POWER RESOURCES

Smith Ranch - Highland Uranium Project
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June 29, 2007

Addressee only
Mr. Gary Janosko, Chief FCLB
Fuel Cycle Facilities Branch, NMSS
Mail Stop T-8A33
U.S. Nuclear Regulatory Commission
Washington D.C. 20555

RE: Smith Ranch-Highland Uranium Project
Docket No. 40-8964, SUA-1548
2006-2007 Surety Estimate Revision

Dear Mr. Janosko:

Please find attached a copy of Power Resources Inc., surety estimate revisions for the period of July 1, 2007 to June 30, 2008 for the Smith Ranch (State Mining Permit 633) and Highland (State Mining Permit 603) sites; NRC Licenses No. SUA 1548. Supporting documentation addressing Flare Factors and Pour Volume justifications is also provided as an attached report. Below is a brief summary of the changes to both surety estimates.

SMITH RANCH
2007-2008 Surety Estimate Revision

The 2007-2008 Smith Ranch Surety Estimate was revised to follow the WDEQ-LQD standardized bond format and, where applicable, the cost estimates provided in WDEQ-LQD Guideline No. 12. At the request of the NRC, PRI has revised the Surety Estimate calculations to include a number of different line item changes. First, a recurring spreadsheet has been added to identify costs that are used throughout the Surety Estimate. In this spreadsheet a column was included to identify sources for individual line item costs. As one would expect a large number of the costs sources are based on operating experience and costs. For a large number of the cost items operating experience or costs is not only the best justifications of a given costs but often the only source of information to generate an input values for the surety estimate.

Additional topic specific spreadsheets were also added in the estimate for the same function to identify line item justification of the values used in the Surety estimate. These spreadsheets include: UC-LINER, UC-WFBLDGS, UC-AW, UC-FLARE and UC-PV. All the newly developed supporting spreadsheets list values used in at least one of the main surety Estimate spreadsheets. In addition to these newly developed spreadsheets, the reference document supporting current flair factors and pour volumes values used in the estimate is included.

One of the primary differences in the 2007-2008 Surety is that values used throughout the spreadsheets have been updated to reflect current dollars, thus eliminating the need to apply the Consumer Price Index (CPI) escalator to the final values. The previous Surety's utilized the CPI escalator dating back to 1998. The cumulating percent increase over the past eight years was significant (24%). Therefore it is not unexpected that even after updating the input values to current dollars that the overall Surety amount would decrease.

The current Surety Estimate is $19,405,200.00 which is $1,930,400 less than the Surety Estimate submitted at the end of June 2006. As with all annual Surety Estimate revisions, input data represents updated information for activities over the past year (second half 2006 and first half 2007) as well as projected activities for the up coming year (second half 2007 and first half 2008). The primary updated input values represent continued development activities in MU 15, K & 15A. Future input data represents anticipated activities in MU 15A, K, 9 and the general development of PRI's South West development area including a new Satellite (SR-2).

HIGHLAND
2007-2008 Surety Estimate Revision

The 2007-2008 Highland Surety Estimate was revised to follow the WDEQ-LQD standardized bond format and, where applicable, the cost estimates provided in WDEQ-LQD Guideline No. 12. At the request of the NRC, PRI has revised the Surety Estimate calculations to include a number of different line item changes. First, a recurring spreadsheet has been added to identify costs that are used throughout the Surety Estimate. In this spreadsheet a column was included to identify sources for individual line item costs. As one would expect a large number of the costs sources are based on operating experience and costs. For a large number of the cost items operating experience or costs is not only the best justifications of a given costs but often the only source of information to generate an input values for the surety estimate.

Additional topic specific spreadsheets were also added in the estimate for the same function to identify line item justification of the values used in the Surety estimate. These spreadsheets include: UC-LINER, UC-WFBLDGS, UC-AW, UC-FLARE and UC-PV. All the newly developed supporting spreadsheets list values used in at least one of the main Surety Estimate spreadsheets. In addition to these newly developed spreadsheets, the reference document supporting current flair factors and pour volumes values used in the estimate is included.

One of the primary differences like that of the 2007-2008 Smith Ranch Surety is that values used throughout the spreadsheets have been updated to reflect current dollars, thus eliminating the need to apply the Consumer Price Index (CPI) escalator to the final values. The previous Surety's utilized the CPI escalator dating back to 1998. The cumulating percent increase over the

past eight years was significant (24%). Therefore it is not unexpected that even after updating the input values to current dollars that the overall Surety amount would decrease.

The current Surety Estimate is $19,367,600.00 which is $3,129,500 less than the Surety Estimate submitted at the end of July 2006. As with all annual Surety Estimate revisions, input data represents updated information for activities over the past year (second half 2006 and first half 2007) as well as projected activities for the up coming year (second half 2007 and first half 2008). The primary updated input values represent continued development activities in MU J. Future input data represents anticipated activities in MU J & MU JA.

PRI representatives are available to meet with your staff to assist with their review of this submittal. If you or your staff has any questions, please call me at (307) 358-6541 ext. 46.

