CROW BUTTE RESOURCES, INC.

86 Crow Butte Road
P.O. Box 169
Crawford, Nebraska 69339-0169

(308) 665-2215
(308) 665-2341 – FAX

February 18, 2005

Mr. Dwight Chamberlain, Director
Division of Nuclear Material Safety
Region IV
United States Nuclear Regulatory Commission
611 Ryan Plaza Drive, Suite 400
Arlington, Texas 76011

FEB 23 2005

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

Dear Mr. Chamberlain:

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 2004.

If you have any questions concerning the report, please feel free to call me at (308) 665-2215.

Sincerely,
CROW BUTTE RESOURCES, INC.

Michael L. Griffin
Manager of Health, Safety, and Environmental Affairs

c: Mr. Gary Janosko
Branch Chief, Fuel Cycle Licensing Branch
Division of Fuel Cycle Safety and Safeguards
c/o Document Control Desk
U.S. Nuclear Regulatory Commission
Washington D.C. 20555

Mr. David Miesbach
Underground Injection Control Program Coordinator
Nebraska Department of Environmental Quality
PO Box 98922
Lincoln, Nebraska 68509-8922

CROW BUTTE RESOURCES, INC.

CROW BUTTE URANIUM PROJECT

RADIOLOGICAL EFFLUENT AND ENVIRONMENTAL MONITORING REPORT

for

THIRD AND FOURTH QUARTERS, 2004

USNRC Source Materials License SUA 1534

Table of Contents

1 WATER QUALITY MONITORING DATA 1

1.1 Excursion Monitoring 1

1.2 Water Supply Wells and Surface Water 1

2 OPERATIONAL 1

2.1 Production Data Summary 1

2.2 Wastewater Summary 2

2.3 Effluent Release 2

2.4 Restoration 3

3 ENVIRONMENTAL MONITORING 3

3.1 Air Monitor Stations 3

3.2 TLD Monitors 4

3.3 Stream Sediments 4

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 1 through 9 during the third and fourth quarters of 2004.

PR-8 and IJ-13 remain on excursion status. Excursion reports have been submitted as required in License Condition 12.2. Complete excursion monitoring results are available on site for inspection.

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 or stream. 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 2004. The average operating production flow rate was 4,262 gpm for the third quarter and 4,364 gpm for the fourth quarter. The average production flow for the second half of 2004 was 4,313 gpm. Injection and production totals from the totalizers and the calculated bleed totals for the reporting period are included in Appendix B.

The main injection trunkline is equipped with a continuous pressure sensor. The average and maximum injection pressures for each wellhouse are included in Appendix C in the Wellfield Injection Pressure table.

2.2 Wastewater Summary

The total volume of wastewater discharged to the ponds was 2,168,180 gallons during the third quarter and 2,357,500 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 continuous basis and 19,334,418 gallons of wastewater was injected into the well during the second half of 2004. 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/m^3 radon release from leaching operations and the radon release calculations for the second half of 2004 use this release rate estimate.

During the third quarter production occurred at an average flow rate of 4,262 gpm (16,133 lpm). Production was maintained nearly continuously for 92 days during the third quarter with an operating factor of 99.3%. The production flow for the third quarter results in a calculated radon release of 1,076 Curies. During the fourth quarter production occurred at an average flow rate of 4,364 gpm (16,520 lpm). Production was maintained nearly continuously for 91 days during the fourth quarter with an operating factor of 99.7%. The production flow for the fourth quarter results in a calculated radon release of 1,094 Curies. Calculations for radon release from production operations are shown in Appendix E.

Additional wells were brought on line during the second half of 2004. Calculations for the start-up of 13.7 acres of a new wellfield are shown in Appendix E. The calculated radon released from start-up of 13.7 acres is 17 Curies.

The total radon emission due to leaching operations from the Crow Butte plant for the second half of 2004 was 2,187 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 2004, a total of 149,836,804 gallons (567,194,004 l) of restoration water was produced from Mine Units 2, 3 and 4. Based upon an estimated radon concentration of 0.697 μCi/l, the total amount of radon in the restoration solution was calculated to be 395 Curies as shown in Appendix E. The estimated release of radon through wellfield loss at 25% of this total was 99 Curies. The plant loss for ion exchange treatment of the restoration water is estimated at 10% of the remaining radon, or 30 Curies.

Of the total amount of restoration water produced in the second half of 2004, 40,742,104 gallons (154,225,641 l) of the water was treated by reverse osmosis. The release of radon from reverse osmosis treatment is estimated to be 100% of the remaining radon, after correction for wellfield and ion exchange losses. These corrections result in an estimated radon concentration of 0.470 μCi/l. The total estimated radon release from reverse osmosis treatment was 72 Curies. An additional 2.8 acres of wellfields were placed in restoration during the second half of 2004. The calculated radon released from start-up of 2.8 acres is 4 Curies. Calculations for the start-up of 2.8 acres of a wellfield placed in restoration are shown in Appendix E.

Based upon the calculations shown in Appendix E, the total estimated semiannual radon emission for the second half of 2004 from restoration activities was 205 Curies. This resulted in a total estimated radon release from the Crow Butte project during the second half of 2004 of 2,392 Curies.

2.4 Restoration

Restoration activities continued in Mine Units 2, 3, and 4 during the second half of 2004. 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.

In the Semiannual Radiological Effluent and Environmental Monitoring Report for the second half of 2003, it was noted that the radon-222 results from three stations (AM-1, AM-2, and AM-8) were

elevated above concentrations that are normally present. In that report, CBR noted that there was no identifiable cause for these elevated concentrations from licensed operations and that one possible cause for the anomalous results from the second half of 2003 was sampling or analytical error. In order to monitor this possibility, CBR deployed duplicate monitors at six stations for the second half of 2004 for comparison of results. In the initial analytical results provided by Landauer, Inc., the results from several stations were elevated and did not correlate well to the results from the duplicate monitors. CBR requested that Landauer reanalyze all monitors from the second half of 2004. The results of the reanalysis resulted in changes in reported values ranging from 0 percent to over 120 percent. Landauer suggested that the variance in the reported values was principally due to a routine quarterly update of the background track density for manufacturing lots. The repeat analysis was performed after the background update and in all cases where the reanalysis resulted in a change, the reported values were lower and were consistent with historical concentrations. It is possible that a similar situation was the cause of the higher concentrations noted in the second half of 2003. CBR will continue to place duplicate monitors at six stations through 2005 to determine the accuracy of the monitoring method.

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 Stream Sediments

Sediment samples are collected from two locations on Squaw Creek and two locations on English Creek on an annual basis in October. The results of sediment sampling are included in Appendix H.

Appendix A

Private Well and Surface Water Radiological Monitoring Results

Third and Fourth Quarter, 2004

CROW BUTTE RESOURCES, INC.

