

**CROW BUTTE RESOURCES, INC.**

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



(308) 665-2215  
(308) 665-2341 - FAX

40-8943

September 21, 2005

Mr. Michael Linder  
Director  
Nebraska Department of Environmental Quality  
PO Box 98922  
Lincoln, Nebraska 68509-8922

Subject: 2006 Surety Estimate  
Class III Underground Injection Control Permit Number NE 0122611  
Class I Underground Injection Control Permit Number NE 0210457

Dear Mr. Linder:

Attached is the annual update to the surety estimate for the Crow Butte Uranium Mine. This estimate meets the requirements of Chapter 13 of Title 122, *Rules and Regulations for Underground Injection and Mineral Production Wells* and the annual update requirements included in the referenced permits issued by the Nebraska Department of Environmental Quality (NDEQ).

The surety estimate for 2006 is \$19,799,289, an increase of \$3,765,583 over the 2005 surety estimate of \$16,033,706. Significant changes reflected in the surety estimate for 2006 include the following items:

- 1) The estimate includes the initial operation of Mine Unit 10, with two wellhouses installed in this mine unit by the end of 2006. 460 wells are also projected for Mine Unit 10, which is an increase of 260 wells over the 2005 surety estimate. In addition, 60 wells are included for Mine Unit 11. In all, the 2006 surety includes the costs associated with 457 new wells installed in Mine Units 8 through 11. The areal extent of Mine Units 8 through 10 was increased by 1,878,000 square feet (43.1 acres) to reflect the projected expansion in these mine units. These additional mining wells and areas resulted in significant increases in the groundwater restoration, wellfield reclamation, and well plugging and abandonment costs; and
- 2) The 2006 escalation factor of 2.5% is based on the increase of the June 2005 Consumer Price Index (CPI) over the June 2004 CPI and was applied to labor and some materials. Many of the chemical and equipment cost items were rebaselined. For example, electricity costs were increased by \$0.002 per kilowatt-hour and fuel costs were increased by \$0.82 per gallon. The Master Cost Basis sheets (sheets 29 through 33) indicate the basis for the increase in these cost

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elements.

The most significant factors contributing to the increased surety estimate include groundwater restoration (+\$2,457,181), contract administration (+\$301,247), and contingency (+\$451,870). Sheet 2 of the attached estimate presents the changes for selected cost elements over the 2005 surety estimate.

Upon approval of the surety estimate update by the NDEQ, Crow Butte Resources, Inc. (CBR) will provide a secured letter of credit on the renewal date to the State of Nebraska in an amount equal to the updated surety estimate.

If you have any questions or require any further information, please do not hesitate to call me at (308) 665-2215.

Sincerely,  
CROW BUTTE RESOURCES, INC.

Michael Griffin  
Manager of Health, Safety, and Environmental Affairs

Enclosure

cc: 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

U.S. Nuclear Regulatory Commission  
Mr. Steve Cohen - ADDRESSEE ONLY  
Fuel Cycle Licensing Branch  
Mail Stop T-8F42  
Washington, DC 20555

**Crow Butte Resources, Inc.**  
**Crow Butte Uranium Project 2006 Surety Estimate**  
**(Revised September 2005)**

**Total Restoration and Reclamation Cost Estimate**

<b>I. Groundwater Restoration (Sheets 3 to 6)</b>			<b>\$10,634,739</b>
<b>II. Wellfield Reclamation (Sheets 7 to 10)</b>			<b>\$3,930,561</b>
<b>III. Commercial Plant Reclamation/Decommissioning (Sheets 11 to 14)</b>			<b>\$381,745</b>
<b>IV. R.O. Building Reclamation/Decommissioning (Sheets 11 to 14)</b>			<b>\$56,139</b>
<b>V. Evaporation Pond Reclamation (Sheets 15 to 18)</b>			<b>\$618,330</b>
<b>VI. Miscellaneous Site Reclamation (Sheets 19 to 21)</b>			<b>\$127,522</b>
<b>VII. Deep Disposal Well Reclamation (Sheet 22)</b>			<b>\$63,787</b>
<b>VIII I-196 Brule Aquifer Restoration (Sheets 23 to 24)</b>			<b>\$26,608</b>
<b>Subtotal Reclamation and Restoration Cost Estimate</b>			<b>\$15,839,431</b>
	<b>Contract Administration</b>	<b>10%</b>	<b>\$1,583,943</b>
	<b>Contingency</b>	<b>15%</b>	<b>\$2,375,915</b>
		<b>TOTAL</b>	<b>\$19,799,289</b>

**Crow Butte Resources, Inc.**  
**Crow Butte Uranium Project 2006 Surety estimate**  
**(Revised September 2005)**

**Cost Element Summary**

	<u>2006</u>	<u>2005</u>	<u>Change</u>
<b>Groundwater Restoration</b>			
Groundwater Sweep			
Total Gallons Processed (Kgal)	433,040	347,131	85,909
Total Cost	\$253,901	\$198,120	\$55,781
RO Treatment			
Total Gallons Processed (Kgal)	2,598,243	2,082,789	515,454
Total Cost	\$5,625,164	\$4,292,579	\$1,332,585
Recirculation			
Total Gallons Processed (Kgal)	433,040	347,131	85,909
Total Cost	\$337,223	\$256,910	\$80,313
Sampling and Monitoring			
Total On Site Samples	27,732	22,041	5,691
Total On Site Analysis Costs	\$1,345,002	\$1,035,266	\$309,736
Total Contract Samples	1,400	1,220	180
Total Contract Analysis Costs	\$280,000	\$183,000	\$97,000
<b>Wellfield Reclamation</b>			
Pipeline Removal and Loading	\$663,700	\$569,022	\$94,678
Well Abandonment			
Total Number of Wells	3,742	3,305	437
Total Abandonment Cost	\$1,252,844	\$1,113,785	\$139,059
<b>Site Reclamation</b>			
Site Earthwork	\$152,718	\$137,599	\$15,119
<b>Plant and Equipment Decontamination</b>			
Decontamination Costs	\$75,429	\$63,561	\$11,868
Demolition Costs	\$216,331	\$210,788	\$5,543
Piping Shredding Costs	\$232,166	\$189,861	\$42,306
<b>Transportation and Disposal</b>			
Byproduct Material			
Soil-Type Materials, Total Volume (Yd3)	3,860	3,579	281
Soil-Type Materials, Total Cost	\$519,189	\$486,542	\$32,647
Unpackaged Bulk Materials, Total Volume (Yd3)	1,846	1,590	256
Unpackaged Bulk Materials, Total Cost	\$245,106	\$211,136	\$33,970
<b>Contract Administration</b>	\$1,583,943	\$1,282,696	\$301,247
<b>Contingency</b>	\$2,375,915	\$1,924,045	\$451,870
<b>TOTAL SURETY</b>	<b>\$19,799,289</b>	<b>\$16,033,706</b>	<b>\$3,765,583</b>