Sincerely,

John McCarthy
Manager, Environmental, Health
& Safety (EHS)

Cc: S.P. Collings w/atta
C. Foldenauer w/atta
File 4.6.4.1
R. Townley w/o atta
L. Spackman, WDEQ/LQD

POWER RESOURCES INC HIGHLAND URANIUM PROJECT
2006-2007 SURETY ESTIMATE REVISION

Total Restoration and Reclamation Cost Estimate		
I.	GROUNDWATER RESTORATION COST	$9,122,444
II.	EQUIPMENT REMOVAL & DISPOSAL COST	$138,111
III.	BUILDING DEMOLITION AND DISPOSAL COST	$1,741,239
IV.	WELLFIELD BUILDINGS & EQUIPMENT REMOVAL & DISPOSAL COST	$1,786,264
V.	WELL ABANDONMENT COST	$1,698,078
VI.	WELLFIELD AND SATELLITE SURFACE RECLAMATION COST	$263,283
VII.	TOTAL MISCELLANEOUS RECLAMATION COST	$744,644
	SUBTOTAL RECLAMATION AND RESTORATION COST ESTIMATE	$15,494,063
	ADMINISTRATIVE, OVERHEAD, AND CONTINGENCY ITEMS (25%)	$3,873,516
	TOTAL	$19,367,578
	TOTAL CALCULATED SURETY (IN 2006 DOLLARS)	**$19,367,600**

RECURRING COST

	Item	Amount ($)	Units	Cost Basis
ELECTRICAL AND UTILITY	Power Cost (current actual costs)	$0.048	kw/hr	*Cost of electricity from current contract - Pacific Power and Light*
	Kilowatt to Horsepower	$0.176	kw/hp	
	Horsepower per gpm	$0.167	hp/gpm	
	Per 1000 gallons pumped	$0.600	per 1000 gal	
	Cost per Month (Central Plant and Main Office)	$0	unit	
	Cost per Month (Satellite 1)	$1,050	unit	
	Cost per Month (Satellite 2)	$1,190	unit	
	Cost per Month (Satellite 3)	$1,675	unit	
	Propane cost per month (Satellite 1 and 2)	$680	unit	
	Propane cost per month (Satellite 3)	$1,160	unit	
	Natural Gas cost per month (Satellite 2)	$520	unit	
LABOR RATES				
	Operator	$136.34	day	*Labor costs from current in-field charges paid by PRI*
	Environmental Manager	$100,000	year	
	Environmental Technician	$80,000	year	
	Maintenance Technician	$34,000	year	
CHEMICAL				
	Reductant	$0.30	per 1000 lb	*Chemical costs from current PRI vendor purchase agreements*
	Cement	$7.62	sack	
	Plug Gel	$6.45	sack	
	Hydrochloric Acid	$0.1375	lb	
	Elution Unit Chemical Cost	$900	unit	
ANALYTICAL				
	Guideline 8	$200	batch	*Analytical costs from current contract with Energy Labs, Casper, Wyoming*
	6 Parameters	$70	batch	
	Irrigation Fluid	$121	sample	
	Vegetation Samples	$121	sample	
	Soils	$174	sample	
	Soil Water Samples	$121	sample	
	Other In-House (Radon, Biological, Soils, etc.)	$50	batch	*In-house estimate for material and labor*
SPARE PARTS				
	Restoration Spare Parts	$20,000	year	*Costs for spare parts from operator experience*
TRANSPORTATION AND DISPOSAL				
	11 e2 Material Transport	$1.33	cubic yard	*Costs for Transportation and disposal from current contracts with NRC Licensed Facility*
	11 e2 Material Disposal	$11.00	cubic yard	*and actual costs from transport contract*
	Soil/Solid Waste Transport	$1.33	cubic yard	*Costs for Transportation and disposal from current contracts with NRC Licensed Facility*
	Soil/Solid Waste Disposal	$3.70	cubic yard	*and actual costs from transport contract*
	Soil/Solid Waste (non-contam., on-site)	$1.25	cubic yard	*In-house estimate based on material cost and labor*
VEHICLE OPERATION				
	Unit Cost	$20.21	unit	*Cost per WDEQ Guideline 12*
PLANT DISMANTLING				
	Concrete Footer Demolition	$12.22	cubic foot	*Costs per WDEQ Guideline 12, App. K*
	Concrete Floor Demolition	$3.40	cubic foot	
PLANT DECONTAMINATION AND DISPOSAL				
	Direct Disposal Plant Floor	$1.25	cubic yard	*Costs for Transportation and disposal from current contracts with NRC Licensed Facility*
	Solution (HCL) Application Rate	$0.57	square foot	*In-house estimate based on actual material cost*
PIPE REMOVAL				
	2-inch SDR 13.5 inj. & prod. Removal	$0.91	foot	*Costs for pipe removal from operator experience*
	Trunkline Removal	$0.43	foot	*Includes labor and equipment*
EQUIPMENT				
	Cat Trackhoe	$1,125	week	*Costs for equipment rental from Wyoming Machinery, Casper, Wyoming. All inclusive (labor, repairs, fuel, and Mob)*
	Shredder	$50,000		*Equipment owned by PRI*
	Cat Motor Grader	$814.22	acre	*Costs per WDEQ Guideline 12, App. 11*
	Drill Rig	$110.00	hour	*Costs for equipment from operator experience*
	Hose Reel	$45.00	hour	*Costs for equipment from operator experience*
	Cementer	$45.00	hour	*Costs for equipment from operator experience*
	Dozer	$814.22	acre	*Costs per WDEQ Guideline 12, App. 11*
	Scraper	$814.22	acre	*Costs per WDEQ Guideline 12, App. 11*
	Pulling Reel	$45.00	hour	*Costs for equipment from operator experience*
	Manlift	$8,900.00	month	*Costs for equipment from operator experience*
	Belly Dump	$100.00	hour	*Costs for equipment from operator experience*
RECLAMATION				
	Discing and Seeding	$280	acre	*Operator Experience based on Current Contractor Pricing*
	Top Soil Application	$0.71	acre	*Costs per WDEQ Guideline 12, App. 11*
MIT				
	Mechanical Integrity Testing	$188.17	well	*Operator Experience based on Current Contractor Pricing*

