra	< 1.00E-16	1.97E-17	2.50E-17	1.00E-16	9.00E-13	< 1.11E-02
Air Volume in mLs	^{210}Pb	6.90E-15	1.59E-15	2.47E-15	2.00E-15	6.00E-13	1.15E+00
5.51E+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
C09100086-006	^{nat}U	1.52E-16	N/A	N/A	1.00E-16	9.00E-14	1.69E-01
Third Quarter 2009	^{226}Ra	< 1.00E-16	4.45E-17	9.47E-17	1.00E-16	9.00E-13	< 1.11E-02
Air Volume in mLs	^{210}Pb	2.48E-14	2.60E-15	3.95E-15	2.00E-15	6.00E-13	4.13E+00
5.80E+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
C10010108-006	^{nat}U	1.67E-16	N/A	N/A	1.00E-16	9.00E-14	1.86E-01
Fourth Quarter 2009	^{226}Ra	< 1.00E-16	3.09E-17	4.01E-17	1.00E-16	9.00E-13	< 1.11E-02
Air Volume in mLs	^{210}Pb	8.92E-15	1.24E-15	1.88E-15	2.00E-15	6.00E-13	1.49E+00
5.91E+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

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HIGH VOLUME AIR SAMPLING REPORT

CLIENT: Crow Butte Resources
PROJECT: 4th Quarter Env Air Sampling Composites
REPORT DATE: February 5, 2010

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
C09040202-007	^{nat}U	1.30E-16	N/A	N/A	1.00E-16	9.00E-14	1.45E-01
First Quarter 2009	^{226}Ra	< 1.00E-16	2.40E-17	4.36E-17	1.00E-16	9.00E-13	< 1.11E-02
Air Volume in mLs	^{210}Pb	1.87E-14	3.72E-15	5.89E-15	2.00E-15	6.00E-13	3.12E+00
4.76E+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
C09070028-007	^{nat}U	2.86E-16	N/A	N/A	1.00E-16	9.00E-14	3.17E-01
Second Quarter 2009	^{226}Ra	< 1.00E-16	2.48E-17	2.99E-17	1.00E-16	9.00E-13	< 1.11E-02
Air Volume in mLs	^{210}Pb	1.51E-14	2.01E-15	2.94E-15	2.00E-15	6.00E-13	2.51E+00
4.62E+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
C09100086-007	^{nat}U	2.02E-16	N/A	N/A	1.00E-16	9.00E-14	2.24E-01
Third Quarter 2009	^{226}Ra	< 1.00E-16	3.70E-17	5.37E-17	1.00E-16	9.00E-13	< 1.11E-02
Air Volume in mLs	^{210}Pb	1.96E-14	3.55E-15	5.61E-15	2.00E-15	6.00E-13	3.26E+00
4.10E+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
C10010108-007	^{nat}U	2.61E-16	N/A	N/A	1.00E-16	9.00E-14	2.90E-01
Fourth Quarter 2009	^{226}Ra	< 1.00E-16	3.46E-17	4.73E-17	1.00E-16	9.00E-13	< 1.11E-02
Air Volume in mLs	^{210}Pb	1.11E-14	1.48E-15	2.23E-15	2.00E-15	6.00E-13	1.85E+00
4.99E+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