Crow Butte Resources Inc.  
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Ground Water Restoration																
						Mine Unit 2	Mine Unit 3	Mine Unit 4	Mine Unit 5	Mine Unit 6	Mine Unit 7	Mine Unit 8	Mine Unit 9	Mine Unit 10	Mine Unit 11	Total
I.	Ground Water Sweep Costs															
	PV's Required					1	1	1	1	1	1	1	1	1	0	
	Total Kgal for Treatment					18018	15894	28918	43569	52372	52055	81345	81128	59740	0	433040
	Ground Water Sweep Unit Cost (\$/Kgal) (Sheet 23)					\$0.586	\$0.586	\$0.586	\$0.586	\$0.586	\$0.586	\$0.586	\$0.586	\$0.586	\$0.586	
	Subtotal Ground Water Sweep Costs per Wellfield					\$10,565	\$9,319	\$16,956	\$25,545	\$30,707	\$30,521	\$47,694	\$47,567	\$35,027	\$0	\$253,901
Total Ground Water Sweep Costs						\$253,901										
II.	Reverse Osmosis Costs															
	PV's Required					6	6	6	6	6	6	6	6	6	0	
	Total Kgal for Treatment					108110	95367	173511	261412	314234	312332	488070	486768	358439	0	2598243
	Reverse Osmosis Unit Cost (\$/Kgal) (Sheet 24)					\$2.16	\$2.16	\$2.16	\$2.16	\$2.16	\$2.16	\$2.16	\$2.16	\$2.16	\$2.16	
	Subtotal Reverse Osmosis Costs per Wellfield					\$234,058	\$206,468	\$375,648	\$565,954	\$680,313	\$676,194	\$1,056,666	\$1,053,848	\$776,015	\$0	\$5,625,164
Total Reverse Osmosis Costs						\$5,625,164										
III.	Recirculation Costs															
	PV's Required					1	1	1	1	1	1	1	1	1	0	
	Total Kgal for Treatment					18018	15894	28918	43569	52372	52055	81345	81128	59740	0	433040
	Recirculation Unit Cost (\$/Kgal) (Sheet 25)					\$0.78	\$0.78	\$0.78	\$0.78	\$0.78	\$0.78	\$0.78	\$0.78	\$0.78	\$0.78	
	Subtotal Recirculation Costs per Wellfield					\$14,032	\$12,378	\$22,520	\$33,928	\$40,784	\$40,537	\$63,346	\$63,177	\$46,521	\$0	\$337,223
Total Recirculation Costs						\$337,223										
IV.	Consumables															
	Spare parts, filters and consumables =				\$ 18,330 year											
	Active restoration period (months)					6.9	6.1	11.1	16.7	20.0	19.9	31.1	31.0	22.8	0.0	165
	Consumable usage (months restoration x annual rate estimate)					\$10,518	\$9,278	\$16,881	\$25,433	\$30,573	\$30,387	\$47,485	\$47,359	\$34,873	\$0	
	Subtotal Consumables per Mine Unit					\$10,518	\$9,278	\$16,881	\$25,433	\$30,573	\$30,387	\$47,485	\$47,359	\$34,873	\$0	\$252,789
Total Consumables Costs						\$252,789										

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Ground Water Restoration																	
							Mine Unit 2	Mine Unit 3	Mine Unit 4	Mine Unit 5	Mine Unit 6	Mine Unit 7	Mine Unit 8	Mine Unit 9	Mine Unit 10	Mine Unit 11	Total
VI.	Supervisory Labor Cost																



**Crow Butte Resources Inc.**  
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Wellfield Reclamation																	
						Mine Unit 1	Mine Unit 2	Mine Unit 3	Mine Unit 4	Mine Unit 5	Mine Unit 6	Mine Unit 7	Mine Unit 8	Mine Unit 9	Mine Unit 10	Mine Unit 11	Totals
Wellfield Piping																	
Assumptions:																	
	Number of Wellhouses					2	3	3	5	7	7	6	8	5	2	0	48
	Total Mine Unit surface area (acres)					9.27	11.70	13.46	23.72	31.80	35.99	43.72	57.39	50.51	0.00	0.00	277.6
	Total length of small diameter production and injection lines (laterals) (ft)					30000	34000	39520	68900	106080	128700	136500	187000	148450	0	0	879150
	Total length of 3/8-inch hose (ft)									66300							66300
	Total length 1-1/4-inch stinger pipe (ft)					0	47400	57400	101400	0	91200	97500	90000	116000	0	0	600900
	Total length of 2-inch downhole production pipe (ft)					900	20800	22800	38400	74800	74800	80000	58760	54000	0	0	425260
	Total Length of Trunkline (6-inch) (ft)					1000	1600										2600
	Total Length of Trunkline (8-inch) (ft)					4400	1300	1450	5400	3700	2000	1000	2100	1025			22375
	Total Length of Trunkline (10-inch) (ft)																0
	Total Length of Trunkline (12-inch) (ft)							1500	2000	14100	10000	5000	16900	11125	0	0	60625
	Total Length of All Trunkline (ft)					5400	2900	2950	7400	17800	12000	6000	19000	12150	0	0	85600
	Total number of production wells					3	52	57	96	189	194	179	248	192	0	0	1210
	Total number of injection wells					0	79	96	169	219	293	300	412	325	40	0	1933
	Total number of shallow monitor wells					0	3	3	11	25	28	25	30	20	20	0	165
	Total number of perimeter monitor wells					11	10	10	18	27	32	16	25	20	0	0	169
L. Production and Injection Piping																	
A. Removal and Loading																	
	Production and Injection Piping Removal Unit Cost (\$/ft of pipe)					\$0.58	\$0.58	\$0.58	\$0.58	\$0.58	\$0.58	\$0.58	\$0.58	\$0.58	\$0.58	\$0.58	
	Subtotal Production and Injection Piping Removal and Loading Costs					\$17,430	\$19,754	\$22,961	\$40,031	\$61,633	\$74,775	\$79,307	\$108,648	\$86,250	\$0	\$0	\$310,791
B. Pipe Shredding																	
	Production and Injection Piping Shredding Unit Cost (\$/ft of pipe)					\$0.07	\$0.07	\$0.07	\$0.07	\$0.07	\$0.07	\$0.07	\$0.07	\$0.07	\$0.07	\$0.07	
	Subtotal Production and Injection Piping Removal and Loading Costs					\$2,043	\$2,315	\$2,691	\$4,691	\$7,223	\$8,763	\$9,294	\$12,732	\$10,107	\$0	\$0	\$59,858
C. Equipment Costs																	
	Cat 924G Loader Unit Costs for removal					\$26,567	\$30,109	\$34,997	\$61,015	\$93,940	\$113,971	\$120,878	\$165,599	\$131,461	\$0	\$0	
	Shredder Unit Costs for shredding					\$6,400	\$7,253	\$8,431	\$14,699	\$22,630	\$27,456	\$29,120	\$39,893	\$31,669	\$0	\$0	
	Subtotal Equipment Costs					\$32,967	\$37,362	\$43,428	\$75,713	\$116,570	\$141,427	\$149,998	\$205,492	\$163,130	\$0	\$0	\$966,088
D. Transport and Disposal Costs (NRC-Licensed Facility)																	
	Chipped Volume Reduction (ft³/ft)					0.0069	0.0069	0.0069	0.0069	0.0069	0.0069	0.0069	0.0069	0.0069	0.0069	0.0069	
	Chipped Volume per Wellfield (yd³)					7.7	8.7	10.1	17.6	27.1	32.9	34.9	47.8	37.9	0.0	0.0	
	Volume for Disposal Assuming 25% Void Space (yd³)					10	11	13	22	34	41	44	60	47	0	0	282
	Transportation and Disposal Unit Cost (\$/yd³) Unpackaged Bulk					\$132.50	\$132.50	\$132.50	\$132.50	\$132.50	\$132.50	\$132.50	\$132.50	\$132.50	\$132.50	\$132.50	
	Subtotal Production and Injection Piping Transport and Disposal Costs					\$1,325	\$1,458	\$1,723	\$2,915	\$4,505	\$5,433	\$7,950	\$6,228	\$0	\$0	\$0	\$37,367
Total Production and Injection Piping Costs						\$63,764	\$68,889	\$78,883	\$123,351	\$189,931	\$230,398	\$244,429	\$334,822	\$265,716	\$0	\$0	\$1,574,104