Ground Water Restoration	Mine Unit-A	Mine Unit-B	Mine Unit-C	C-19N Pattern	C-Haul. Drifts	Mine Unit-D	Mine Unit-E	Mine Unit-F	Mine Unit-H	Mine Unit-D Ext.	Mine Unit-I	Mine Unit-J	Mine Unit-JA
PV Assumptions													
Wellfield Area (ft2)	151900	690900	1274000	32500		279500	994500	3348000	1116000	216000	891231	1200000	400000
Wellfield Area (acres)	3.49	15.86	29.25	0.75	0.00	6.42	22.83	76.86	25.62	4.96	20.46	27.55	9.18
Affected Ore Zone Area (ft2)	151900	690900	1274000	32500	0	279500	994500	3348000	1116000	216000	891231	1200000	400000
Avg. Completed Thickness	15	15	15	15		15	15	15	15	15	15	20	20
Porosity	0.27	0.27	0.27	0.27		0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
Perimeter Injection Wells/ ft2			2.05E-04			2.54E-04	2.63E-04	2.00E-04	2.43E-04	2.45E-04	2.55E-04	2.55E-04	2.55E-04
Flare Factor	2.94	2.94	2	2		2.5	2.6	2	2.4	2.5	2.5	2.5	2.5
Affected Volume (ft3)	6698790	30468690	38220000	975000	1360000	10481250	38785500	100440000	40176000	8100000	33421163	60000000	20000000
Kgallons per Pore Volume	13529	61535	77189	1969	10173	21168	78331	202849	81139	16359	67497	121176	40392
Number of Patterns in Unit(s)													
Current	31	141	196	5	0	43	153	465	155	30	124	120	0
Estimated next report period	0	0	0	0	0	0	0	0	0	0	0	0	40
Total Estimated	31	141	196	5	0	43	153	465	155	30	124	120	40
Number of Wells in Unit(s)													
Production Wells													
Current	27	141	190			43	119	459	154	30	125	118	0
Estimated next report period	0	0	0			0	0	0	0	0	0	0	40
Total Estimated	27	141	190			43	119	459	154	30	125	118	40
Injection Wells													
Current	50	319	343			74	212	873	316	67	236	240	0
Estimated next report period	0	0	0	Wells		0	0	0	0	0	0	0	80
Total Estimated	50	319	343	included		74	212	873	316	67	236	240	80
Monitor Wells				under									
Current	18	67	78	C-Wellfield		38	86	134	81	20	39	57	0
Estimated next report period	0	0	0			0	0	0	0	0	0	0	30
Total Estimated	18	67	78			38	86	134	81	20	39	57	30
Restoration Wells													
Current	13	30	19			0	0	15	0	0	0	0	0
Estimated next report period	0	0	0			0	0	0	0	0	0	0	0
Total Estimated	13	30	19					15	0	0	0	0	0
Number of Wells per Wellfield	108	557	630	0	0	155	417	1481	551	117	400	415	150
Total Number of Wells	3899												
Average Well Depth (ft)	500	450	550	550	550	600	550	650	500	600	650	540	540
I. **Restoration Well Installation Costs**													
Number of Restoration Wells	0	0	0	0	0	0	0	0	0	0	0	0	0
Well Installation Unit Cost ($/Well)	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000
Subtotal Restoration Well Installation Costs per Wellfield	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Restoration Well Installation Costs	$0												