2009 DOSE TO PUBLIC CALCULATIONS

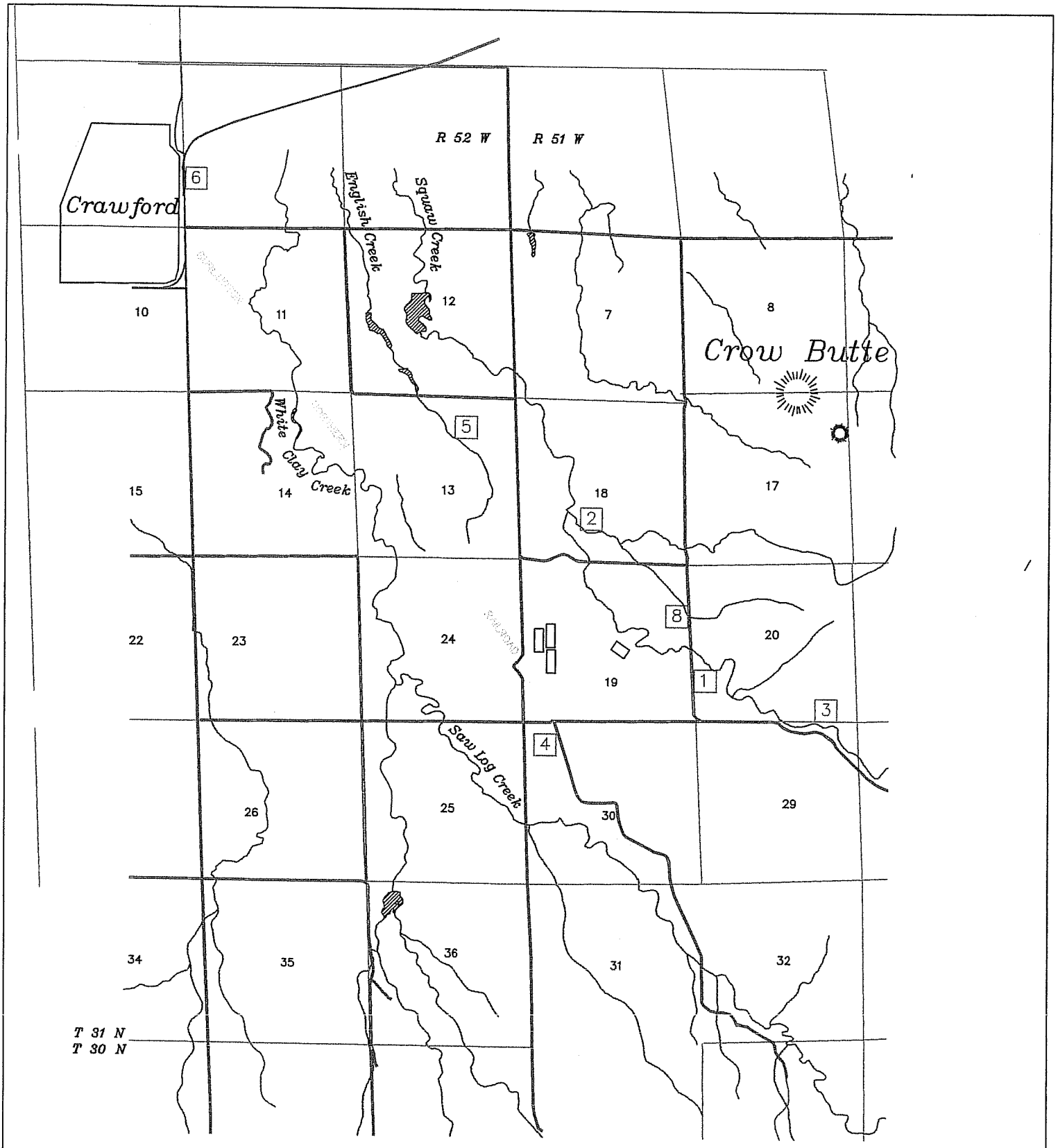
Monitoring Location/Parameter		Average Concentration/Annual Gamma Dose	Average Concentration/Annual Gamma Dose Above Background	10 CFR 20 App. B, Table 2 Values	Dose to the Public mrem/yr[1]
AM-6	Uranium (µCi/ml)	1.30E-16		9.00E-14	
Background	Radium-226 (µCi/ml)	1.00E-16		9.00E-13	
	Lead-210 (µCi/ml)	1.43E-14		6.00E-13	
	Radon-222 (µCi/ml)	2.50E-10		1.00E-08	
	Gamma (mrem/yr)	24.2		--	
	TEDE (mrem/yr)				**Background**
AM-1	Uranium (µCi/ml)	2.22E-15	2.09E-15	9.00E-14	1.16
Residence	Radium-226 (µCi/ml)	1.00E-16	0	9.00E-13	0.00
	Lead-210 (µCi/ml)	1.13E-14	0	6.00E-13	0.00
	Radon-222 (µCi/ml)	2.0E-10	0	1.00E-08	0.00
	Gamma (mrem/yr)	28.4	4.2	--	4.20
	TEDE (mrem/yr)				**5.36**
AM-2	Uranium (µCi/ml)	4.27E-16	2.98E-16	9.00E-14	0.17
Nearest Downwind Residence	Radium-226 (µCi/ml)	1.00E-16	0	9.00E-13	0.00
	Lead-210 (µCi/ml)	1.23E-14	0	6.00E-13	0.00
	Radon-222 (µCi/ml)	3.00E-10	5.00E-11	1.00E-08	0.25
	Gamma (mrem/yr)	25.9	1.7	--	1.70
	TEDE (mrem/yr)				**2.12**
AM-3	Uranium (µCi/ml)	1.50E-16	1.98E-17	9.00E-14	0.01
Permit Area Boundary	Radium-226 (µCi/ml)	1.03E-16	2.75E-18	9.00E-13	0.00
	Lead-210 (µCi/ml)	1.33E-14	0	6.00E-13	0.00
	Radon-222 (µCi/ml)	2.00E-10	0	1.00E-08	0.00
	Gamma (mrem/yr)	35.4	11.2	--	11.20
	TEDE (mrem/yr)				**11.21**
AM-4	Uranium (µCi/ml)	3.06E-16	1.76E-16	9.00E-14	0.10
Permit Area Boundary	Radium-226 (µCi/ml)	1.01E-16	1.25E-18	9.00E-13	0.00
	Lead-210 (µCi/ml)	1.39E-14	0	6.00E-13	0.00
	Radon-222 (µCi/ml)	3.00E-10	5.00E-11	1.00E-08	0.25
	Gamma (mrem/yr)	23.8	0	--	0
	TEDE (mrem/yr)				**0.35**
AM-5	Uranium (µCi/ml)	2.76E-16	1.46E-16	9.00E-14	0.08
Residence	Radium-226 (µCi/ml)	1.06E-16	5.75E-18	9.00E-13	0.00
	Lead-210 (µCi/ml)	1.51E-14	8.00E-16	6.00E-13	0.07
	Radon-222 (µCi/ml)	5.00E-10	2.50E-10	1.00E-08	1.25
	Gamma (mrem/yr)	37.4	13.2	--	13.20
	TEDE (mrem/yr)				**14.60**
AM-8	Uranium (µCi/ml)	2.20E-16	9.00E-17	9.00E-14	0.05
Site Boundary	Radium-226 (µCi/ml)	1.00E-16	0	9.00E-13	0.00
	Lead-210 (µCi/ml)	1.61E-14	1.82E-15	6.00E-13	0.15
	Radon-222 (µCi/ml)	3.50E-10	1.00E-10	1.00E-08	0.50
	Gamma (mrem/yr)	40.5	16.3	--	16.30
	TEDE (mrem/yr)				**17.00**