Crow Butte Resources Inc.  
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Wellfield Reclamation													
		Mine Unit 1	Mine Unit 2	Mine Unit 3	Mine Unit 4	Mine Unit 5	Mine Unit 6	Mine Unit 7	Mine Unit 8	Mine Unit 9	Mine Unit 10	Mine Unit 11	Totals
<b>II. Trunklines</b>													
<b>A. Removal and Loading</b>													
	Trunkline Removal Unit Cost (\$/ft of pipe)	\$1.31	\$1.31	\$1.31	\$1.31	\$1.31	\$1.31	\$1.31	\$1.31	\$1.31	\$1.31	\$1.31	
	<b>Subtotal Trunkline Removal and Loading Costs</b>	<b>\$7,059</b>	<b>\$3,791</b>	<b>\$3,856</b>	<b>\$9,674</b>	<b>\$23,269</b>	<b>\$15,687</b>	<b>\$7,844</b>	<b>\$24,838</b>	<b>\$15,883</b>	<b>\$0</b>	<b>\$0</b>	<b>\$111,902</b>
<b>B. Pipe Shredding</b>													
	Trunkline Shredding Unit Cost (\$/ft of pipe)	\$1.31	\$1.31	\$1.31	\$1.31	\$1.31	\$1.31	\$1.31	\$1.31	\$1.31	\$1.31	\$1.31	
	<b>Subtotal Trunkline Shredding Costs</b>	<b>\$7,059</b>	<b>\$3,791</b>	<b>\$3,856</b>	<b>\$9,674</b>	<b>\$23,269</b>	<b>\$15,687</b>	<b>\$7,844</b>	<b>\$24,838</b>	<b>\$15,883</b>	<b>\$0</b>	<b>\$0</b>	<b>\$111,902</b>
<b>C. Equipment Costs</b>													
	Cat 924G Loader Unit Costs for removal	\$10,760	\$5,778	\$5,878	\$14,745	\$35,467	\$23,910	\$11,955	\$37,858	\$24,209	\$0	\$0	
	Shredder Unit Costs for shredding	\$2,592	\$1,392	\$1,416	\$3,552	\$8,544	\$5,760	\$2,880	\$9,120	\$5,832	\$0	\$0	
	<b>Subtotal Equipment Costs</b>	<b>\$13,352</b>	<b>\$7,170</b>	<b>\$7,294</b>	<b>\$18,297</b>	<b>\$44,011</b>	<b>\$29,670</b>	<b>\$14,835</b>	<b>\$46,978</b>	<b>\$30,041</b>	<b>\$0</b>	<b>\$0</b>	<b>\$211,646</b>
<b>D. Transport and Disposal Costs (NRC-Licensed Facility)</b>													
	Chipped Volume Reduction (6-inch) (ft <sup>3</sup> /ft)	0.0651	0.0651	0.0651	0.0651	0.0651	0.0651	0.0651	0.0651	0.0651	0.0651	0.0651	
	Chipped Volume Reduction (8-inch) (ft <sup>3</sup> /ft)	0.1103	0.1103	0.1103	0.1103	0.1103	0.1103	0.1103	0.1103	0.1103	0.1103	0.1103	
	Chipped Volume Reduction (10-inch) (ft <sup>3</sup> /ft)	0.1712	0.1712	0.1712	0.1712	0.1712	0.1712	0.1712	0.1712	0.1712	0.1712	0.1712	
	Chipped Volume Reduction (12-inch) (ft <sup>3</sup> /ft)	0.2408	0.2408	0.2408	0.2408	0.2408	0.2408	0.2408	0.2408	0.2408	0.2408	0.2408	
	Chipped Volume per Wellfield (yd <sup>3</sup> )	20.4	9.2	19.3	39.9	140.9	97.4	48.7	159.3	103.4	0.0	0.0	
	Volume for Disposal Assuming 25% Void Space (ft <sup>3</sup> )	25.0	11.0	24.0	50.0	176.0	122.0	61.0	199.0	129.0	0.0	0.0	797.0
	Transportation and Disposal Unit Cost (\$/ft <sup>3</sup> )	\$132.50	\$132.50	\$132.50	\$132.50	\$132.50	\$132.50	\$132.50	\$132.50	\$132.50	\$132.50	\$132.50	
	<b>Subtotal Transport and Disposal Costs</b>	<b>\$3,313</b>	<b>\$1,458</b>	<b>\$3,180</b>	<b>\$6,625</b>	<b>\$23,320</b>	<b>\$16,165</b>	<b>\$8,083</b>	<b>\$26,368</b>	<b>\$17,093</b>	<b>\$0</b>	<b>\$0</b>	<b>\$105,603</b>
	<b>Total Trunkline Costs</b>	<b>\$30,782</b>	<b>\$16,210</b>	<b>\$18,187</b>	<b>\$44,269</b>	<b>\$113,869</b>	<b>\$77,209</b>	<b>\$38,605</b>	<b>\$123,021</b>	<b>\$78,500</b>	<b>\$0</b>	<b>\$0</b>	<b>\$541,052</b>
<b>III. Downhole Pipe</b>													
<b>A. Removal and Loading</b>													
	Downhole Piping Removal Unit Cost (\$/ft of pipe)	\$0.065	\$0.065	\$0.065	\$0.065	\$0.065	\$0.065	\$0.065	\$0.065	\$0.065	\$0.065	\$0.065	
	Downhole Hosing Removal Unit Cost (\$/ft of pipe)	\$0.131	\$0.131	\$0.131	\$0.131	\$0.131	\$0.131	\$0.131	\$0.131	\$0.131	\$0.131	\$0.131	
	Removal of 1-1/4-inch stinger pipe	\$0	\$3,098	\$3,752	\$6,628	\$0	\$5,961	\$6,373	\$5,883	\$7,582	\$0	\$0	
	Removal of downhole production pipe	\$59	\$1,360	\$1,490	\$2,510	\$4,889	\$4,889	\$5,229	\$3,841	\$3,530	\$0	\$0	
	Removal of downhole hose	\$0	\$0	\$0	\$0	\$8,667	\$0	\$0	\$0	\$0	\$0	\$0	
	<b>Subtotal Downhole Piping Removal and Loading Costs</b>	<b>\$59</b>	<b>\$4,458</b>	<b>\$5,242</b>	<b>\$9,138</b>	<b>\$13,556</b>	<b>\$10,850</b>	<b>\$11,602</b>	<b>\$9,724</b>	<b>\$11,112</b>	<b>\$0</b>	<b>\$0</b>	<b>\$75,742</b>
<b>B. Pipe Shredding</b>													
	Downhole Piping Shredding Unit Cost (\$/ft of pipe)	\$0.058	\$0.058	\$0.058	\$0.058	\$0.058	\$0.058	\$0.058	\$0.058	\$0.058	\$0.058	\$0.058	
	<b>Subtotal Downhole Piping Shredding Costs</b>	<b>\$52</b>	<b>\$3,962</b>	<b>\$4,660</b>	<b>\$8,122</b>	<b>\$4,346</b>	<b>\$9,645</b>	<b>\$10,313</b>	<b>\$8,643</b>	<b>\$9,877</b>	<b>\$0</b>	<b>\$0</b>	<b>\$59,620</b>
<b>C. Equipment Costs</b>													
	Smear Unit Costs for removal	\$50	\$3,819	\$4,491	\$7,829	\$4,189	\$9,296	\$9,940	\$8,331	\$9,520	\$0	\$0	
	Shredder Unit Costs for shredding	\$19	\$1,455	\$1,711	\$2,982	\$1,596	\$3,541	\$3,787	\$3,174	\$3,627	\$0	\$0	
	<b>Subtotal Equipment Costs</b>	<b>\$70</b>	<b>\$5,274</b>	<b>\$6,202</b>	<b>\$10,811</b>	<b>\$5,785</b>	<b>\$12,837</b>	<b>\$13,727</b>	<b>\$11,504</b>	<b>\$13,147</b>	<b>\$0</b>	<b>\$0</b>	<b>\$79,356</b>