Ground Water Restoration	Mine Unit-A	Mine Unit-B	Mine Unit-C	C-19N Pattern	C-Haul. Drifts	Mine Unit-D	Mine Unit-E	Mine Unit-F	Mine Unit-H	Mine Unit-D Ext.	Mine Unit-I	Mine Unit-J	Mine Unit-JA
II. Ground Water Sweep Costs													
PV's Required	0	1	1	1	1	1	1	1	1	1	1	1	1
Total Kgals for Treatment	0	61535	77189	1969	10173	21168	78331	202849	81139	16359	67497	121176	40392
Ground Water Sweep Unit Cost ($/Kgal)	$1.35	$1.35	$1.35	$1.35	$1.35	$1.35	$1.35	$1.35	$1.35	$1.35	$1.35	$1.35	$1.35
Subtotal Ground Water Sweep Costs per Wellfield	$0	$83,109	$104,252	$2,659	$13,739	$28,589	$105,794	$273,967	$109,587	$22,094	$91,162	$163,660	$54,553
Total Ground Water Sweep Costs	**$1,053,165**												
III. Reverse Osmosis Costs													
PV's Required	3	3	3	3	3	3	3	3	3	3	3	3	3
Total Kgals for Treatment	40587	184604	231567	5907	30518	63504	234994	608546	243418	49076	202492	363528	121176
Reverse Osmosis Unit Cost ($/Kgal)	$0.96	$0.96	$0.96	$0.96	$0.96	$0.96	$0.96	$0.96	$0.96	$0.96	$0.96	$0.96	$0.96
Subtotal Reverse Osmosis Costs per Wellfield	$38,795	$176,454	$221,345	$5,647	$29,171	$60,700	$224,620	$581,682	$232,673	$46,910	$193,553	$347,480	$115,827
Total Reverse Osmosis Costs	**$2,274,857**												
IV. Bioremediation/Chemical Reductant Costs													
Total Kgals for Treatment (2 Pore Volumes)	0	123069	154378	3938	20346	42336	156662	405697	162279	32718	134995	242352	80784
Chemical Reductant Unit Cost ($/Kgal)	$0.30	$0.30	$0.30	$0.30	$0.30	$0.30	$0.30	$0.30	$0.30	$0.30	$0.30	$0.30	$0.30
Subtotal Chemical Reductant Costs per Wellfield	$0	$36,921	$46,313	$1,181	$6,104	$12,701	$46,999	$121,709	$48,684	$9,815	$40,498	$72,706	$24,235
Total Chemical Reductant Costs	**$467,866**												
V. Elution Costs													
A. Elution Processing Costs													
Kgals/Elution Required	35000	35000	35000	35000	35000	35000	35000	35000	35000	35000	35000	35000	35000
Number of Elutions	1	7	9	1	1	2	9	23	9	2	8	14	5
Processing Unit Cost ($/Elution)	$900	$900	$900	$900	$900	$900	$900	$900	$900	$900	$900	$900	$900
Subtotal Processing Costs	$900	$6,300	$8,100	$900	$900	$1,800	$8,100	$20,700	$8,100	$1,800	$7,200	$12,600	$4,500
B. Deep Well Injection Costs													
Deep Well Injection Volume (Kgals/Elution)	12	12	12	12	12	12	12	12	12	12	12	12	12
Total Kgals for Injection	12	84	108	12	12	24	108	276	108	24	96	168	60
Deep Well Injection Unit Cost ($/Kgals)	$4.22	$4.22	$4.22	$4.22	$4.22	$4.22	$4.22	$4.22	$4.22	$4.22	$4.22	$4.22	$4.22
Subtotal Deep Well Injection Costs	$51	$355	$456	$51	$51	$101	$456	$1,166	$456	$101	$406	$710	$253
Subtotal Elution Costs per Wellfield	$951	$6,655	$8,556	$951	$951	$1,901	$8,556	$21,866	$8,556	$1,901	$7,606	$13,310	$4,753
Total Elution Costs	**$86,513**												
VI. Monitoring and Sampling Costs													
A. Restoration Well Sampling													
Estimated Restoration Period (Years)	2	2	2	2	2	2	2	2	2	2	2	2	2
1. Well Sampling prior to restoration start													
# of Wells	0	20	31	5	7	9	31	21	12	4	6	6	6
$/sample	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200