Notes:

TEDE — Total Effective Dose Equivalent (mrem/yr)

< — One or more of the Lower Limits of Detection (LLD) used to determine average concentration.

[1] — Dose from radionuclides (m $\frac{\text{Avg concentration above background in µCi/ml}}{\text{10 CFR 20 AppB, Table 2 value in µCi/ml}}$ * 50 mrem



8 Air Monitoring Stations

N

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

– PERMIT AREA

CROW BUTTE RESOURCES, INC.

Environmental Air Sample Locations

Date: 1/5/2010

Fig. 1

Appendix G

Environmental TLD Monitoring Results

Third and Fourth Quarter, 2009

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

OCT 19 2009

ACCOUNT NO. 306192

SERIES CODE

FOR EXPOSURE PERIOD 07/01/2009

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		26.0	0.4						
000X9	DEPLOY CONTROL		25.6	0.0						
01001	AM-1		37.7	12.2	12.2	22.7	45.3		4	/ /
01002	AM-2		32.6	7.0	7.0	20.5	54.7		4	/ /
01003	AM-6		30.1	4.6	4.6	16.1	42.4		4	/ /
01008	AM-8		38.1	12.6	12.6	31.0	72.9		4	/ /
01009	AM-3		37.3	11.7	11.7	28.6	55.3		4	/ /
01010	AM-4		33.4	7.8	7.8	19.1	40.9		4	/ /
01011	AM-5		36.3	10.8	10.8	29.4	53.5		4	/ /