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Wellfield Reclamation													
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Plant Equipment Decommissioning										Commercial Plant	R.O. Building
I.	Removal and Loading Costs										
	Tankage										
	Number of Contaminated Tanks									28	
	Volume of Contaminated Tank Construction Material (ft <sup>3</sup> )									540	
	Number of Chemical Tanks									8	
	Disposal Void Factor									1.25	
A.	Labor to Remove and Load Tankage										
	Number of Persons									2	
	Tanks/Day									1	
	Number of Days									36	
	\$/Day/Person									\$131	
	Subtotal Removal Labor Costs									\$9,412	
B.	Labor to Clean Chemical Tankage										
	Number of Persons									1	
	Tanks/Day									1	
	Number of Days									8	
	\$/Day/Person									\$131	
	Subtotal Cleaning Labor Costs									\$1,046	
C.	Equipment										
	Saws, scaffolding, etc.									\$6,000	
	Subtotal Equipment Costs									\$6,000	
Total Equipment Removal and Loading Costs										\$16,458	
II.	Transportation and Disposal Costs (NRC-Licensed Facility)										
A.	Tankage										
	Volume of Tank Construction Material (ft <sup>3</sup> )									540	
	Volume for Disposal Assuming Void Space (yd <sup>3</sup> )									25.0	
	Transportation and Disposal Unit Cost (\$/yd <sup>3</sup> ) (Unpackaged Bulk)									\$132.50	
	Subtotal Tankage Transportation and Disposal Costs									\$3,315	
B.	Contaminated PVC Pipe										
	Volume of Shredded PVC Pipe (ft <sup>3</sup> )									158.4	
	Volume for Disposal Assuming Void Space (yd <sup>3</sup> )									7.3	
	Transportation and Disposal Unit Cost (\$/yd <sup>3</sup> ) (Unpackaged Bulk)									\$132.50	
	Subtotal Contaminated PVC Pipe Transportation and Disposal Costs									\$972	

**Crow Butte Resources, Inc.**  
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<b>Plant Equipment Decommissioning</b>					<b>Commercial Plant</b>	<b>R.O. Building</b>
<b>C. Pumps</b>						
	Volume of Process Pumps (yd <sup>3</sup> ) (no void factor used)				5.6	
	Transportation and Disposal Unit Cost (\$/yd <sup>3</sup> ) (Unpackaged Bulk)				\$132.50	
	<b>Subtotal Pump Transportation and Disposal Costs</b>				<b>\$736</b>	
<b>D. Filters (injection, backwash and yellowcake filters)</b>						
	Volume of Filters (yd <sup>3</sup> ) (no void factor used)				14.8	
	Transportation and Disposal Unit Cost (\$/yd <sup>3</sup> ) (Unpackaged Bulk)				\$132.50	
	<b>Subtotal Filter Transportation and Disposal Costs</b>				<b>\$1,963</b>	
<b>E. Dryer</b>						
	Dryer Volume (yd <sup>3</sup> ) (no void factor used)				29.6	
	Transportation and Disposal Unit Cost (\$/yd <sup>3</sup> ) (Unpackaged Bulk)				\$132.50	
	<b>Total Dryer Transportation and Disposal Costs</b>				<b>\$3,926</b>	
	<b>Total Contaminated Equipment Transportation and Disposal Costs</b>				<b>\$10,912</b>	
<b>III. Transportation and Disposal (Solid Waste for Landfill Disposal)</b>						
<b>A. Cleaned Tankage</b>						
	Volume of Tank Construction Material (ft <sup>3</sup> )				154	
	Number of Landfill Trips				1	
	Transportation and Disposal Unit Cost (\$/Load)				\$370	
	<b>Subtotal Tankage Transportation and Disposal Costs</b>				<b>\$370</b>	
<b>B. Uncontaminated PVC Pipe</b>						
	Volume of Shredded PVC Pipe (ft <sup>3</sup> )				158.4	
	Number of Landfill Trips				1	
	Transportation and Disposal Unit Cost (\$/Load)				\$370	
	<b>Subtotal PVC Pipe Transportation and Disposal Costs</b>				<b>\$370</b>	
	<b>Total Uncontaminated Equipment Transportation and Disposal Costs</b>				<b>\$740</b>	
<b>IV. Supervisory Labor Costs During Plant Decommissioning</b>						
	Estimated Duration (months)				6	
	Engineer				\$43,773	
	Radiation Technician				\$36,085	
	<b>Total Supervisory Labor Costs</b>				<b>\$79,858</b>	
<b>SUBTOTAL EQUIPMENT REMOVAL AND DISPOSAL COSTS PER FACILITY</b>					<b>\$107,968</b>	
	Building Area (Ft <sup>2</sup> )				34,000	5,000
	Building Equipment Removal and Disposal Cost per Square Foot				\$3.18	\$3.18
<b>TOTAL EQUIPMENT REMOVAL AND DISPOSAL COSTS</b>					<b>\$107,968</b>	<b>\$15,878</b>

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Building Demolition						Commercial Plant	R.O. Building
I.	Decontamination Costs						
A.	Wall Decontamination						
	Area to be Decontaminated (ft <sup>2</sup> )					25,332	
	HCl Application Rate (Gallons/ft <sup>2</sup> )					1	
	HCl Acid Cost					\$0.79	
	Subtotal Wall Decontamination Materials Costs					\$20,012	
B.	Concrete Floor Decontamination						
	Area to be Decontaminated (ft <sup>2</sup> )					18146	
	HCl Application Rate (Gallons/ft <sup>2</sup> )					2	
	HCl Acid Cost					\$0.79	
	Subtotal Floor Decontamination Materials Costs					\$28,671	
C.	Decontamination Labor						
	Labor (man-days)					60	
	Subtotal Decontamination Labor Cost					\$7,844	
D.	Decontamination Equipment Costs						
	Sprayer pump					\$500	
	Recycle pump					\$500	
	Sprayer with hose					\$1,000	
	Subtotal Decontamination Equipment Costs					\$2,000	
E.	Decontamination Waste Disposal (to Ponds)						
	Total gallons HCl waste					61,624	
	Pumping costs (5 HP/30 gpm)					\$444	
	Subtotal Decontamination Costs					\$58,971	
	Total Decontamination Costs					\$58,971	
II.	Demolition Costs						
	Assumptions (based on costs to move plant from Texas in 1988):						
	Dismantling interior steel, tanks, pumps, etc.					\$66,600	
	Dismantling plant building					\$43,800	
A.	Building Dismantling						
	Dismantle interior components (1988 \$'s escalated by CPI)					\$109,499	
	Plant building dismantling (1988 \$'s escalated by CPI)					\$72,013	
	Subtotal Building Dismantling					\$181,511	
B.	Concrete Floor Removal						
	Area of direct-dispose concrete floors (ft <sup>2</sup> )					5,450	
	Removal Rate (\$/ft <sup>2</sup> )					\$2.72	
	Subtotal Concrete Floor Removal					\$14,824	
	Total Demolition Costs					\$196,335	

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Building Demolition					Commercial Plant	R.O. Building
III.	Disposal Costs					
	A. Concrete Floor					
	Area of Direct-Dispose Concrete Floor (ft <sup>2</sup> )				5,450	
	Average Thickness of Concrete Floor (ft)				0.5	
	Volume of Concrete Floor (ft <sup>3</sup> )				2,725	
	Volume of Concrete Floor (Yd3)				101	
	Transportation and Disposal Unit Cost (\$/Yd <sup>3</sup> ) (Unpackaged Bulk)				\$132.50	
	Subtotal Concrete Floor Disposal Costs				\$13,373	
	Total Disposal Costs				\$13,373	
IV.	Plant Site Reclamation					
	A. Plant Site Earthwork					
	Material to be Moved (Yd3)				20,000	
	D8N Bulldozer Earthwork Rate (Yd3/hr)				700	
	D8N Hourly Rate				\$136	
	Subtotal Plant Site Earthwork				\$3,898	
	B. Revegetation					
	Area requiring Revegetation (Ac)				4	
	Revegetation Unit Cost (\$/Ac)				\$300	
	Subtotal Plant Site Revegetation				\$1,200	
	Total Plant Site Reclamation Costs				\$5,098	
SUBTOTAL BUILDING DEMOLITION AND DISPOSAL COSTS					\$273,777	
	Building Area (Ft2)				34,000	5,000
	Building Demolition Cost per Square Foot				\$8.05	\$8.05
TOTAL BUILDING DEMOLITION AND DISPOSAL COSTS					\$273,777	\$40,261