Ground Water Restoration	Mine Unit-A	Mine Unit-B	Mine Unit-C	C-19N Pattern	C-Haul. Drifts	Mine Unit-D	Mine Unit-E	Mine Unit-F	Mine Unit-H	Mine Unit-D Ext.	Mine Unit-I	Mine Unit-J	Mine Unit-JA
2 Restoration Progress Sampling													
# of Wells	0	20	31	5	7	9	31	21	12	4	6	12	12
$/sample	$50	$50	$50	$50	$50	$50	$50	$50	$50	$50	$50	$50	$50
Samples/Year	6	6	6	6	6	6	6	6	6	6	6	6	6
3. UCL Sampling													
# of Wells	0	70	78	5	20	29	55	89	69	16	33	69	69
$/sample	$70	$70	$70	$70	$70	$70	$70	$70	$70	$70	$70	$70	$70
Samples/Year	6	6	6	6	6	6	6	6	6	6	6	6	6
Sub-total Restoration Analyses	$0	$74,800	$90,320	$8,200	$22,400	$31,560	$71,000	$91,560	$67,560	$16,640	$32,520	$66,360	$66,360
B. Short-term Stability													
Estimated Stabilization Period (Months)	12	12	12	12	12	12	12	12	12	12	12	12	12
# of Wells	6	56	44	6	2	19	28	89	69	16	33	33	33
Samples/Year	6	6	6	6	6	6	6	6	6	6	6	6	6
$/sample	$50	$50	$50	$50	$50	$50	$50	$50	$50	$50	$50	$50	$50
# of Wells	5	20	31	6	2	9	31	21	12	4	6	6	6
Samples/Year	6	6	6	6	6	6	6	6	6	6	6	6	6
$/sample	$70	$70	$70	$70	$70	$70	$70	$70	$70	$70	$70	$70	$70
# of Wells	5	20	31	6	2	9	31	21	12	4	6	6	6
Samples/Year	2	2	2	2	2	2	2	2	2	2	2	2	2
$/sample	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200
Sub-total Short-term Stability Analyses	$5,900	$33,200	$38,620	$6,720	$2,240	$13,080	$33,820	$43,920	$30,540	$8,080	$14,820	$14,820	$14,820
Subtotal Monitoring and Sampling Costs per Wellfield	$5,900	$108,000	$128,940	$14,920	$24,640	$44,640	$104,820	$135,480	$98,100	$24,720	$47,340	$81,180	$81,180
Total Monitoring and Sampling Costs	**$899,860**												
VII. Mechanical Integrity Test (MIT) Costs													
Five Year MIT Unit Cost ($/well)	$188	$188	$188	$188	$188	$188	$188	$188	$188	$188	$188	$188	$188
Number of Wells (30% of Inj. and Rest. Wells)	0	0	109	0	0	22	64	266	95	20	71	72	24
Subtotal Mechanical Integrity Testing Costs per Wellfield	$0	$0	$20,435	$0	$0	$4,177	$11,967	$50,128	$17,838	$3,782	$13,322	$13,548	$4,516
Total Mechanical Integrity Testing Cost	**$139,713**												
TOTAL RESTORATION COSTS PER WELLFIELD	$45,646	$411,139	$529,841	$25,358	$74,605	$152,708	$502,756	$1,184,832	$515,438	$109,222	$393,481	$691,884	$285,064
TOTAL WELLFIELD RESTORATION COST	**$4,921,974**												
VIII. Building Utility Costs	**Central Plant**	**Main Office**	**Satellite No.1**	**Satellite No.2**	**Satellite No.3**								
Electricity ($/Month)	$0	$0	$1,050	$1,190	$1,675								
Propane ($/Month)	$0	$0	$680	$680	$1,160								
Natural Gas ($/Month)	$0	$0	$0	$520	$0								
Number of Months	0	60	6	48	48								
Subtotal Utility Costs per Building	$0	$0	$10,380	$114,720	$136,080								
Total Building Utility Costs	**$261,180**												

Ground Water Restoration				
IX.	**Irrigation Maintenance and Monitoring Costs**	**Irrigator No.1**	**Irrigator No.2**	
	A Irrigation Maintenance and Repair			
	Irrigation Operation Months/Year	6	6	
	Cost per Month	$667	$667	
	Total Number of Years	5	5	
	Subtotal Maintenance and Repair Costs	$20,010	$20,010	
	B. Irrigation Monitoring and Sampling			
	# of Irrigation Fluid Samples/Year	6	6	
	Cost/sample (Energy Labs - Casper Wyoming)	$121	$121	
	# of Vegetation Samples/Year	4	4	
	Cost/sample (Energy Labs - Casper Wyoming)	$121	$121	
	# of Soil Samples/Year	28	32	
	Cost/sample (Energy Labs - Casper Wyoming)	$174	$174	
	# of Soil Water Samples/Year	12	2	
	Cost/sample (Energy Labs - Casper Wyoming)	$121	$121	
	Total Number of Years	5	5	
	Subtotal Sampling Costs	$37,670	$35,100	
	Subtotal Maintenance and Monitoring Costs per Irrigator	$57,680	$55,110	
	Total Irrigation Maintenance and Monitoring Costs	**$112,790**		
X.	**Capital Costs (RO Purchase)**			
	Purchase/Installation Costs for 1X400 gpm RO Capacity	$600,000		
	Total Capital Costs	**$600,000**		
XI.	**Vehicle Operation Costs**			
	Number of Pickup Trucks/Pulling Units (Gas)	10		
	Unit Cost in $/hr (WDEQ Guideline No 12, Table D-1)	$20.21		
	Average Operating Time (Hrs/Year)	1000		
	Total Number of Years (Average)	5		
	Total Vehicle Operation Costs	**$1,010,500**		
XII.	**Labor Costs**			
	Number of Environmental Managers/RSOs	1		
	$/Year	$100,000		
	Number of Restoration Managers	1		
	$/Year	$80,000		
	Number of Environmental Technicians	2		
	$/Year	$34,000		
	Number of Operators/Laborers	7		
	$/Year	$34,000		
	Number of Maintenance Technicians	2		
	$/Year	$34,000		
	Number of Years	4		
	Total Labor Costs	**$2,216,000**		
TOTAL GROUND WATER RESTORATION COSTS		**$9,122,444**		