PRIVATE WELL AND SURFACE WATER RADIOLOGICAL MONITORING RESULTS

THIRD QUARTER, 2004

SAMPLE ID	DATE SAMPLED	URANIUM mg/l	URANIUM µCi/ml	RADIUM-226 pCi/l	RADIUM-226 precision ±
Well #8	7/29/04	0.0132	9.09E-09	ND	-
Well #11	7/30/04	0.0085	5.89E-09	ND	-
Well #12	7/29/04	0.0036	2.50E-09	ND	-
Well #19	SAMPLING DISCONTINUED-WELL NOT IN USE				
Well #24	8/11/04	0.0047	3.20E-09	ND	-
Well #25	7/30/04	0.0053	3.60E-09	ND	-
Well #26	7/30/04	0.0071	4.80E-09	ND	-
Well #27	7/30/04	0.0073	5.00E-09	ND	-
Well #28	7/29/04	0.0057	3.80E-09	ND	-
Well #41	WELL INOPERABLE-NO SAMPLE COLLECTED				
Well #63	8/11/04	0.0164	1.10E-08	ND	-
Well #125	7/30/04	0.0069	4.70E-09	ND	-
Well #129	7/29/04	0.0073	5.00E-09	ND	-
Well #131	7/30/04	0.0047	3.20E-09	ND	-
Well #133	7/30/04	0.0085	5.80E-09	ND	-
Well #134	7/28/04	0.0097	6.60E-09	ND	-
Well #135	7/28/04	0.0174	1.28E-08	ND	-
Well #138	7/30/04	0.0178	1.20E-08	ND	-
Well #140	8/9/04	0.0096	6.50E-09	ND	-
Drinking Water Well	7/30/04	0.0074	5.00E-09	ND	-
Stream S-1	7/29/04	0.0034	2.30E-09	ND	-
Stream S-2	7/29/04	0.0034	2.30E-09	ND	-
Stream S-5	7/29/04	0.0044	3.00E-09	ND	-
Stream E-1	7/28/04	0.0129	8.70E-09	ND	-
Stream E-5	7/28/04	0.0024	1.69E-09	ND	-
Impoundment I-3	7/28/04	0.0133	9.00E-09	ND	-
Impoundment I-4	7/28/04	0.0091	6.20E-09	ND	-
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, 2004

SAMPLE ID	DATE SAMPLED	URANIUM mg/l	URANIUM µCi/ml	RADIUM-226 pCi/l	RADIUM-226 precision ±
Well #8	11/1/04	0.0120	8.00E-09	0.4	0.2
Well #11	10/29/04	0.0069	4.70E-09	0.3	0.2
Well #12	11/1/04	0.0035	2.40E-09	0.4	0.2
Well #24	10/29/04	0.0038	2.60E-09	ND	-
Well #25	10/29/04	0.0045	3.00E-09	0.3	0.2
Well #26	10/29/04	0.0062	4.20E-09	0.3	0.2
Well #27	10/28/04	0.0058	3.90E-09	0.3	0.2
Well #28	11/1/04	0.0054	3.70E-09	0.4	0.2
Well #41	WELL INOPERABLE-NO SAMPLE COLLECTED				
Well #63	11/15/04	0.0150	1.00E-08	0.2	0.2
Well #125	10/29/04	0.0060	4.00E-09	ND	-
Well #129	11/15/04	0.0071	4.80E-09	ND	-
Well #131	10/29/04	0.0039	2.60E-09	0.4	0.2
Well #133	10/29/04	0.0076	5.10E-09	0.4	0.2
Well #134	11/15/04	0.0087	5.90E-09	0.3	0.2
Well #135	11/15/04	0.0170	1.10E-08	ND	-
Well #138	11/17/04	0.0150	1.00E-08	0.4	0.3
Well #140	11/1/04	0.0091	6.20E-09	0.3	0.2
Drinking Water Well	11/15/04	0.0060	4.10E-09	ND	-
Stream S-1	11/15/04	0.0033	2.20E-09	ND	-
Stream S-2	11/8/04	0.0033	2.30E-09	ND	-
Stream S-5	11/8/04	0.0038	2.60E-09	ND	-
Stream E-1	11/8/04	0.0096	6.50E-09	0.6	0.3
Stream E-5	11/8/04	0.0054	3.60E-09	3.00E-01	2.00E-01
Impoundment I-3	11/8/04	0.0110	7.40E-09	ND	-
Impoundment I-4	11/8/04	0.0097	6.60E-09	4.00E-01	2.00E-01
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, 2004

WASTE VOLUME
Third Quarter 2004

TOTALIZER	PLANT TO PONDS	PLANT TO DDW	RESTORATION TO DDW	CLEAN WATER INTO PLANT	DDW TOTAL INJECTED	TRUCKS TO POND
July	860,080	699,032	2,349,175	568,552	3,048,207	2,150
August	641,180	1,059,274	2,267,858	475,151	3,327,132	23,150
September	664,920	742,566	2,394,610	412,024	3,137,176	52,800
TOTAL GAL. EOQ	2,166,180	2,500,872	7,011,643	1,455,727	9,512,515	78,100

TOTAL 3rd QTR VOLUME DISCHARGED TO WASTE PONDS =	2,166,180	GALLONS
TOTAL 3rd QTR VOLUME DISCHARGED TO DEEP WELL=	9,512,515	GALLONS
TOTAL 3rd QTR VOLUME DISCHARGED TO WASTE PONDS + DPWELL =	11,678,695	GALLONS
TOTAL 3rd QTR VOLUME WF BLEED FROM WELLFIELDS=	10,222,968	GALLONS

WELLFIELD BLEED
Third Quarter 2004

MONTH	July	August	September
BLEED	0.5%	0.6%	0.5%

PLANT FLOW
Third Quarter 2004

AVERAGE OPERATING FLOW RATE=	4,262	GPM EOQ
TOTAL GALLONS PRODUCED=	564,576,286	GALLONS EOQ
TOTAL GALLONS INJECTED=	545,551,784	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	1,102,328,940	1,050,215,508	4,368	4,349				16
July	188,033,969	180,430,455	744	736	4,212	4,042	440	8
August	191,855,835	185,166,959	744	736	4,298	4,148	473	8
September	184,686,481	179,954,370	720	720	4,275	4,166	460	0
EOQ TOTAL	564,576,286	545,551,784	2,208	2,192	4,262	4,118	458	16
YTD TOTAL	1,666,905,226	1,595,767,292	6,576	6,541	4,225	4,044	374	32

	TOTAL MUII GALS PRODUCED	TOTAL MUIII GALS PRODUCED	TOTAL MUIV GALS PRODUCED	TOTAL BRINE GALS PRODUCED	TOTAL PERM GALS PRODUCED	COMM BLEED TO RO FEED	MUIII BLEED TO DDW
Prev. YTD	577,168	59,522,187	45,664,740	5,602,055	22,071,936	2,308,667	3,920,882
July	273,825	10,611,041	12,941,428	1,951,936	6,802,420	1,191	397,239
August	514,411	9,942,836	15,267,494	1,914,089	5,293,264	9,292	353,769
September	483,788	9,285,600	15,148,720	895,697	4,395,807	10,000	1,498,913
EOQ TOTAL	1,272,024	29,839,477	43,357,642	4,761,722	16,491,491	20,483	2,249,921
YTD TOTAL	1,849,192	89,361,664	89,022,382	10,363,777	38,563,427	2,329,150	6,170,803