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<b>Evaporation Pond Reclamation</b>									
					<b>Commercial Ponds</b>		<b>R&amp;D Ponds</b>		
<b>Assumptions/Data:</b>									
				Number of Ponds		3		2	
				Area of Ponds (ft <sup>2</sup> )		250,000		50,000	
				Thickness of Liner Material (ft)		0.00833		0.0030	
				Leak detection piping size (in)		4		3	
				Leak detection piping length (ft/pond)		2,100		600	
				Earthwork Requirements (Yd <sup>3</sup> /pond)		60,000		30,000	
				Surface Restoration/Revegetation (Acres)		20		10	
				Sludge Production Rate (Yd <sup>3</sup> sludge/gal)				0.000000102	
				(1 Yd <sup>3</sup> sludge/9,772,000 gal R&D Phase)					
				Estimated 1991 to 2006 Total Production (gallons)		26,498,071,400			
				Liner Removal Rate (ft <sup>2</sup> /man-day)		10,000		10,000	
				Sludge Removal Rate (Yd <sup>3</sup> /man-day)		8.33		8.33	
<b>I.</b>	<b>Pond Liner and Piping Removal</b>								
	<b>A.</b>	<b>Pond Liner and Piping Removal Labor</b>							
				Area of Ponds		750,000		100,000	
				Liner Removal Rate (ft <sup>2</sup> /Man-Day)		10,000		10,000	
				Total Man-Days		75		10	
				Labor Rate (\$/man-day)		\$130.73		\$130.73	
				<i>Subtotal Liner and Piping Removal Labor Costs</i>		<i>\$9,804</i>		<i>\$1,307</i>	
	<b>B.</b>	<b>Pond Liner and Piping Removal Equipment</b>							
				Total Man-Days Removal Effort		75		10	
				Size of Crew		4		4	
				Total Days Removal Effort		18.75		2.5	
				Cat 924G Loader Hourly Rate (\$/hr)		\$49.81		\$49.81	
				<i>Subtotal Liner and Piping Removal Equipment Costs</i>		<i>\$7,472</i>		<i>\$996</i>	
				<b>Total Pond Liner and Piping Removal Costs</b>		<b>\$17,276</b>		<b>\$2,304</b>	

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<b>Evaporation Pond Reclamation</b>									
								<b>Commercial Ponds</b>	<b>R&amp;D Ponds</b>
<b>II.</b>	<b>Pond Sludge Removal</b>								
	<b>Pond Sludge Estimate</b>								
		Estimated Production Flow since 1991 (gal)						26,498,071,400	
		Historical Sludge Production Rate						0.000000102	
		Estimated Pond Sludge Volume (Yd3)						2,712	Cleaned following R&D
	<b>A.</b>	<b>Pond Sludge Removal Labor</b>							
		Pond Sludge Volume (Yd3)						2,712	
		Sludge Removal Rate (Yd3/man-day)						8.33	
		Total Man-Days						325	
		Labor Rate (\$/man-day)						\$131	
		<i>Subtotal Pond Sludge Removal Labor Costs</i>						<b>\$42,538</b>	<b>\$0</b>
	<b>B.</b>	<b>Pond Sludge Removal Equipment</b>							
		Total Man-Days Removal Effort						325	
		Size of Crew						3	
		Total Days Removal Effort						108	
		Cat 924G Loader Hourly Rate (\$/hr)						\$49.81	
		<i>Subtotal Pond Sludge Removal Equipment Costs</i>						<b>\$43,223</b>	<b>\$0</b>
		<b>Total Pond Sludge Removal Costs</b>						<b>\$85,761</b>	<b>\$0</b>
<b>III.</b>	<b>Pond Byproduct Material Disposal</b>								
	<b>A.</b>	<b>Pond Liner Disposal</b>							
		Area of Pond Liner (ft2)						750,000	100,000
		Thickness of Pond Liner (ft)						0.00833	0.00300
		Volume of Pond Liner (ft3)						6,248	300
		Void Space Factor						1.25	1.25
		Total Disposed Volume (yd3)						289	14
		Disposal Unit Costs (\$/yd3) (Unpackaged Bulk)						\$132.50	\$132.50
		<i>Subtotal Pond Liner Disposal Costs</i>						<b>\$38,324</b>	<b>\$1,840</b>

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Evaporation Pond Reclamation									
					Commercial Ponds		R&D Ponds		
B. Pond Piping Disposal									
Total Length of Piping					6,300		1,200		
Piping Volume Factor (ft3/ft)					0.0103		0.0069		
Total Volume Pond Piping (ft3)					65		8		
Void Space Factor					1.25		1.25		
Total Disposed Volume (yd3)					3.0		0.4		
Disposal Unit Costs (\$/yd3) (Unpackaged Bulk)					\$132.50		\$132.50		
Subtotal Pond Piping Disposal Costs					\$398		\$51		
C. Pond Sludge Disposal									
Total Volume Pond Sludge (Yd3)					2,712				
Disposal Unit Costs (\$/yd3) (Soil rate)					\$134.00				
Subtotal Pond Sludge Disposal Costs					\$363,359		\$0		
Total Byproduct Material Disposal Costs					\$402,081		\$1,891		
IV Pond Site Reclamation									
A. Pond Earthwork Requirements									
Earthwork Requirements Yd3)					180,000		60,000		
D8N Bulldozer Earthwork Rate (Yd3/hr)					700		700		
Total D8N Hours					257		86		
D8N Hourly Rate					\$136.44		\$136.44		
Subtotal Pond Earthwork					\$35,084		\$11,695		
B. Revegetation									
Area requiring Revegetation (Ac)					20		10		
Revegetation Unit Cost (\$/Ac)					\$300		\$300		
Subtotal Plant Site Revegetation					\$6,000		\$3,000		
Total Pond Site Reclamation Costs					\$41,084		\$14,695		

**Crow Butte Resources, Inc.**  
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Evaporation Pond Reclamation									
								Commercial Ponds	R&D Ponds
V.	Supervisory Labor Costs During Pond Reclamation								
	Estimated Duration (months)						4		
	Engineer Rate (\$/month)						\$7,295		
	Total Engineer Labor						\$29,182		
	Radiation Technician Rate (\$/month)						\$6,014		
	Total Radiation Tecnician Labor						\$24,057		
	Total Supervisory Labor Costs						\$53,239	\$0	
TOTAL EVAPORATION POND RECLAMATION PER POND							\$599,441	\$18,889	
TOTAL EVAPORATION POND RECLAMATION COSTS							\$618,330		