Equipment Removal and Loading	Central Plant	Satellite No.1	Satellite No.2	Satellite No.3
I. Removal and Loading Costs				
A. Tankage				
Number of Tanks	26	8	14	18
Volume of Tank Construction Material (ft^3)	1028	162	290	397
1. Labor				
Number of Persons	3	3	3	3
Ft^3/Day	25	25	25	25
Number of Days	41	6	12	16
$/Day/Person	$136	$136	$136	$136
Subtotal Labor Costs	$16,770	$2,454	$4,908	$6,544
2. Equipment				
Number of Days	41	6	12	16
$/Day	$338	$338	$338	$338
Subtotal Equipment Costs	$13,858	$2,028	$4,056	$5,408
Subtotal Tankage Removal and Loading Costs	$30,628	$4,482	$8,964	$11,952
B. PVC Pipe				
PVC Pipe Footage	5000	1000	4000	4000
Average PVC Pipe Diameter (inches)	3	3	3	3
Shredded PVC Pipe Volume Reduction (ft^3/ft)	0.016	0.016	0.016	0.016
Volume of Shredded PVC Pipe (ft^3)	80	16	64	64
1. Labor				
Number of Persons	2	2	2	2
Ft/Day	200	200	200	200
Number of Days	25	5	20	20
$/Day/Person	$136	$136	$136	$136
Subtotal Labor Costs	$6,817	$1,363	$5,454	$5,454
Subtotal PVC Pipe Removal and Loading Costs	$6,817	$1,363	$5,454	$5,454
C. Pumps				
Number of Pumps	50	10	14	13
Average Volume (ft^3/pump)	4.93	4.93	4.93	4.93
Volume of Pumps (ft^3)	246.5	49.3	69.02	64.09
1. Labor				
Number of Persons	1	1	1	1
Pumps/Day	2	2	2	2
Number of Days	25	5	7	7
$/Day/Person	$136	$136	$136	$136
Subtotal Labor Costs	$3,409	$682	$954	$954
Subtotal Pump Removal and Loading Costs	$3,409	$682	$954	$954
D. Dryer				
Dryer Volume (ft^3)	885	0	0	0
1. Labor				
Number of Persons	5	0	0	0
Ft^3/Day	175	0	0	0
Number of Days	5	0	0	0
$/Day/Person	$136	$136	$136	$136
Total Labor Cost	$3,409	$0	$0	$0
Total Dryer Dismantling and Loading Cost	$3,409	$0	$0	$0
E. RO Units				

Equipment Removal and Loading			Central Plant	Satellite No.1	Satellite No.2	Satellite No.3
	Number of RO Units					
		Current	0	3	0	0
		Planned	0	0	1	1
	Average Volume (ft^3/RO Unit)		250	250	250	250
	1. Labor					
		Number of Persons	2	2	2	2
		Number of Days	0	1.5	0.5	0.5
		$/Day/Person	$136	$136	$136	$136
	Subtotal Labor Costs		$0	$409	$136	$136
Subtotal RO Unit Removal and Loading Costs			$0	$409	$136	$136
Subtotal Equipment Removal and Loading Costs per Facility			$44,263	$6,936	$15,509	$18,497
Total Equipment Removal and Loading Costs			**$85,204**			
II. Transportation and Disposal Costs (NRC-Licensed Facility)						
A. Tankage						
	Volume of Tank Construction Material (ft^3)		1028	162	290	397
	Volume for Disposal Assuming 10% Void Space (ft^3)		1131	178	319	436
	Transportation and Disposal Unit Cost ($/$ft^3$)		$12.33	$12.33	$12.33	$12.33
	Subtotal Tankage Transportation and Disposal Costs		$13,945	$2,195	$3,933	$5,376
B. PVC Pipe						
	Volume of Shredded PVC Pipe (ft^3)		80	16	64	64
	Volume for Disposal Assuming 10% Void Space (ft^3)		88	18	70	70
	Transportation and Disposal Unit Cost ($/$ft^3$)		$12.33	$12.33	$12.33	$12.33
	Subtotal PVC Pipe Transportation and Disposal Costs		$1,085	$222	$863	$863
C. Pumps						
	Volume of Pumps (ft^3)		246.5	49.3	69.02	64.09
	Volume for Disposal Assuming 10% Void Space (ft^3)		271	54	76	70
	Transportation and Disposal Unit Cost ($/$ft^3$)		$12.33	$12.33	$12.33	$12.33
	Subtotal Pump Transportation and Disposal Costs		$3,341	$666	$937	$863
D. Dryer						
	Dryer Volume (ft^3)		885	0	0	0
	Volume for Disposal Assuming Dryer Remains Intact (ft^3)		885	0	0	0
	Transportation and Disposal Unit Cost ($/$ft^3$)		$12.33	$12.33	$12.33	$12.33
	Total Dryer Transportation and Disposal Costs		$10,912	$0	$0	$0
E RO Units						
	Volume of RO Units (ft^3)		0	750	250	250
	Volume for Disposal Assuming 50% Volume Reduction (ft^3)		0	375	125	125
	Transportation and Disposal Unit Cost ($/$ft^3$)		$12.33	$12.33	$12.33	$12.33
	Subtotal RO Unit Transportation and Disposal Costs		$0	$4,624	$1,541	$1,541
Subtotal Equipment Transportation and Disposal Costs per Facility			$29,283	$7,707	$7,274	$8,643
Total Equipment Transportation and Disposal Costs			**$52,907**			
III. Health and Safety Costs						
	Radiation Safety Equipment	Accounted for on BLDGS workbook, Section IV	$0	$0	$0	$0
Total Health and Safety Costs			**$0**			
SUBTOTAL EQUIPMENT REMOVAL AND DISPOSAL COSTS PER FACILITY			$73,546	$14,643	$22,783	$27,140
TOTAL EQUIPMENT REMOVAL AND DISPOSAL COSTS			**$138,111**			