WASTE VOLUME
Fourth Quarter 2004

TOTALIZER	PLANT TO PONDS	PLANT TO DDW	RESTORATION TO DDW	CLEAN WATER INTO PLANT	DDW TOTAL INJECTED	TRUCKS TO POND
October	772,560	989,698	2,263,701	460,336	3,253,399	124,700
November	679,790	679,541	2,503,781	450,123	3,183,322	78,400
December	905,150	631,658	2,753,524	492,905	3,385,182	54,925
TOTAL GAL. EOQ	2,357,500	2,300,897	7,521,006	1,403,364	9,821,903	258,025

TOTAL 4th QTR VOLUME DISCHARGED TO WASTE PONDS =	2,357,500	GALLONS
TOTAL 4th QTR VOLUME DISCHARGED TO DEEP WELL=	9,821,903	GALLONS
TOTAL 4th QTR VOLUME DISCHARGED TO WASTE PONDS + DPWELL =	12,179,403	GALLONS
TOTAL 4th QTR VOLUME WF BLEED FROM WELLFIELDS=	10,776,039	GALLONS

WELLFIELD BLEED
Fourth Quarter 2004

MONTH	October	November	December
BLEED	0.7%	0.5%	0.5%

PLANT FLOW
Fourth Quarter 2004

AVERAGE OPERATING FLOW RATE=	4,364	GPM EOQ
TOTAL GALLONS PRODUCED=	578,101,962	GALLONS EOQ
TOTAL GALLONS INJECTED=	554,581,817	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	1,666,905,226	1,595,767,292	6,576	6,541				40
October	191,801,349	185,292,291	744	738	4,297	4,151	476	6
November	189,298,190	180,429,679	720	720	4,382	4,177	384	0
December	197,002,422	188,859,847	744	744	4,413	4,231	446	0
EOQ TOTAL	578,101,962	554,581,817	2,208	2,202	4,364	4,186	436	6
YTD TOTAL	2,245,007,188	2,150,349,109	8,784	8,743	4,260	4,080	389	46

	TOTAL MUII GALS PRODUCED	TOTAL MUIII GALS PRODUCED	TOTAL MUIV GALS PRODUCED	TOTAL BRINE GALS PRODUCED	TOTAL PERM GALS PRODUCED	COMM BLEED TO RO FEED	MUIII BLEED TO DDW
Prev. YTD	1,849,192	89,361,664	89,022,382	10,363,777	38,563,427	2,329,150	6,170,803
October	485,598	9,390,114	15,929,617	1,866,462	4,370,144	10,536	397,239
November	497,846	9,215,381	15,128,762	2,150,012	4,007,702	9,848	353,769
December	493,454	9,464,799	14,762,090	1,587,000	5,559,203	10,765	1,166,524
EOQ TOTAL	1,476,898	28,070,294	45,820,469	5,603,474	13,937,049	31,149	1,917,532
YTD TOTAL	3,326,090	117,431,958	134,842,851	15,967,251	52,500,476	2,360,299	8,088,335

Appendix C

Wellfield Injection Pressures

Third and Fourth Quarter, 2004

WELLFIELD INJECTION PRESSURE
Third Quarter 2004

	WF HOUSE #1		WF HOUSE #2		WF HOUSE #3		WF HOUSE #4		WF HOUSE #5	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
July	0	0	0	0	0	0	0	0	0	0
August	0	0	0	0	0	0	11	38	7	21
September	0	0	0	0	0	0	33	38	22	26
AVERAGE	0	0	0	0	0	0	15	38	10	26

	WF HOUSE #6		WF HOUSE #7		WF HOUSE #8		WF HOUSE #9		WF HOUSE #10	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
July	22	50	0	0	13	27	61	69	0	0
August	25	27	5	12	16	19	62	70	0	0
September	19	25	18	70	10	19	63	68	0	0
AVERAGE	22	50	8	70	13	27	62	70	0	0

	WF HOUSE #11		WF HOUSE #12		WF HOUSE #13		WF HOUSE #14		WF HOUSE #15	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
July	0	0	63	70	59	75	91	93	66	78
August	0	0	64	76	58	68	89	92	69	90
September	1	26	66	72	60	70	88	92	69	76
AVERAGE	0	26	64	76	59	75	89	93	68	90

	WF HOUSE #16		WF HOUSE #17		WF HOUSE #18		WF HOUSE #19		WF HOUSE #20	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
July	5	95	74	76	0	0	0	0	82	85
August	1	17	74	78	0	0	0	0	82	85
September	0	0	72	76	0	0	0	0	80	85
AVERAGE	2	95	73	78	0	0	0	0	81	85

	WF HOUSE #21		WF HOUSE #22		WF HOUSE #23		WF HOUSE #24		WF HOUSE #25	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
July	96	98	96	99	0	0	97	98	96	99
August	95	95	95	96	0	0	97	98	98	99
September	92	97	93	98	0	0	94	98	95	99
AVERAGE	94	98	95	99	0	0	96	98	96	99

	WF HOUSE #26		WF HOUSE #27		WF HOUSE #28		WF HOUSE #30		WF HOUSE #31	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
July	97	99	96	99	0	0	60	64	92.90322581	98
August	94	99	95	98	2	60	61	63	95	98
September	95	99	92	99	0	0	60	65	92	98
AVERAGE	95	99	94	99	1	60	60	65	93	98

	WF HOUSE #32		WF HOUSE #33		WF HOUSE #34		WF HOUSE #35		WF HOUSE #36	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
July	42	45	94	98	98	99	97	99	98	99
August	44	47	97	99	98	99	97	99	96	99
September	43	48	95	99	94	99	95	99	94	99
AVERAGE	43	48	95	99	97	99	96	99	96	99

	WF HOUSE #37		WF HOUSE #38		WF HOUSE #39		WF HOUSE #40		WF HOUSE #41	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
July	97	99					0	0	53	56
August	98	99					0	0	55	58
September	94	98					0	0	54	60
AVERAGE	96	99					0	0	54	60

	WF HOUSE #42	
	AVERAGE	MAXIMUM
July	42	47
August	44	49
September	43	50
AVERAGE	43	50

WELLFIELD INJECTION PRESSURE
Fourth Quarter 2004

	WF HOUSE #1		WF HOUSE #2		WF HOUSE #3		WF HOUSE #4		WF HOUSE #5	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
October	0	0	0	0	0	0	37	40	27	30
November	0	0	0	0	0	0	20	26	9	22
December	0	0	0	0	0	0	14	20	6	12
AVERAGE	0	0	0	0	0	0	24	40	14	30

	WF HOUSE #6		WF HOUSE #7		WF HOUSE #8		WF HOUSE #9		WF HOUSE #10	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
October	16	18	20	26	6	58	62	78	0	0
November	20	30	20	35	8	20	54	82	0	0
December	19	30	9	17	13	20	32	64	0	0
AVERAGE	18	30	16	35	9	58	49	82	0	0

	WF HOUSE #11		WF HOUSE #12		WF HOUSE #13		WF HOUSE #14		WF HOUSE #15	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
October	0	0	65	70	58	64	89	92	68	72
November	0	0	55	61	49	55	88	92	59	65
December	0	0	33	65	29	60	65	92	37	70
AVERAGE	0	0	51	70	45	64	80	92	55	72