**Crow Butte Resources, Inc.**  
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Miscellaneous Site Reclamation				
<b>I.</b>	<b>Access Road Reclamation</b>			
	Assumptions			
	Road Reclamation production rate (Yd3/hr)			200
	Length of Main Access Roads (ft)			10,900
	Average Main Access Road width (ft)			25
	Depth of Main Access Road Gravel Surface (ft)			1
	Surface Area of Main Access Road (Ac)			6.3
	Length of Wellfield Access Roads (ft)			58,000
	Average Wellfield Access Road width (ft)			12
	Depth of Wellfield Access Road Gravel Surface (ft)			0.5
	Surface Area of Wellfield Road (Ac)			16.0
<b>A.</b>	<b>Main Access Road Dirtwork</b>			
	Main Access Road Gravel Volume (Yd3)			10,093
	Total reclamation time (hrs)			50
	D8N Unit Operating Cost (\$/hr)			\$136
	<i>Subtotal Main Access Road Gravel Roadbase Removal Costs</i>			<i>\$6,885</i>
<b>B.</b>	<b>Wellfield Road Dirtwork</b>			
	Wellfield Road Gravel Volume (Yd3)			12,889
	Total reclamation time (hrs)			64
	D8N Unit Operating Cost (\$/hr)			\$136
	<i>Subtotal Wellfield Road Gravel Roadbase Removal Costs</i>			<i>\$8,793</i>
<b>E.</b>	<b>Discing/Seeding</b>			
	Assumptions			
	Surface Area (acres)			22.2
	Discing/Seeding Unit Cost (\$/acre)			\$300
	<i>Subtotal Discing/Seeding Costs</i>			<i>\$6,670</i>
	<b>Total Access Road Reclamation Costs</b>			<b>\$22,348</b>

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<b>Miscellaneous Site Reclamation</b>				
<b>II.</b>	<b>Wastewater Pipeline Reclamation</b>			
	Assumptions			
	Pipeline Removal Rate (ft./man-day)			67
	Pipeline Shredding Rate (ft./man-day)			1,500
	Number of Pond Pipelines			2
	Length of Pond Pipelines (ft)			2,000
	Number of RO Building Pipelines			4
	Length of RO Building Pipelines (ft)			300
	Average Pipe Size (Sch 40)			4
	A.	Pipeline Removal Costs		
		Length of Pipelines (ft)		5,200
		Removal Rate (ft/man-day)		67
		Removal Labor Rate (\$/man-day)		\$128
		Cat 924G Loader Use (days)		78
		Cat 924G Loader Cost		\$31,067
		<i>Subtotal Pipeline Removal Costs</i>		<i>\$41,007</i>
	B.	Pipeline Shredding Costs		
		Length of Pipelines (ft)		5,200
		Shredding Rate (ft/man-day)		1,500
		Shredding Labor Rate (\$/man-day)		\$131
		Shredder Use (days)		3
		Shredder Cost		\$333
		<i>Subtotal Pipeline Shredding Costs</i>		<i>\$786</i>

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Miscellaneous Site Reclamation						
C.	Pipeline Transportation and Disposal (NRC-Licensed Facility)					
	Pipe Diameter (inches)					4
	Chipped Volume Reduction (ft <sup>3</sup> /ft)					0.0103
	Subtotal Volume of Shredded PVC Pipe (yd <sup>3</sup> )					2.0
	Disposal Void Factor					1.25
	Final Disposal Volume (yd <sup>3</sup> )					2.5
	Transportation and Disposal Unit Cost (\$/yd <sup>3</sup> ) (Unpackaged Bulk)					\$132.50
	Subtotal Pipeline Disposal Costs					\$329
	Total Wastewater Pipeline Reclamation Costs					\$42,122
III.	Electrical Distribution System Removal					
	Assumptions					
	Length of High Voltage Lines					37,200
	High Voltage Line Removal Rate (\$/ft.)					\$0.59
	High Voltage Line Removal Cost (\$/ft.)					\$21,948
	Substation Removal					\$1,175
	Subtotal Electrical Distribution System Removal Costs					\$23,123
IV.	Supervisory Labor Costs During Miscellaneous Reclamation					
	Estimated Duration (months)					3
	Engineer Rate (\$/month)					\$7,295
	Total Engineer Labor					\$21,886
	Radiation Technician Rate (\$/month)					\$6,014
	Total Radiation Technician Labor					\$18,043
	Total Supervisory Labor Costs					\$39,929
TOTAL MISCELLANEOUS RECLAMATION COSTS						\$127,522

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<b>Deep Disposal Well Reclamation</b>						
<b>L.</b>	<b>Cost Basis</b>					
	<b>A. Plugging and Abandonment</b>					
	Cost Estimate from March 2004 Permit Re-application for plugging and abandonment					\$59,026
	March 2004 CPI					187.4
	June 2005 CPI					194.5
	<i>Subtotal Escalated 2003 Plugging and Abandonment Costs</i>					<i>\$61,262</i>
	<b>B. Site Reclamation</b>					
	Cost Estimate from March 2004 Permit Re-application for site reclamation					\$2,433
	March 2004 CPI					187.4
	June 2005 CPI					194.5
	<i>Subtotal Escalated 2003 Reclamation Costs</i>					<i>\$2,525</i>
<b>TOTAL DEEP DISPOSAL WELL RECLAMATION COSTS</b>						<b>\$63,787</b>



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<b>I-196 Brule Aquifer Restoration</b>				
<b>I.</b>	<b>Ground Water Sweep Costs</b>			
	<b>Assumptions</b>			
	PV's Required from I-196a, I-196j and I-196n			3
	Total Gallons per Pore Volume			337,758
	Total Gallons to Treat			1,013,274
	Flow Rate (gpm)			3
	Pump Power Requirements (kw)			3
	Power Cost (\$/kw)			\$0.06
	Pumping Labor (man-day per day)			0.13
	Sampling Labor (man-day per day)			0.07
	Labor Rate (\$/man-day)			\$131
	Days to complete			235
A.	Electrical Costs			
	<i>Cost to pump 3 Pore Volumes</i>			\$979
B.	Labor Costs			
	<i>Labor for pumping 3 Pore Volumes</i>			\$3,986
<b>Total Ground Water Sweep Costs</b>				<b>\$4,966</b>
<b>II.</b>	<b>Monitoring and Sampling Costs</b>			
A.	Labor Costs for Monitoring			\$2,190
B.	Monitoring for I-196i, I-196m, and I-196l			\$2,190
<b>Total Monitoring and Sampling Costs</b>				<b>\$4,380</b>

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<b>I-196 Brule Aquifer Restoration</b>				
<b>III</b>	<b>Additional Ground Water Sweep</b>			
	Pump from additional wells and monitor as above			<b>\$9,346</b>
	Drill 4 additional wells, 50 ft deep at \$26/ft.			<b>\$5,200</b>
	<b>Total Additional Ground Water Sweep</b>			<b>\$14,546</b>
<b>IV</b>	<b>Well Abandonment</b>			
	Abandon 14 wells at \$194/well			<b>\$2,716</b>
	<b>Total Well Abandonment</b>			<b>\$2,716</b>
	<b>TOTAL I-196 BRULE AQUIFER RESTORATION COSTS</b>			<b>\$26,608</b>

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<b>GROUNDWATER RESTORATION</b>														
<b>GROUNDWATER SWEEP (GWS) Unit Costs</b>														
<b>Assumptions:</b>														
1.	All pumps are 5 hp pumping at 32 gpm													
2.	Cost of electricity =												\$0.058	Kw hr
3.	Horsepower to kilowatt conversion =												0.746	Kw/HP
4.	Operator labor costs =												\$130.73	man-day
5.	Labor costs are based on 36 pumps at 1,150 gpm													
<b>Wellfield Pumping Electrical Costs per 1000 Gallons</b>														
	1000 gal	X	5 hp	X	1 hr	X	0.746 kwh	X	\$ 0.06					
			32 gpm		60 min		hp		kwh				= \$	0.113
<b>Wellfield Pumping Labor Costs per 1000 Gallons</b>														
	1000 gal	X	1 min	X	8 hr	X	\$131	X	2	operators			= \$	\$0.474
			1150 gal		480 min		man-day							
<b>Groundwater Sweep Production Rate</b>														
	1150 gal	X	60 min	X	24 hr	X	365 day	X	1	year			=	50,370,000 gallons
			hr gal		day		year		12	month				month
<b>TOTAL GWS COSTS PER 1000 GALLONS</b>													<b>= \$</b>	<b>0.586</b>