Q.C. Release	Process No.	Reported Date	Date Processed	Date Received	Minimum Detectable Dose In This Process, Millirems Ambient Dose Equivalent	ONLY PAGE
ac	645003	10/14/2009	10/08/2009	10/06/2009	0.10	1

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 10/01/2009

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		24.9	-2.0						
000X9	DEPLOY CONTROL		26.9	0.0						
01001	AM-1		32.6	5.7	5.7	28.3	50.9		5	/ /
01002	AM-2		32.4	5.5	5.5	26.0	60.2		5	/ /
01003	AM-6		35.0	8.1	8.1	24.2	50.5		5	/ /
01008	AM-8		36.4	9.5	9.5	40.5	82.4		5	/ /
01009	AM-3		33.8	6.8	6.8	35.5	62.1		5	/ /
01010	AM-4		31.7	4.8	4.8	23.8	45.7		5	/ /
01011	AM-5		34.9	8.0	8.0	37.4	61.5		5	/ /

Q.C. Release	Process No.	Reported Date	Date Processed	Date Received	Minimum Detectable Dose In This Process, Millirems Ambient Dose Equivalent	ONLY PAGE
ac	007002	01/08/2010	01/08/2010	01/07/2010	0.10	1

Appendix H

Sediment Monitoring Results

Fourth Quarter, 2008

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LABORATORY ANALYTICAL REPORT

Client: Crow Butte Resources
Project: Annual Sediment Samples 2009
Lab ID: C09110338-012
Client Sample ID: Stream Sed E1-E2 Composite

Report Date: 01/25/10
Collection Date: 10/23/09
DateReceived: 11/10/09
Matrix: Sediment

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS - TOTAL							
Uranium	10.5	mg/kg-dry		0.3		SW6020	11/19/09 22:11 / sml
Uranium, Activity	7.1	pCi/g-dry		0.2		SW6020	11/19/09 22:11 / sml
RADIONUCLIDES - TOTAL							
Lead 210	0.04	pCi/g-dry		0.02		E909.0M	01/15/10 05:00 / dm
Lead 210 precision (±)	0.01	pCi/g-dry				E909.0M	01/15/10 05:00 / dm
Lead 210 MDC	0.02	pCi/g-dry				E909.0M	01/15/10 05:00 / dm
Radium 226	1	pCi/g-dry		0.1		E903.0	11/24/09 19:48 / trs
Radium 226 precision (±)	0.2	pCi/g-dry				E903.0	11/24/09 19:48 / trs
Radium 226 MDC	0.1	pCi/g-dry				E903.0	11/24/09 19:48 / trs

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.

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LABORATORY ANALYTICAL REPORT

Client: Crow Butte Resources
Project: Annual Sediment Samples 2009
Lab ID: C09110338-004
Client Sample ID: Stream E5

Report Date: 01/25/10
Collection Date: 10/23/09
DateReceived: 11/10/09
Matrix: Sediment

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS - TOTAL							
Uranium	2.5	mg/kg-dry		0.3		SW6020	11/14/09 02:14 / ts
Uranium, Activity	1.7	pCi/g-dry		0.2		SW6020	11/14/09 02:14 / ts
RADIONUCLIDES - TOTAL							
Lead 210	0.1	pCi/g-dry		0.02		E909.0M	01/15/10 05:00 / dm
Lead 210 precision (±)	0.01	pCi/g-dry				E909.0M	01/15/10 05:00 / dm
Lead 210 MDC	0.02	pCi/g-dry				E909.0M	01/15/10 05:00 / dm
Radium 226	0.4	pCi/g-dry		0.1		E903.0	11/24/09 19:48 / trs
Radium 226 precision (±)	0.1	pCi/g-dry				E903.0	11/24/09 19:48 / trs
Radium 226 MDC	0.1	pCi/g-dry				E903.0	11/24/09 19:48 / trs

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.