	WF HOUSE #16		WF HOUSE #17		WF HOUSE #18		WF HOUSE #19		WF HOUSE #20	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
October	0	0	74	76	0	0	0	0	81	84
November	0	0	73	78	0	0	30	78	81	85
December	0	0	53	77	0	0	48	85	60	94
AVERAGE	0	0	67	78	0	0	26	85	74	94

	WF HOUSE #21		WF HOUSE #22		WF HOUSE #23		WF HOUSE #24		WF HOUSE #25	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
October	95	98	97	99	0	0	98	99	96	99
November	92	97	95	98	0	0	92	98	92	95
December	68	98	69	99	0	0	69	98	67	96
AVERAGE	85	98	87	99	1	95	86	99	85	99

	WF HOUSE #26		WF HOUSE #27		WF HOUSE #28		WF HOUSE #30		WF HOUSE #31	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
October	98	99	95	96	0	0	60	63	93.67741935	96
November	94	99	92	99	0	0	57	62	89	96
December	68	98	67	95	0	0	41	60	65	96
AVERAGE	87	99	85	99	0	0	52	63	83	96

	WF HOUSE #32		WF HOUSE #33		WF HOUSE #34		WF HOUSE #35		WF HOUSE #36	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
October	43	45	98	99	99	99	98	99	97	99
November	42	46	95	99	94	99	94	99	94	99
December	30	44	70	99	69	99	69	99	69	99
AVERAGE	38	46	87	99	87	99	87	99	87	99

	WF HOUSE #37		WF HOUSE #38		WF HOUSE #39		WF HOUSE #40		WF HOUSE #41	
	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
October	98	99	94	99	0	0	0	0	55	58
November	92	97	94	99	0	0	0	0	51	55
December	68	99	69	99	0	0	0	0	36	53
AVERAGE	86	99	86	99	0	0	0	0	47	58

	WF HOUSE #42	
	AVERAGE	MAXIMUM
October	43	47
November	39	44
December	28	44
AVERAGE	37	47

Appendix D

Deep Disposal Well Injection Radiological Data

Third and Fourth Quarter, 2004

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-04	3,048,207	6	6.92E+07	4.69E+04	1,020	1.18E+04
August-04	3,327,132	11	1.39E+08	9.38E+04	941	1.19E+04
September-04	3,137,176	5	5.94E+07	4.02E+04	712	8.46E+03
October-04	3,253,399	3	3.69E+07	2.50E+04	899	1.11E+04
November-04	3,183,322	3	3.61E+07	2.45E+04	873	1.05E+04
December-04	3,385,182	6	7.69E+07	5.21E+04	1,250	1.60E+04
Totals	19,334,418		4.17E+08	2.82E+05		6.97E+04

Appendix E

Radon Release Calculations

Third and Fourth Quarter, 2004

Radon Effluent Release Calculation (Production and Startup)

Third Quarter 2004 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	16,133	0.72	92	99.3%	0.001	24	60	1,076

Fourth Quarter 2004 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	16,520	0.72	91	99.7%	0.001	24	60	1,094

Second Half 2004 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	14	4,074	1.52	0.29	17

Total Estimated Radon Release from Production: 2,187

Radon Effluent Release Calculation (Restoration)

Second Half 2004 Radon Release From Restoration:

Total Restoration Flow (liters)	*Microcuries/liter*	*Curies/Microcurie*	*Production Potential*
567,194,004	0.697	1.00E-06	395

Wellfield Loss (25% of Production Potential):	99
Ion Exchange Loss (10% of Production Potential minus Wellfield Loss):	30
Reverse Osmosis Loss (100% of remaining activity at 0.470 microcuries/liter)	72

Total Reverse Osmosis Flow (liters)	*Microcuries/liter*	*Curies/Microcurie*
154,225,641	0.470	1.00E-06

Second Half 2004 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	2.8	4074	1.52	0.29	4

Total Estimated Radon Release from Restoration: 205

Total Estimated Radon Release, Second Half 2004: 2,392

Appendix F

Environmental Air Monitoring Results

Third and Fourth Quarter, 2004

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HIGH VOLUME AIR SAMPLING REPORT

CLIENT: CROW BUTTE RESOURCES

REPORT DATE: February 1, 2005

SAMPLE ID: AM-1

Quarter/Date Sampled Air Volume	Radionuclide	Concentration µCi/mL	Error Estimate µCi/mL	L.L.D. µCi/mL	Effluent Conc.* µCi/mL	% Effluent Concentration
C04040194-001A	^{nat}U	1.45E-16	N/A	1.00E-16	9.00E-14	1.61E-01
01/02/2004-03/31/2004	^{226}Ra	1.68E-16	9.31E-17	1.00E-16	9.00E-13	1.86E-02
Air Volume in mLs	^{210}Pb	2.44E-14	1.83E-15	2.00E-15	6.00E-13	4.07E+00
5.10E+09						

Quarter/Date Sampled Air Volume	Radionuclide	Concentration µCi/mL	Error Estimate µCi/mL	L.L.D. µCi/mL	Effluent Conc.* µCi/mL	% Effluent Concentration
C04070210-001A	^{nat}U	< 1.00E-16	N/A	1.00E-16	9.00E-14	< 1.11E-01
03/31/2004-07/01/2004	^{226}Ra	< 1.00E-16	N/A	1.00E-16	9.00E-13	< 1.11E-02
Air Volume in mLs	^{210}Pb	9.31E-15	3.28E-15	2.00E-15	6.00E-13	1.55E+00
5.51E+09						

Quarter/Date Sampled Air Volume	Radionuclide	Concentration µCi/mL	Error Estimate µCi/mL	L.L.D. µCi/mL	Effluent Conc.* µCi/mL	% Effluent Concentration
C04100296-001	^{nat}U	< 1.00E-16	N/A	1.00E-16	9.00E-14	< 1.11E-01
07/01/2004 - 10/01/2004	^{226}Ra	< 1.00E-16	N/A	1.00E-16	9.00E-13	< 1.11E-02
Air Volume in mLs	^{210}Pb	1.87E-14	2.05E-15	2.00E-15	6.00E-13	3.11E+00
5.43E+09						

Quarter/Date Sampled Air Volume	Radionuclide	Concentration µCi/mL	Error Estimate µCi/mL	L.L.D. µCi/mL	Effluent Conc.* µCi/mL	% Effluent Concentration
C05010207-001	^{nat}U	< 1.00E-16	N/A	1.00E-16	9.00E-14	< 1.11E-01
10/01/2004 - 01/03/2005	^{226}Ra	< 1.00E-16	N/A	1.00E-16	9.00E-13	< 1.11E-02
Air Volume in mLs	^{210}Pb	1.23E-14	9.31E-16	2.00E-15	6.00E-13	2.06E+00
5.51E+09						

Final prep volume is 0.95 liter
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
Week for Radium-226
Day for Lead-210

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HIGH VOLUME AIR SAMPLING REPORT

CLIENT: CROW BUTTE RESOURCES

REPORT DATE: February 1, 2005

SAMPLE ID: AM-2

Quarter/Date Sampled Air Volume	Radionuclide	Concentration µCi/mL	Error Estimate µCi/mL	L.L.D. µCi/mL	Effluent Conc.* µCi/mL	% Effluent Concentration
C04040194-002A	^{nat}U	6.68E-15	N/A	1.00E-16	9.00E-14	7.42E+00
01/02/2004-03/31/2004	^{226}Ra	2.28E-16	1.37E-16	1.00E-16	9.00E-13	2.53E-02
Air Volume in mLs	^{210}Pb	5.15E-15	1.73E-15	2.00E-15	6.00E-13	8.58E-01
4.17E+09						