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Groundwater Reverse Osmosis (RO) Treatment Unit Costs												
Assumptions:												
1. All pumps are 5 hp pumping at 32 gpm												
2. Cost of electricity = \$0.058 Kw hr												
3. Horsepower to kilowatt conversion = 0.746 Kw/HP												
4. Operator labor costs = \$130.73 man-day												
5. RO System horsepower requirements for 400 gpm rated flow based upon:												
		RO Unit Pump				164 hp						
		Permeate/Injection pump				40 hp						
		Waste pump				8 hp						
		TOTAL:				212 hp						
6. Chemical costs:												
		Reductant =								\$0.310 lb		
		Antiscalant =								\$16.18 gal		
Wellfield Pumping Electrical Costs per 1000 Gallons												
1000 gal		X	5 hp		X	1 hr		X	0.746 kwh		X	\$0.06 kwh
			32/gpm			60 min			hp			
Reverse Osmosis Electrical Costs per 1000 Gallons												
1000 gal		X	212 hp		X	1 hr		X	0.746 kwh		X	\$0.06 kwh
			400 gpm			60 min			hp			
Reverse Osmosis Labor Costs per 1000 Gallons												
1000 gal		X	1 min		X	1 man-day		X	\$131		X	2 operators
			400 gal			480 min			man-day			
Treatment chemical costs per 1000 Gallons												
Antiscalant:												
1000 gal		X	8.33E-06 gal antiscalant		X	\$16.18						
			1 gal			gal antiscalant						
Reductant:												
1000 gal		X	5.60E-04 lbs reductant		X	\$0.310						
			1 gal			lb reductant						
Reverse Osmosis Production Rate												
400 gal		X	60 min		X	24 hr		X	365 day		X	1 year
			min			day			year			12 month
TOTAL RO COSTS PER 1000 GALLONS												
= \$ 2.165												

**Crow Butte Resources, Inc.**  
**Crow Butte Uranium Project 2006 Surety Estimate**  
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Groundwater Recirculation Unit Costs													
Assumptions:													
1. All pumps are 5 hp pumping at 32 gpm													
2. Cost of electricity = \$0.058 Kw hr													
3. Horsepower to kilowatt conversion = 0.746 Kw/HP													
4. Operator labor costs = \$130.73 man-day													
5. System horsepower requirements for 1,150 gpm rated flow based upon:													
injection pump 30 hp													
6. Chemical costs:													
Reductant = \$0.310 lb													
Wellfield Pumping Electrical Costs per 1000 Gallons													
1000 gal X 5 hp X 1 hr X 0.746 kwh X \$0.06 = \$ 0.113 per Kgal													
32 gpm 60 min hp kwh													
Wellfield Injection Electrical Costs per 1000 Gallons													
1000 gal X 30 hp X 1 hr X 0.746 kwh X \$0.06 = \$ 0.019 per Kgal													
1150 gpm 60 min hp kwh													
Recirculation Labor Costs per 1000 Gallons													
1000 gal X 1 min X 1 man-day X \$131 X 2 operators = \$ 0.474 per Kgal													
1150 gal 480 min man-day													
Treatment chemical costs per 1000 Gallons													
Reductant:													
1000 gal X 5.60E-04 lbs reductant X \$0.310 = \$ \$0.174 per Kgal													
1 gal lb reductant													
Recirculation Production Rate													
1150 gal X 60 min X 24 hr X 365 day X 1 year = 50,370,000 gallons													
min X hr gal X day year X 12 month month													
TOTAL RECIRCULATION COSTS PER 1000 GALLONS = \$ 0.779													

**Crow Butte Resources, Inc.**  
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WELL ABANDONMENT Unit Costs									
Assumptions:									
1 Use backhoe for 0.25 hr/well to dig, cut off, and cap well.									
2 Drill rig used 2.5 hrs to plug well.									
3 Labor for installing chips, etc. will require 2 workers at 0.5 hrs per well									
Well Abandonment Costs									
Cost per ft (based on 700 ft wells)									
Cat 416 Backhoe									
0.25 hours X \$ 38.19 per hour =\$ 9.55 \$0.0136									
Drill rig									
2.5 hours X \$ 110.00 per hour =\$ 275.00 \$0.3929									
Well Cap									
1 each X \$ 6.25 each =\$ 6.25 \$0.0089									
Materials per foot of well (Variable Cost)									
Cement 0.0714 lbs/ft X \$ 0.16 per pound =\$ 0.01142									
Bentonite Chips 0.007 tubes/ft X \$ 6 per tube =\$ 0.042									
Plug Gel 0.0086 sacks/ft X \$ 6.30 per sack =\$ 0.0542									
Total Estimated Cost per Foot: \$0.5230									

Crow Butte Resources, Inc.  
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Master Cost Basis

Mine Unit Data

	Mine Unit 1	Mine Unit 2	Mine Unit 3	Mine Unit 4	Mine Unit 5	Mine Unit 6	Mine Unit 7	Mine Unit 8	Mine Unit 9	Mine Unit 10	Mine Unit 11
Total number of production wells	3	52	57	96	189	194	179	248	192	150	0
Total number of injection wells	0	79	96	169	219	293	300	412	325	250	40
Total number of shallow monitor wells	0	3	3	11	25	28	25	30	20	30	20
Total number of perimeter monitor wells	11	10	10	18	27	32	16	25	20	30	0
Total number of restoration wells	10	12	18	43	33	33	46	23	13	30	40
Wellfield Area (ft <sup>2</sup> )	403,712	509,600	586,188	1,033,440	1,385,181	1,567,768	1,904,560	2,500,000	2,200,000	1,620,000	0
Wellfield Area (acres)	9.27	11.70	13.46	23.72	31.80	35.99	43.72	57.39	50.51	37.19	0.00
Affected Ore Zone Area (ft <sup>2</sup> )	403,712	509,600	586,188	1,033,440	1,385,181	1,567,768	1,904,560	2,500,000	2,200,000	1,620,000	0
Avg. Completed Thickness	19.6	16.3	12.5	12.9	14.5	15.4	12.6	15	17	17	16
Porosity	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29
Affected Volume (ft <sup>3</sup> )	7,912,755	8,306,480	7,327,350	13,331,376	20,085,125	24,143,627	23,997,456	37,500,000	37,400,000	27,540,000	0
Gallons per Pore Volume	17,164	18,018	15,894	28,918	43,569	52,372	52,055	81,345	81,128	59,740	0
Number of Patterns in Unit(s)											
Current	38	52	57	96	187	187	200	240	150	60	0
Estimated next report	0	0	0	0	2	7	-21	8	42	90	0
Total Estimated	38	52	57	96	189	194	179	248	192	150	0
Number of Wells in Unit(s)											
Production Wells											
Current	3	52	57	96	187	187	200	240	150	60	0
Estimated next report	0	0	0	0	2	7	-21	8	42	90	0
Total Estimated	3	52	57	96	189	194	179	248	192	150	0
Injection Wells											
Current	0	79	96	169	221	309	325	400	250	80	0
Estimated next report	0	0	0	0	-2	-16	-25	12	75	170	40
Total Estimated	0	79	96	169	219	293	300	412	325	250	40
Shallow Monitor Wells											
Current	0	3	3	11	25	28	25	30	20	30	0
Estimated next report	0	0	0	0	0	0	0	0	0	0	20
Total Estimated	0	3	3	11	25	28	25	30	20	30	20
Perimeter Monitor Wells											
Current	11	10	10	18	27	32	16	25	20	30	0
Estimated next report	0	0	0	0	0	0	0	0	0	0	0
Total Estimated	11	10	10	18	27	32	16	25	20	30	0
Number of Wells per Wellfield	14	144	166	294	460	547	520	715	557	460	60
Total Number of Wells	3937										
Average Well Depth (ft) - Deep Wells	665	631	774	698	675	515	762	500	770	480	810
Average Well Depth (ft) - Shallow Wells	200	200	200	200	200	200	200	200	200	150	350