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LABORATORY ANALYTICAL REPORT

Client: Crow Butte Resources
Project: Annual Sediment Samples 2009
Lab ID: C09110338-001
Client Sample ID: Impoundment I3

Report Date: 01/25/10
Collection Date: 10/23/09
DateReceived: 11/10/09
Matrix: Sediment

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS - TOTAL							
Uranium	4.7	mg/kg-dry		0.3		SW6020	11/14/09 01:53 / ts
Uranium, Activity	3.2	pCi/g-dry		0.2		SW6020	11/14/09 01:53 / ts
RADIONUCLIDES - TOTAL							
Lead 210	<0.02	pCi/g-dry	U	0.02		E909.0M	01/15/10 05:00 / dm
Lead 210 precision (±)	0.01	pCi/g-dry				E909.0M	01/15/10 05:00 / dm
Lead 210 MDC	0.02	pCi/g-dry				E909.0M	01/15/10 05:00 / dm
Radium 226	0.7	pCi/g-dry		0.1		E903.0	11/24/09 17:44 / trs
Radium 226 precision (±)	0.1	pCi/g-dry				E903.0	11/24/09 17:44 / trs
Radium 226 MDC	0.1	pCi/g-dry				E903.0	11/24/09 17:44 / trs

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

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LABORATORY ANALYTICAL REPORT

Client: Crow Butte Resources
Project: Annual Sediment Samples 2009
Lab ID: C09110338-002
Client Sample ID: Impoundment I4

Report Date: 01/25/10
Collection Date: 10/23/09
DateReceived: 11/10/09
Matrix: Sediment

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS - TOTAL							
Uranium	3.7	mg/kg-dry		0.3		SW6020	11/14/09 02:03 / ts
Uranium, Activity	2.5	pCi/g-dry		0.2		SW6020	11/14/09 02:03 / ts
RADIONUCLIDES - TOTAL							
Lead 210	0.04	pCi/g-dry		0.02		E909.0M	01/15/10 05:00 / dm
Lead 210 precision (±)	0.01	pCi/g-dry				E909.0M	01/15/10 05:00 / dm
Lead 210 MDC	0.02	pCi/g-dry				E909.0M	01/15/10 05:00 / dm
Radium 226	1.1	pCi/g-dry		0.1		E903.0	11/24/09 17:44 / trs
Radium 226 precision (±)	0.2	pCi/g-dry				E903.0	11/24/09 17:44 / trs
Radium 226 MDC	0.1	pCi/g-dry				E903.0	11/24/09 17:44 / trs

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.

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LABORATORY ANALYTICAL REPORT

Client: Crow Butte Resources
Project: Annual Sediment Samples 2009
Lab ID: C09110338-003
Client Sample ID: Impoundment I5

Report Date: 01/25/10
Collection Date: 10/23/09
DateReceived: 11/10/09
Matrix: Sediment

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS - TOTAL							
Uranium	1.3	mg/kg-dry		0.3		SW6020	11/14/09 02:09 / ts
Uranium, Activity	0.9	pCi/g-dry		0.2		SW6020	11/14/09 02:09 / ts
RADIONUCLIDES - TOTAL							
Lead 210	<0.02	pCi/g-dry	U	0.02		E909.0M	01/15/10 05:00 / dm
Lead 210 precision (±)	0.01	pCi/g-dry				E909.0M	01/15/10 05:00 / dm
Lead 210 MDC	0.02	pCi/g-dry				E909.0M	01/15/10 05:00 / dm
Radium 226	0.7	pCi/g-dry		0.1		E903.0	11/24/09 17:44 / trs
Radium 226 precision (±)	0.1	pCi/g-dry				E903.0	11/24/09 17:44 / trs
Radium 226 MDC	0.1	pCi/g-dry				E903.0	11/24/09 17:44 / trs

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

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LABORATORY ANALYTICAL REPORT

Client: Crow Butte Resources
Project: Annual Sediment Samples 2009
Lab ID: C09110338-005
Client Sample ID: Stream S-1