Quarter/Date Sampled Air Volume	Radionuclide	Concentration µCi/mL	Error Estimate µCi/mL	L.L.D. µCi/mL	Effluent Conc.* µCi/mL	% Effluent Concentration
C04070210-002A	^{nat}U	1.39E-15	N/A	1.00E-16	9.00E-14	1.55E+00
03/31/2004-07/01/2004	^{226}Ra	1.98E-16	1.52E-16	1.00E-16	9.00E-13	2.20E-02
Air Volume in mLs	^{210}Pb	1.75E-14	3.69E-15	2.00E-15	6.00E-13	2.92E+00
5.13E+09						

Quarter/Date Sampled Air Volume	Radionuclide	Concentration µCi/mL	Error Estimate µCi/mL	L.L.D. µCi/mL	Effluent Conc.* µCi/mL	% Effluent Concentration
C04100296-002	^{nat}U	5.19E-16	N/A	1.00E-16	9.00E-14	5.77E-01
07/01/2004 - 10/01/2004	^{226}Ra	< 1.00E-16	N/A	1.00E-16	9.00E-13	< 1.11E-02
Air Volume in mLs	^{210}Pb	1.61E-14	2.12E-15	2.00E-15	6.00E-13	2.68E+00
5.05E+09						

Quarter/Date Sampled Air Volume	Radionuclide	Concentration µCi/mL	Error Estimate µCi/mL	L.L.D. µCi/mL	Effluent Conc.* µCi/mL	% Effluent Concentration
C05010207-002	^{nat}U	6.22E-16	N/A	1.00E-16	9.00E-14	6.91E-01
10/01/2004 - 01/03/2005	^{226}Ra	< 1.00E-16	N/A	1.00E-16	9.00E-13	< 1.11E-02
Air Volume in mLs	^{210}Pb	1.65E-14	1.06E-15	2.00E-15	6.00E-13	2.75E+00
5.12E+09						

Final prep volume is 0.95 liter
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
Week for Radium-226
Day for Lead-210

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HIGH VOLUME AIR SAMPLING REPORT

CLIENT: CROW BUTTE RESOURCES

REPORT DATE: February 1, 2005

SAMPLE ID: AM-3

Quarter/Date Sampled Air Volume	Radionuclide	Concentration µCi/mL	Error Estimate µCi/mL	L.L.D. µCi/mL	Effluent Conc.* µCi/mL	% Effluent Concentration
C04040194-003A	^{nat}U	3.71E-16	N/A	1.00E-16	9.00E-14	4.13E-01
01/02/2004-03/31/2004	^{226}Ra	1.93E-16	1.16E-16	1.00E-16	9.00E-13	2.15E-02
Air Volume in mLs	^{210}Pb	6.56E-15	1.51E-15	2.00E-15	6.00E-13	1.09E+00
4.91E+09						

Quarter/Date Sampled Air Volume	Radionuclide	Concentration µCi/mL	Error Estimate µCi/mL	L.L.D. µCi/mL	Effluent Conc.* µCi/mL	% Effluent Concentration
C04070210-003A	^{nat}U	2.23E-16	N/A	1.00E-16	9.00E-14	2.48E-01
03/31/2004-07/01/2004	^{226}Ra	< 1.00E-16	N/A	1.00E-16	9.00E-13	< 1.11E-02
Air Volume in mLs	^{210}Pb	1.48E-14	3.59E-15	2.00E-15	6.00E-13	2.47E+00
5.19E+09						

Quarter/Date Sampled Air Volume	Radionuclide	Concentration µCi/mL	Error Estimate µCi/mL	L.L.D. µCi/mL	Effluent Conc.* µCi/mL	% Effluent Concentration
C04100296-003	^{nat}U	2.24E-16	N/A	1.00E-16	9.00E-14	2.49E-01
07/01/2004 - 10/01/2004	^{226}Ra	< 1.00E-16	N/A	1.00E-16	9.00E-13	< 1.11E-02
Air Volume in mLs	^{210}Pb	1.72E-14	2.11E-15	2.00E-15	6.00E-13	2.86E+00
5.13E+09						

Quarter/Date Sampled Air Volume	Radionuclide	Concentration µCi/mL	Error Estimate µCi/mL	L.L.D. µCi/mL	Effluent Conc.* µCi/mL	% Effluent Concentration
C05010207-003	^{nat}U	2.11E-16	N/A	1.00E-16	9.00E-14	2.34E-01
10/01/2004 - 01/03/2005	^{226}Ra	< 1.00E-16	N/A	1.00E-16	9.00E-13	< 1.11E-02
Air Volume in mLs	^{210}Pb	1.30E-14	9.82E-16	2.00E-15	6.00E-13	2.17E+00
5.23E+09						

Final prep volume is 0.95 liter
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
Week for Radium-226
Day for Lead-210

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HIGH VOLUME AIR SAMPLING REPORT

CLIENT: CROW BUTTE RESOURCES

REPORT DATE: February 1, 2005

SAMPLE ID: AM-4

Quarter/Date Sampled Air Volume	Radionuclide	Concentration µCi/mL	Error Estimate µCi/mL	L.L.D. µCi/mL	Effluent Conc.* µCi/mL	% Effluent Concentration
C04040194-004A	^{nat}U	1.41E-16	N/A	1.00E-16	9.00E-14	1.57E-01
01/02/2004-03/31/2004	^{226}Ra	1.99E-16	9.05E-17	1.00E-16	9.00E-13	2.21E-02
Air Volume in mLs	^{210}Pb	4.09E-15	1.37E-15	2.00E-15	6.00E-13	6.82E-01
5.25E+09						

Quarter/Date Sampled Air Volume	Radionuclide	Concentration µCi/mL	Error Estimate µCi/mL	L.L.D. µCi/mL	Effluent Conc.* µCi/mL	% Effluent Concentration
C04070210-004A	^{nat}U	1.18E-16	N/A	1.00E-16	9.00E-14	1.32E-01
03/31/2004-07/01/2004	^{226}Ra	2.66E-16	1.38E-16	1.00E-16	9.00E-13	2.96E-02
Air Volume in mLs	^{210}Pb	9.40E-15	3.31E-15	2.00E-15	6.00E-13	1.57E+00
5.46E+09						

Quarter/Date Sampled Air Volume	Radionuclide	Concentration µCi/mL	Error Estimate µCi/mL	L.L.D. µCi/mL	Effluent Conc.* µCi/mL	% Effluent Concentration
C04100296-004	^{nat}U	1.54E-16	N/A	1.00E-16	9.00E-14	1.71E-01
07/01/2004 - 10/01/2004	^{226}Ra	< 1.00E-16	N/A	1.00E-16	9.00E-13	< 1.11E-02
Air Volume in mLs	^{210}Pb	2.25E-14	2.12E-15	2.00E-15	6.00E-13	3.75E+00
5.42E+09						

Quarter/Date Sampled Air Volume	Radionuclide	Concentration µCi/mL	Error Estimate µCi/mL	L.L.D. µCi/mL	Effluent Conc.* µCi/mL	% Effluent Concentration
C05010207-004	^{nat}U	1.98E-16	N/A	1.00E-16	9.00E-14	2.20E-01
10/01/2004 - 01/03/2005	^{226}Ra	< 1.00E-16	N/A	1.00E-16	9.00E-13	< 1.11E-02
Air Volume in mLs	^{210}Pb	1.36E-14	9.30E-16	2.00E-15	6.00E-13	2.26E+00
5.62E+09						

Final prep volume is 0.95 liter
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
Week for Radium-226
Day for Lead-210

file: r:\clients2004\crow_butte_resources\air\4q2004.xls

CROW BUTTE RESOURCES, INC.