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Master Cost Basis

Electrical Costs			
Power cost (adj for current actual cost)	2005 Rate \$0.056	2006 Est Rate \$0.058	kw/Hr
Kilowatt to Horsepower	0.746	0.746	Kw/HP
Horsepower per gallon per minute	0.167	0.167	HP/gpm
Labor Rates			
Operator Labor Cost	2005 Rate \$127.50	2006 Est Rate (CPI) \$130.73	day
Engineer Cost	\$7,115.41	\$7,295.45	month
Radiation Technician Costs	\$5,865.79	\$6,014.21	month
Chemical Costs			
Antiscalant for RO (adj for current actual cost)	2005 Rate \$12.47	2006 Est Rate \$16.18	gal
Reductant (adj for current actual cost)	\$0.27	\$0.31	lb
Cement (adj for current actual cost)	\$0.16	\$0.16	pound
Bentonite Tubes (adj for current actual cost)	\$6.00	\$6.00	tube
Salt (adj for current actual cost)	\$61.00	\$61.00	ton
Plug Gel (adj for current actual cost)	\$6.30	\$6.30	sack
Well Cap (adj for current actual cost)	\$6.00	\$6.25	each
Hydrochloric Acid (adj for current actual cost)	\$0.61	\$0.79	gallon
Analytical Costs			
Guideline 8 (contract lab adjusted for current contract cost)	\$200.00	\$200.00	analysis
6 parameter (in-house) Est Rate (CPI)	\$48.50	\$49.73	analysis
Other (radon, bio, etc.) Est Rate (CPI)	\$849.91	\$871.42	month
Spare Parts			
Restoration spare parts estimate	2005 Rate \$17,877.22	2006 Est Rate (CPI) \$18,329.57	year

CPI Escalators (CPI-U, U.S. City Average)	
1988 CPI (average)	118.3
March 2004 CPI (deep well estimate)	187.4
2004 CPI (June 2004 used in last update)	189.7
Current CPI (June 2005)	194.5
2006 Escalation Factor	1.025



Crow Butte Resources, Inc.  
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Master Cost Basis

<i>Equipment</i>	<b>Equipment Costs</b>					
	<u>Base Rental Rate (\$/hr)</u>	<u>Labor Costs (\$/hr)</u>	<u>Repair Reserve Costs (\$/hr)</u>	<u>Fuel Costs (\$/hr)</u>	<u>Mob. &amp; Demob (\$/hr)</u>	<u>Total (\$/hr)</u>
Cat 924G Loader	\$23.00	\$15.94	\$3.00	\$7.88	inc.	\$49.81
Cat 416 Backhoe	\$13.00	\$15.94	\$2.50	\$6.75	inc.	\$38.19
Shredder	\$12.00			inc	inc	\$12.00
Cat D8N Bulldozer	\$86.00	\$15.94	\$12.00	\$22.50	inc.	\$136.44
Pulling Unit	\$42.00	inc	inc	inc	inc	\$42.00
Mixing Unit	\$12.00			inc	inc	\$12.00
Drill Rig	\$110.00	inc	inc	inc	inc	\$110.00
Basis:						
Cat 924G, 416 and D8N rental rates from Nebraska Machinery (Aug '05); others estimated.						
Repair Reserve costs based on from Nebraska Machinery (Aug '05).						
Current diesel usage from from Nebraska Machinery (Aug '05), with current (Sep 1, '05) costs for off-road fuel:				\$2.250	gallon	
Labor rates based on current operator labor rate						

<b>Pipe Volumes</b>			
<u>Nominal Pipe Size</u>	<u>Wall Thickness (in.)</u>	<u>Pipe OD (in.)</u>	<u>Volume per foot (ft<sup>3</sup>/ft)</u>
3/8-inch O2 hose		0.37500	0.03130
2-inch Sch. 40 downhole	0.15400	2.37500	0.00740
1-1/4-inch Sch. 40 stinger	0.14000	1.66000	0.00440
2-inch SDR 13.5 inj & prod.	0.14815	2.29630	0.00690
4-inch SDR 35	0.11430	4.22860	0.01030
6-inch Sch. 40 process pipe	0.28000	6.56000	0.03840
6-inch Trunkline	0.49100	6.56600	0.06510
8-inch Trunkline	0.63900	8.54800	0.11030
10-inch Trunkline	0.79600	10.65400	0.17120
12-inch Trunkline	0.94400	12.63700	0.24080

Crew Butte Resources, Inc.  
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Master Cost Basis

Pipe Removal and Shredding Costs				
Activity	Removal Rate (ft/min-day)	Shredding Rate (ft/min- day)	Labor Rate (day)	Activity Cost per foot
2-inch SDR 13.5 inj & prod. Removal	225		\$131	\$0.581
2-inch SDR 13.5 inj & prod. Shredding		1920	\$131	\$0.068
Trunkline Removal	100		\$131	\$1.307
Trunkline Shredding		100	\$131	\$1.307
Downhole Pipe Removal	2000		\$131	\$0.065
Downhole Pipe Shredding		2250	\$131	\$0.058
Downhole Hose Removal	1000		\$131	\$0.131
Waste and RO Building Pipeline Removal	67		\$131	\$1.960
Waste and RO Building Pipeline Shredding		1500	\$131	\$0.087

Waste Disposal Costs							
Waste Form	Fee		Density Correction Factor (Tons/Yd3)	Fee per Cubic Yard	Transport Cost	Total Transportation and Disposal	
Soil, Bulk Byproduct Material	\$100.00	per Ton	0.54	\$54.00	\$80.00	per Yd3	\$134.00 per Yd3
Unpackaged Bulk Byproduct Material (e.g., pipe, equipment)	\$125.00	per Ton	0.42	\$52.50	\$80.00	per Yd3	\$132.50 per Yd3
Solid Waste (landfill)	\$0.00925	per Lb			Incl.	per Lb	\$0.00925 per Lb
Solid Waste (landfill)	\$370.00	per Load			Incl.	per Load	\$370.00 per Load
Void Factor (for disposal)	1.25						

Crow Butte Resources, Inc.  
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Master Cost Basis

Plant Dismantling							
Plant Components:	Number	Units	Estimated Disposal Volume	Units	Activity	Unit	1988 Cost
Contaminated Tanks	28	each	19.3	Ft3 each	Dismantle interior steel, tanks, piping and electrical:		\$ 366,600
Uncontaminated Tanks	8	each	19.3	Ft3 each	Dismantle Plant Building		\$ 443,800
Pumps	30	each	5	Ft3 each			
Downhole Pumps	608	each	0.5	Ft3 each	Concrete floor removal rate	8/ft2	\$2.72
Contaminated Piping	4125	feet	See estimate by piping size and material				
Uncontaminated Piping	4125	feet					
Filters	4	each	100	Ft3 each			
Dryer	2	each	400	Ft3 each			
Average PVC Pipe Diameter (inches)	6						

Plant Decontamination						
Direct Dispose Plant Floor Area	5450	ft2	Decon Solution (HCl) Floor Application Rate		2	gal/ft2
Uncontaminated Plant Floor Area	7000	ft2				
Decontaminated Plant Floor Area*	18146	ft2				
Average concrete thickness	0.5	ft				
Plant Wall Area*	25332	ft2	Decon Solution (HCl) Wall Application Rate		1	gal/ft2
* Increases to account for planned drum storage area to be built in 2004 - 2005						