Report Date: 01/25/10
Collection Date: 10/23/09
DateReceived: 11/10/09
Matrix: Sediment

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS - TOTAL							
Uranium	1.4	mg/kg-dry		0.3		SW6020	11/14/09 02:19 / ts
Uranium, Activity	0.9	pCi/g-dry		0.2		SW6020	11/14/09 02:19 / ts
RADIONUCLIDES - TOTAL							
Lead 210	<0.02	pCi/g-dry	U	0.02		E909.0M	01/15/10 05:00 / dm
Lead 210 precision (±)	0.01	pCi/g-dry				E909.0M	01/15/10 05:00 / dm
Lead 210 MDC	0.02	pCi/g-dry				E909.0M	01/15/10 05:00 / dm
Radium 226	0.3	pCi/g-dry		0.1		E903.0	11/24/09 19:48 / trs
Radium 226 precision (±)	0.1	pCi/g-dry				E903.0	11/24/09 19:48 / trs
Radium 226 MDC	0.1	pCi/g-dry				E903.0	11/24/09 19:48 / trs

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

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LABORATORY ANALYTICAL REPORT

Client: Crow Butte Resources
Project: Annual Sediment Samples 2009
Lab ID: C09110338-006
Client Sample ID: Stream S-2

Report Date: 01/25/10
Collection Date: 10/23/09
DateReceived: 11/10/09
Matrix: Sediment

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS - TOTAL							
Uranium	0.7	mg/kg-dry		0.3		SW6020	11/14/09 02:24 / ts
Uranium, Activity	0.4	pCi/g-dry		0.2		SW6020	11/14/09 02:24 / ts
RADIONUCLIDES - TOTAL							
Lead 210	0.03	pCi/g-dry		0.02		E909.0M	01/15/10 05:00 / dm
Lead 210 precision (±)	0.01	pCi/g-dry				E909.0M	01/15/10 05:00 / dm
Lead 210 MDC	0.02	pCi/g-dry				E909.0M	01/15/10 05:00 / dm
Radium 226	0.5	pCi/g-dry		0.1		E903.0	11/24/09 19:48 / trs
Radium 226 precision (±)	0.1	pCi/g-dry				E903.0	11/24/09 19:48 / trs
Radium 226 MDC	0.1	pCi/g-dry				E903.0	11/24/09 19:48 / trs

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.