Memorandum

TO: File
FROM: Rhonda Grantham
DATE: January 26, 2005
SUBJECT: Relocation of air monitoring stations AM-5

On January 10, 2005 air monitoring station AM-5 was relocated. The air monitoring station was established on April 15, 1982 and was located at the site of the baseline weather monitoring station. The monitoring station measured airborne radionuclide concentrations, radon gas concentrations, and direct gamma radiation in the environment for licensing and compliance purposes.

When the station was established in 1982 the location was remote from the proposed sites of the R & D facility and the commercial plant site. In subsequent years, however, wellfield expansion has placed the location inside of the active wellfield of MU # 8.

The new location of the monitoring station has been moved approximately 400 feet north and it is adjacent to Well #134 which is the water supply well for the #2 driller's pond. This location places the station outside of the active wellfield and within a short distance from the Mayfield house which is currently occupied.

cc: Mike Griffin
Jim Stokey

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HIGH VOLUME AIR SAMPLING REPORT

CLIENT: CROW BUTTE RESOURCES

REPORT DATE: February 1, 2005

SAMPLE ID: AM-5

Quarter/Date Sampled Air Volume	Radionuclide	Concentration µCi/mL	Error Estimate µCi/mL	L.L.D. µCi/mL	Effluent Conc.* µCi/mL	% Effluent Concentration
C04040194-005A	^{nat}U	8.33E-16	N/A	1.00E-16	9.00E-14	9.26E-01
01/02/2004-03/31/2004	^{226}Ra	1.51E-16	1.08E-16	1.00E-16	9.00E-13	1.68E-02
Air Volume in mLs	^{210}Pb	4.89E-15	1.64E-15	2.00E-15	6.00E-13	8.15E-01
4.39E+09						

Quarter/Date Sampled Air Volume	Radionuclide	Concentration µCi/mL	Error Estimate µCi/mL	L.L.D. µCi/mL	Effluent Conc.* µCi/mL	% Effluent Concentration
C04070210-005A	^{nat}U	2.08E-16	N/A	1.00E-16	9.00E-14	2.31E-01
03/31/2004-07/01/2004	^{226}Ra	< 1.00E-16	N/A	1.00E-16	9.00E-13	< 1.11E-02
Air Volume in mLs	^{210}Pb	1.46E-14	3.54E-15	2.00E-15	6.00E-13	2.44E+00
5.26E+09						

Quarter/Date Sampled Air Volume	Radionuclide	Concentration µCi/mL	Error Estimate µCi/mL	L.L.D. µCi/mL	Effluent Conc.* µCi/mL	% Effluent Concentration
C04100296-005	^{nat}U	4.72E-16	N/A	1.00E-16	9.00E-14	5.24E-01
07/01/2004 - 10/01/2004	^{226}Ra	1.43E-16	1.14E-16	1.00E-16	9.00E-13	1.59E-02
Air Volume in mLs	^{210}Pb	1.55E-14	2.05E-15	2.00E-15	6.00E-13	2.58E+00
5.24E+09						

Quarter/Date Sampled Air Volume	Radionuclide	Concentration µCi/mL	Error Estimate µCi/mL	L.L.D. µCi/mL	Effluent Conc.* µCi/mL	% Effluent Concentration
C05010207-005	^{nat}U	1.65E-16	N/A	1.00E-16	9.00E-14	1.84E-01
10/01/2004 - 01/03/2005	^{226}Ra	< 1.00E-16	N/A	1.00E-16	9.00E-13	< 1.11E-02
Air Volume in mLs	^{210}Pb	9.93E-15	8.84E-16	2.00E-15	6.00E-13	1.65E+00
5.48E+09						

Final prep volume is 0.95 liter
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
Week for Radium-226
Day for Lead-210

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HIGH VOLUME AIR SAMPLING REPORT

CLIENT: CROW BUTTE RESOURCES

REPORT DATE: February 1, 2005

SAMPLE ID: AM-6

Quarter/Date Sampled Air Volume	Radionuclide	Concentration µCi/mL	Error Estimate µCi/mL	L.L.D. µCi/mL	Effluent Conc.* µCi/mL	% Effluent Concentration
C04040194-006A	^{nat}U	1.31E-16	N/A	1.00E-16	9.00E-14	1.45E-01
01/02/2004-03/31/2004	^{226}Ra	< 1.00E-16	7.36E-17	1.00E-16	9.00E-13	< 1.11E-02
Air Volume in mLs	^{210}Pb	9.35E-15	1.51E-15	2.00E-15	6.00E-13	1.56E+00
5.16E+09						

Quarter/Date Sampled Air Volume	Radionuclide	Concentration µCi/mL	Error Estimate µCi/mL	L.L.D. µCi/mL	Effluent Conc.* µCi/mL	% Effluent Concentration
C04070210-006A	^{nat}U	1.20E-16	N/A	1.00E-16	9.00E-14	1.34E-01
03/31/2004-07/01/2004	^{226}Ra	1.58E-16	1.50E-16	1.00E-16	9.00E-13	1.75E-02
Air Volume in mLs	^{210}Pb	2.15E-14	3.63E-15	2.00E-15	6.00E-13	3.58E+00
5.37E+09						

Quarter/Date Sampled Air Volume	Radionuclide	Concentration µCi/mL	Error Estimate µCi/mL	L.L.D. µCi/mL	Effluent Conc.* µCi/mL	% Effluent Concentration
C04100296-006	^{nat}U	< 1.00E-16	N/A	1.00E-16	9.00E-14	< 1.11E-01
07/01/2004 - 10/01/2004	^{226}Ra	1.21E-16	1.11E-16	1.00E-16	9.00E-13	1.35E-02
Air Volume in mLs	^{210}Pb	1.93E-14	2.11E-15	2.00E-15	6.00E-13	3.22E+00
5.26E+09						

Quarter/Date Sampled Air Volume	Radionuclide	Concentration µCi/mL	Error Estimate µCi/mL	L.L.D. µCi/mL	Effluent Conc.* µCi/mL	% Effluent Concentration
C05010207-006	^{nat}U	1.05E-16	N/A	1.00E-16	9.00E-14	1.17E-01
10/01/2004 - 01/03/2005	^{226}Ra	< 1.00E-16	N/A	1.00E-16	9.00E-13	< 1.11E-02
Air Volume in mLs	^{210}Pb	1.92E-14	1.07E-15	2.00E-15	6.00E-13	3.20E+00
5.24E+09						