Building Demolition and Disposal	Central Plant	Dryer Building	Satellite No. 1	Satellite No. 2	Satellite No. 3	Sat. No.3 Fab. Shop	Yellow Cake Warehouse	South Warehouse	Suspended Walkway
I. Decontamination Costs									
A. Wall Decontamination									
Area to be Decontaminated (ft^2)	131000	0	0	0	0	0	0	0	0
HCl Acid Wash, including labor ($/$ft^2$)	$0.59	$0.59	$0.59	$0.59	$0.59	$0.59	$0.59	$0.59	$0.59
Subtotal Wall Decontamination Costs	$77,341	$0	$0	$0	$0	$0	$0	$0	$0
B Concrete Floor Decontamination									
Area to be Decontaminated (ft^2)	17820	0	6000	9600	9600	0	0	0	0
HCl Acid Wash, including labor ($/$ft^2$)	$0.21	$0.21	$0.21	$0.21	$0.21	$0.21	$0.21	$0.21	$0.21
Subtotal Concrete Floor Decontamination Costs	$3,708	$0	$1,248	$1,998	$1,998	$0	$0	$0	$0
C Deep Well Injection Costs									
Total Kgals for Injection	131018	0	6	10	10	0	0	0	0
Deep Well Injection Unit Cost ($/Kgals)	$4.22	$4.22	$4.22	$4.22	$4.22	$4.22	$4.22	$4.22	$4.22
Subtotal Deep Well Injection Costs	$553,507	$0	$25	$41	$41	$0	$0	$0	$0
Subtotal Decontamination Costs per Building	$634,556	$0	$1,273	$2,039	$2,039	$0	$0	$0	$0
Total Decontamination Costs	**$640,441**								
II. Demolition Costs									
A Building									
Assumptions:									
Dryer bldg. demolition unit cost of $0.73/$ft^3$ for additional radiation safety equipment									
Volume of Building (ft^3)	794000	30720	192000	320000	320000	37560	91000	333000	5600
Demolition Unit Cost per WDEQ Guideline No 12,App.K ($/$ft^3$)	$0.178	$0.178	$0.178	$0.178	$0.178	$0.178	$0.178	$0.178	$0.178
Subtotal Building Demolition Costs	$141,332	$5,468	$34,176	$56,960	$56,960	$6,686	$16,198	$59,274	$997
B. Concrete Floor									
Area of Concrete Floor (ft^2)	23760	0	8000	12800	12800	0	6500	18000	0
Demolition Unit Cost per WDEQ Guideline No.12,App K ($/$ft^2$)	$3.40	$3.40	$3.40	$3.40	$3.40	$3.40	$3.40	$3.40	$3.40
Unit Cost in $/$ft^2$ (July 1998 dollars w/o escalator)	$2.95	$2.95	$2.95	$2.95	$2.95	$2.95	$2.95	$2.95	$2.95
Subtotal Concrete Floor Demolition Costs	$70,186	$0	$23,632	$37,811	$37,811	$0	$19,201	$53,171	$0
C Concrete Footing									
Length of Concrete Footing (ft)	622	0	360	480	480	0	360	580	0
Demolition Unit Cost per WDEQ Guide No 12,App K ($/lin ft)	$11.45	$11.45	$11.45	$11.45	$11.45	$11.45	$11.45	$11.45	$11.45
Unit Cost in $/lin ft (July 1998 dollars w/o escalator)	$9.95	$9.95	$9.95	$9.95	$9.95	$9.95	$9.95	$9.95	$9.95
Subtotal Concrete Footing Demolition Costs	$6,188	$0	$3,581	$4,775	$4,775	$0	$3,581	$5,770	$0
Subtotal Demolition Costs per Building	$217,706	$5,468	$61,389	$99,546	$99,546	$6,686	$38,980	$118,215	$997
Total Demolition Costs	**$789,095**								
III. Disposal Costs									
A Building									
Volume of Building (cy)	29407	1138	7111	11852	11852	1391	3370	12333	207
1 On-Site									
Assumptions:									
On-site disposal cost of $1.25/cy									
Percentage (%)	100	0	100	100	100	100	100	100	100
Volume for Disposal (cubic yards)	29407	0	7111	11852	11852	1391	3370	12333	207
Disposal Unit Cost ($/cy)	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25
Subtotal On-Site Disposal Costs	$36,759	$0	$8,889	$14,815	$14,815	$1,739	$4,213	$15,417	$259
2 NRC-Licensed Facility									
Percentage (%)	0	100	0	0	0	0	0	0	0
Volume for Disposal (ft^3)	0	2624	0	0	0	0	0	0	0
Volume for Disposal Assuming 10% Void Space (ft^3)	0	2886	0	0	0	0	0	0	0
Transportation and Disposal Unit Cost ($/$ft^3$)	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33
Subtotal NRC-Licensed Facility Disposal Costs	$0	$35,584	$0	$0	$0	$0	$0	$0	$0
Subtotal Building Disposal Costs	$36,759	$35,584	$8,889	$14,815	$14,815	$1,739	$4,213	$15,417	$259
B. Concrete Floor									
Area of Concrete Floor (ft^2)	23760	0	8000	12800	12800	0	6500	18000	0