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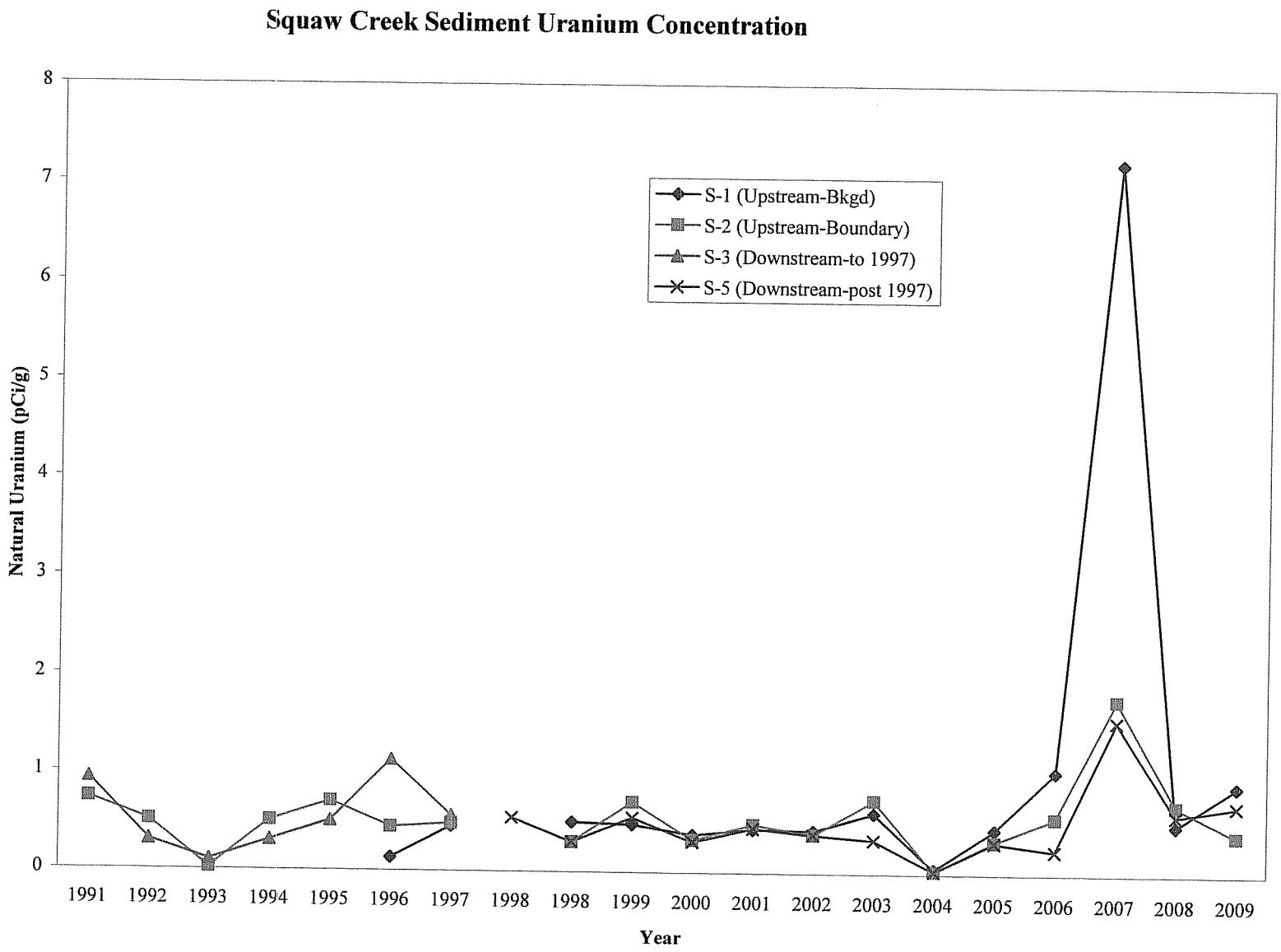
LABORATORY ANALYTICAL REPORT