Final prep volume is 0.95 liter
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
Week for Radium-226
Day for Lead-210

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HIGH VOLUME AIR SAMPLING REPORT

CLIENT: CROW BUTTE RESOURCES

REPORT DATE: February 1, 2005

SAMPLE ID: AM-8

Quarter/Date Sampled Air Volume	Radionuclide	Concentration µCi/mL	Error Estimate µCi/mL	L.L.D. µCi/mL	Effluent Conc.* µCi/mL	% Effluent Concentration
C04040194-007A	^{nat}U	2.13E-16	N/A	1.00E-16	9.00E-14	2.37E-01
01/02/2004-03/31/2004	^{226}Ra	1.14E-16	1.14E-16	1.00E-16	9.00E-13	1.27E-02
Air Volume in mLs	^{210}Pb	6.48E-15	1.76E-15	2.00E-15	6.00E-13	1.08E+00
4.15E+09						

Quarter/Date Sampled Air Volume	Radionuclide	Concentration µCi/mL	Error Estimate µCi/mL	L.L.D. µCi/mL	Effluent Conc.* µCi/mL	% Effluent Concentration
C04070210-007A	^{nat}U	1.85E-16	N/A	1.00E-16	9.00E-14	2.05E-01
03/31/2004-07/01/2004	^{226}Ra	1.85E-16	1.56E-16	1.00E-16	9.00E-13	2.05E-02
Air Volume in mLs	^{210}Pb	1.47E-14	3.55E-15	2.00E-15	6.00E-13	2.44E+00
5.25E+09						

Quarter/Date Sampled Air Volume	Radionuclide	Concentration µCi/mL	Error Estimate µCi/mL	L.L.D. µCi/mL	Effluent Conc.* µCi/mL	% Effluent Concentration
C04100296-007	^{nat}U	< 1.00E-16	N/A	1.00E-16	9.00E-14	< 1.11E-01
07/01/2004 - 10/01/2004	^{226}Ra	1.22E-16	1.12E-16	1.00E-16	9.00E-13	1.36E-02
Air Volume in mLs	^{210}Pb	< 2.00E-15	N/A	2.00E-15	6.00E-13	< 3.33E-01
5.18E+09						

Quarter/Date Sampled Air Volume	Radionuclide	Concentration µCi/mL	Error Estimate µCi/mL	L.L.D. µCi/mL	Effluent Conc.* µCi/mL	% Effluent Concentration
C05010207-007	^{nat}U	1.60E-16	N/A	1.00E-16	9.00E-14	1.77E-01
10/01/2004 - 01/03/2005	^{226}Ra	< 1.00E-16	N/A	1.00E-16	9.00E-13	< 1.11E-02
Air Volume in mLs	^{210}Pb	1.34E-14	9.69E-16	2.00E-15	6.00E-13	2.23E+00
5.29E+09						

Final prep volume is 0.95 liter
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
Week for Radium-226
Day for Lead-210

Crow Butte Resources, Inc.
Crow Butte Uranium Project

Track Etch Cup Ambient Radon Concentrations

Air Monitoring Station No. ***Period: July 1, 2004 to January 3, 2005***

	Gross Count	Average Radon Concentration ($\times 10^{-9}$ µCi/ml)	Accuracy ($\times 10^{-9}$ µCi/ml)	Percent Effluent Concentration
AM-1	56.7	0.3	0.04	3.0%
AM-2	91.4	0.5	0.05	5.0%
AM-3	38.6	0.2	0.03	2.0%
AM-4	38.6	0.2	0.03	2.0%
AM-5	108.2	0.6	0.06	6.0%
AM-6	30	0.2	0.04	2.0%
AM-8	64.3	0.3	0.04	3.0%
AB-1 (AM-1 Duplicate)	52.1	0.3	0.04	3.0%
AB-2 (AM-2 Duplicate)	69.8	0.4	0.05	4.0%
AB-3 (AM-3 Duplicate)	30	0.2	0.04	2.0%
AB-5 (AM-5 Duplicate)	107.7	0.6	0.06	6.0%
AB-6 (AM-6 Duplicate)	30	0.2	0.04	2.0%
AB-8 (AM-8 Duplicate)	59.1	0.3	0.04	3.0%

LLD ($\times 10^{-9}$ µCi/ml)	0.2
Effluent Concentration Limit, 10 CFR 20 App B Column 2:	10

LANDAUER

February 9, 2005

Ms. Rhonda Grantham
Crow Butte Resources, Inc.
86 Crow Butte Road
Crawford, NE 69339

Dear Ms. Grantham:

Attached are the results of the re-analysis of the Radtrak radon monitors you requested. These monitor readings were calculated based upon an updated laboratory background value. The original reported values were based upon a dated background value.

Radtrak radon monitors develop background tracks due mostly to cosmic radiation during storage. Landauer monitors the buildup of this background track density over time with test monitors selected from manufacturing lots. Every quarter a sample of the selected monitors are analyzed and the laboratory background value is updated. The timing of your original analysis was such that it was just prior to the routine update of the monitor's background values. Between the original analysis and the re-analysis of your monitors, the background values were updated. The data attached incorporates the new background values and is the primary change in the reported exposures.

I hope this letter sufficiently explains the analysis change of your monitor results. If you have any further questions, please contact me.

Sincerely,

LANDAUER, INC.

Mark R. Salasky
Health Physics Manager

MRS:lw
Enclosure

u:\letters\GranthamMRS

Appendix G

Environmental TLD Monitoring Results

Third and Fourth Quarter, 2004

Crow Butte Resources
PO Box 169
Crawford, NE 69339
Attn: Rhonda Grantham

SPHERICAL X9 ENVIRONMENTAL REPORT
Prepared by Landauer, Inc.

Account Number: **306192**

Process Number:	X9SP GF302
Received Date:	5-Oct-04
Report Date:	15-Oct-04
Released by:	CAS

Participant No.	Name/Description	Reading 1 (mrem)	Reading 2 (mrem)	Reading 3 (mrem)	Reading 4 (mrem)	Reading 5 (mrem)	Mean Ambient Dose Equivalent (mrem)	Net Values after control subtraction: Mean Ambient Dose Equivalent (mrem)	Standard Deviation (mrem)	95% Confidence Interval (mrem)
Quarterly Monitoring Period starting:				July 1, 2004						
Control		34	34	36	36	35	35		1.0	1.2
1001	AM-1	46	44	44	45	46	45	10	1.0	1.2
1002	AM-2	44	43	43	42	42	43	8	0.8	1.0
1003	AM-6	43	45	46	46	46	45	10	1.3	1.6
1008	AM-8	46	44	44	45	45	45	10	0.8	1.0
1009	AM-3	49	46	44	45	46	46	11	1.9	2.3
1010	AM-4	44	41	43	43	45	43	8	1.5	1.8
1011	AM-5	44	44	43	45	43	44	9	0.8	1.0

95% Confidence Interval is based on the standard error of the mean

Crow Butte Resources
PO Box 169
Crawford, NE 69339
Attn: Rhonda Grantham

SPHERICAL X9 ENVIRONMENTAL REPORT
Prepared by Landauer, Inc.

Account Number:	**306192**
Process Number:	X9SP GF654
Received Date:	6-Jan-05
Report Date:	24-Jan-05
Released by:	CAS

Participant No.	Name/Description	Reading 1 (mrem)	Reading 2 (mrem)	Reading 3 (mrem)	Reading 4 (mrem)	Reading 5 (mrem)	Mean Ambient Dose Equivalent (mrem)	Net Values after control subtraction: Mean Ambient Dose Equivalent (mrem)	Standard Deviation (mrem)	95% Confidence Interval (mrem)
Quarterly Monitoring Period starting:			October 1, 2004							
Control		39	40	40	40	41	40		0.7	0.9
1001	AM-1	50	53	51	53	55	52	12	1.9	2.4
1002	AM-2	50	47	49	49	50	49	9	1.2	1.5
1003	AM-6	50	50	49	47	49	49	9	1.2	1.5
1008	AM-8	49	50	51	49	50	50	10	0.8	1.0
1009	AM-3	49	48	49	49	50	49	9	0.7	0.9
1010	AM-4	49	50	49	51	47	49	9	1.5	1.8
1011	AM-5	51	50	51	52	52	51	11	0.8	1.0

95% Confidence Interval is based on the standard error of the mean

Appendix H

Sediment Monitoring Results

Third and Fourth Quarter, 2004

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LABORATORY ANALYTICAL REPORT

Client: Crow Butte Resources
Project: Annual Stream and Impoundment Sediments
Lab ID: C04110969-001
Client Sample ID: E13 Stream E1

Report Date: 12/09/04
Collection Date: 11/08/04
Date Received: 11/23/04
Matrix: Sediment

Analyses	Result	Units	Qual	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES - TOTAL							
Lead 210	ND	pCi/g-dry		1.0		NERHL-65-4	12/02/04 06:09 / trs
Radium 226	0.8	pCi/g-dry		0.2		E903.0	11/30/04 13:15 / df
Radium 226 precision (±)	0.09	pCi/g-dry				E903.0	11/30/04 13:15 / df
Uranium, Activity	0.13	pCi/g-dry		0.01		SW6020	12/07/04 12:47 / bws

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

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LABORATORY ANALYTICAL REPORT

Client: Crow Butte Resources
Project: Annual Stream and Impoundment Sediments
Lab ID: C04110969-004
Client Sample ID: E16 Stream E5

Report Date: 12/09/04
Collection Date: 11/08/04
Date Received: 11/23/04
Matrix: Sediment

Analyses	Result	Units	Qual	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES - TOTAL							
Lead 210	1.4	pCi/g-dry		1.0		NERHL-65-4	12/02/04 06:09 / trs
Lead 210 precision (±)	0.4	pCi/g-dry				NERHL-65-4	12/02/04 06:09 / trs
Radium 226	0.5	pCi/g-dry		0.2		E903.0	11/30/04 13:15 / df
Radium 226 precision (±)	0.07	pCi/g-dry				E903.0	11/30/04 13:15 / df
Uranium, Activity	0.11	pCi/g-dry		0.01		SW6020	12/07/04 13:08 / bws

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

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LABORATORY ANALYTICAL REPORT

Client: Crow Butte Resources
Project: Annual Stream and Impoundment Sediments
Lab ID: C04110969-007
Client Sample ID: E19 Stream S1

Report Date: 12/09/04
Collection Date: 11/08/04
Date Received: 11/23/04
Matrix: Sediment

Analyses	Result	Units	Qual	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES - TOTAL							
Lead 210	ND	pCi/g-dry		1.0		NERHL-65-4	12/02/04 06:09 / trs
Radium 226	0.4	pCi/g-dry		0.2		E903.0	11/30/04 13:15 / df
Radium 226 precision (±)	0.07	pCi/g-dry				E903.0	11/30/04 13:15 / df
Uranium, Activity	0.05	pCi/g-dry		0.01		SW6020	12/07/04 13:37 / bws

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

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LABORATORY ANALYTICAL REPORT

Client: Crow Butte Resources
Project: Annual Stream and Impoundment Sediments
Lab ID: C04110969-006
Client Sample ID: E18 Stream S2

Report Date: 12/09/04
Collection Date: 11/08/04
Date Received: 11/23/04
Matrix: Sediment

Analyses	Result	Units	Qual	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES - TOTAL							
Lead 210	ND	pCi/g-dry		1.0		NERHL-65-4	12/02/04 06:09 / trs
Radium 226	0.4	pCi/g-dry		0.2		E903.0	11/30/04 13:15 / df
Radium 226 precision (±)	0.06	pCi/g-dry				E903.0	11/30/04 13:15 / df
Uranium, Activity	0.03	pCi/g-dry		0.01		SW6020	12/07/04 13:30 / bws

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

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LABORATORY ANALYTICAL REPORT

Client: Crow Butte Resources
Project: Annual Stream and Impoundment Sediments
Lab ID: C04110969-005
Client Sample ID: E17 Stream S5

Report Date: 12/09/04
Collection Date: 11/08/04
Date Received: 11/23/04
Matrix: Sediment

Analyses	Result	Units	Qual	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES - TOTAL							
Lead 210	ND	pCi/g-dry		1.0		NERHL-65-4	12/02/04 06:09 / trs
Radium 226	0.4	pCi/g-dry		0.2		E903.0	11/30/04 13:15 / df
Radium 226 precision (±)	0.07	pCi/g-dry				E903.0	11/30/04 13:15 / df
Uranium, Activity	0.03	pCi/g-dry		0.01		SW6020	12/07/04 13:12 / bws

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

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LABORATORY ANALYTICAL REPORT

Client: Crow Butte Resources
Project: Annual Stream and Impoundment Sediments
Lab ID: C04110969-002
Client Sample ID: E14 Impoundment I3

Report Date: 12/09/04
Collection Date: 11/08/04
Date Received: 11/23/04
Matrix: Sediment

Analyses	Result	Units	Qual	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES - TOTAL							
Lead 210	ND	pCi/g-dry		1.0		NERHL-65-4	12/02/04 06:09 / trs
Radium 226	0.5	pCi/g-dry		0.2		E903.0	11/30/04 13:15 / df
Radium 226 precision (±)	0.08	pCi/g-dry				E903.0	11/30/04 13:15 / df
Uranium, Activity	0.13	pCi/g-dry		0.01		SW6020	12/07/04 13:01 / bws

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

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LABORATORY ANALYTICAL REPORT

Client: Crow Butte Resources
Project: Annual Stream and Impoundment Sediments
Lab ID: C04110969-003
Client Sample ID: E15 Impoundment I4

Report Date: 12/09/04
Collection Date: 11/08/04
Date Received: 11/23/04
Matrix: Sediment

Analyses	Result	Units	Qual	RL	MCL/ QCL	Method	Analysis Date / By
RADIONUCLIDES - TOTAL							
Lead 210	ND	pCi/g-dry		1.0		NERHL-65-4	12/02/04 06:09 / trs
Radium 226	0.6	pCi/g-dry		0.2		E903.0	11/30/04 13:15 / df
Radium 226 precision (±)	0.08	pCi/g-dry				E903.0	11/30/04 13:15 / df
Uranium, Activity	0.07	pCi/g-dry		0.01		SW6020	12/07/04 13:05 / bws

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