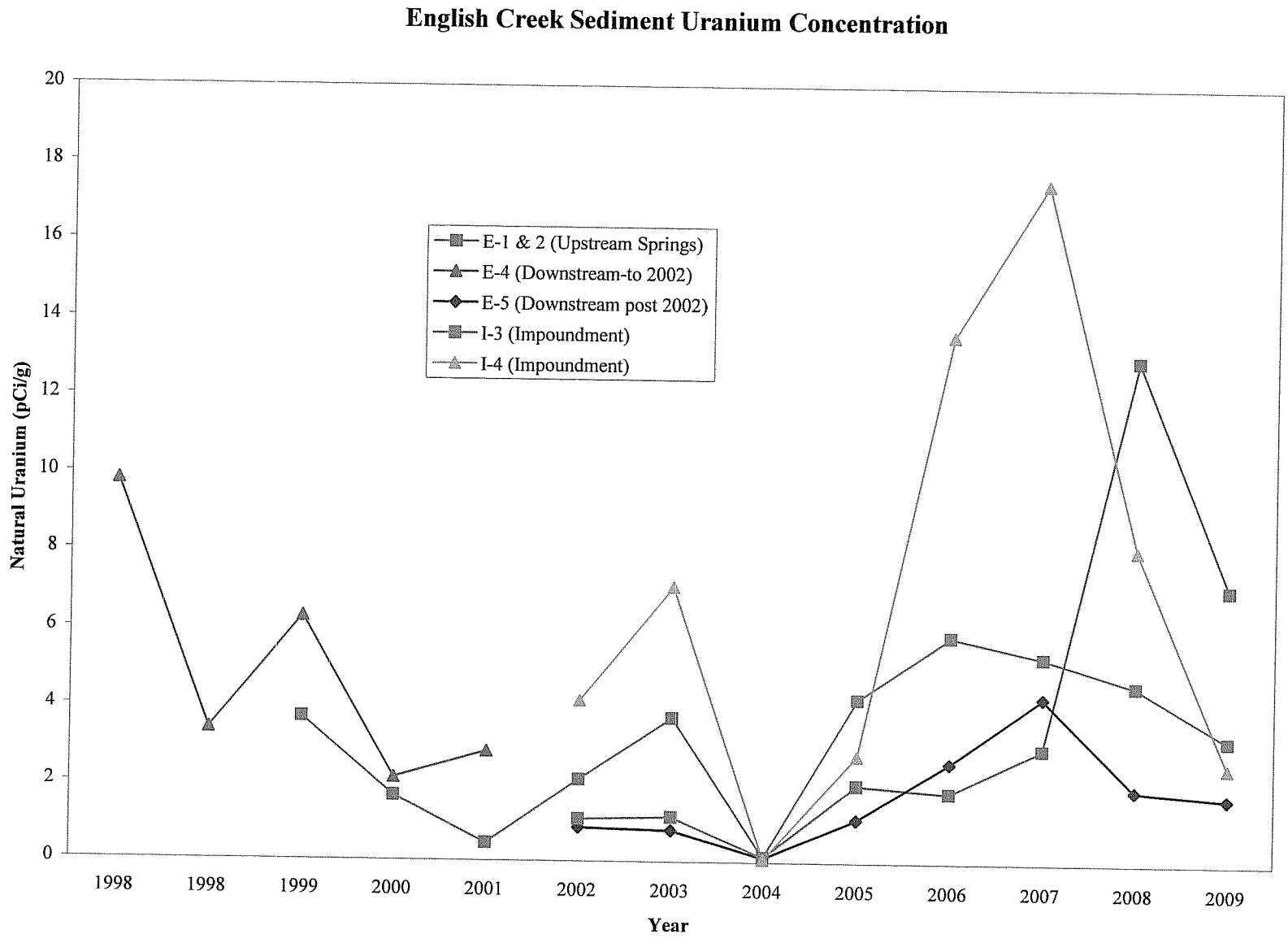
Client: Crow Butte Resources
Project: Annual Sediment Samples 2009
Lab ID: C09110338-007
Client Sample ID: Stream S-5

Report Date: 01/25/10
Collection Date: 10/23/09
DateReceived: 11/10/09
Matrix: Sediment

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS - TOTAL							
Uranium	1.1	mg/kg-dry		0.3		SW6020	11/14/09 02:30 / ts
Uranium, Activity	0.7	pCi/g-dry		0.2		SW6020	11/14/09 02:30 / ts
RADIONUCLIDES - TOTAL							
Lead 210	0.04	pCi/g-dry		0.02		E909.0M	01/15/10 05:00 / dm
Lead 210 precision (±)	0.01	pCi/g-dry				E909.0M	01/15/10 05:00 / dm
Lead 210 MDC	0.02	pCi/g-dry				E909.0M	01/15/10 05:00 / dm
Radium 226	0.5	pCi/g-dry		0.1		E903.0	11/24/09 19:48 / trs
Radium 226 precision (±)	0.1	pCi/g-dry				E903.0	11/24/09 19:48 / trs
Radium 226 MDC	0.1	pCi/g-dry				E903.0	11/24/09 19:48 / trs

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.


Squaw Creek Sediment Uranium Concentration
Natural Uranium (pCi/g)
0
1
2
3
4
5
6
7
8
S-1 (Upstream-Bkgd)
S-2 (Upstream-Boundary)
S-3 (Downstream-to 1997)
S-5 (Downstream-post 1997)
1991
1992
1993
1994
1995
1996
1997
1998
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
Year


English Creek Sediment Uranium Concentration
Natural Uranium (pCi/g)
20
18
16
14
12
10
8
6
4
2
0
E-1 & 2 (Upstream Springs)
E-4 (Downstream-to 2002)
E-5 (Downstream post 2002)
I-3 (Impoundment)
I-4 (Impoundment)
1998
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
Year