Building Demolition and Disposal	Central Plant	Dryer Building	Satellite No. 1	Satellite No. 2	Satellite No. 3	Sat. No.3 Fab. Shop	Yellow Cake Warehouse	South Warehouse	Suspended Walkway
Average Thickness of Concrete Floor (ft)	0.75	0	0.67	0.67	0.67	0	0.5	0.5	0
Volume of Concrete Floor (ft^3)	17820	0	5360	8576	8576	0	3250	9000	0
Volume of Concrete Floor (cy)	660	0	199	318	318	0	120	333	0
1. On-Site									
Percentage (%)	75	0	75	75	75	0	100	100	0
Volume for Disposal (cy)	495	0	149	238	238	0	120	333	0
Disposal Unit Cost per WDEQ Guideline No 12,App.K ($/cy)	$4.69	$4.69	$4.69	$4.69	$4.69	$4.69	$4.69	$4.69	$4.69
Unit Cost in $/cy (July 1998 dollars w/o escalator)	$4.07	$4.07	$4.07	$4.07	$4.07	$4.07	$4.07	$4.07	$4.07
Subtotal On-Site Disposal Costs	$2,017	$0	$607	$971	$971	$0	$490	$1,358	$0
2. NRC-Licensed Facility									
Assumptions:									
Additional $2.00/$ft^3$ for segregation of concrete									
Percentage (%)	25	0	25	25	25	0	0	0	0
Volume for Disposal (ft^3)	4455	0	1340	2144	2144	0	0	0	0
Segregation and Loading Unit Cost ($/$ft^3$)	$2.00	$2.00	$2.00	$2.00	$2.00	$2.00	$2.00	$2.00	$2.00
Transportation and Disposal Unit Cost ($/$ft^3$)	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33
Subtotal NRC-Licensed Facility Disposal Costs	$63,840	$0	$19,202	$30,724	$30,724	$0	$0	$0	$0
Subtotal Concrete Floor Disposal Costs	$65,857	$0	$19,809	$31,695	$31,695	$0	$490	$1,358	$0
C. Concrete Footing									
Length of Concrete Footing (ft)	622	0	360	480	480	0	360	580	0
Average Depth of Concrete Footing (ft)	4	4	4	4	4	4	4	4	0
Average Width of Concrete Footing (ft)	1	1	1	1	1	1	1	1	0
Volume of Concrete Footing (ft^3)	2488	0	1440	1920	1920	0	1440	2320	0
Volume of Concrete Footing (cy)	92	0	53	71	71	0	53	86	0
Disposal Unit Cost per WDEQ Guideline No.12,App K ($/cy)	$4.69	$4.69	$4.69	$4.69	$4.69	$4.69	$4.69	$4.69	$4.69
Unit Cost in $/cy (July 1998 dollars w/o escalator)	$4.07	$4.07	$4.07	$4.07	$4.07	$4.07	$4.07	$4.07	$4.07
Subtotal Concrete Footing Disposal Costs	$375	$0	$217	$290	$290	$0	$217	$350	$0
Subtotal Disposal Costs per Building	$102,991	$35,584	$28,915	$46,800	$46,800	$1,739	$4,920	$17,125	$259
Total Disposal Costs	**$301,093**								
IV. Health and Safety Costs									
Radiation Safety Equipment RSO removed per item cost and generated	$0	$0	$0	$0	$0	$0	$0	$0	$0
one lump sum cost! Estimated based on operating experience	**$10,610**								
Total Health and Safety Costs									
SUBTOTAL BUILDING DEMOLITION AND DISPOSAL COSTS	$955,253	$41,052	$91,577	$148,385	$148,385	$8,425	$43,900	$135,340	$1,256
TOTAL BUILDING DEMOLITION AND DISPOSAL COSTS	**$1,741,239**								

Building Demolition and Disposal	Changehouse and Lab Bldg.	Maintenance Building	Main Office	Office Trailers	Process/Fire Water Bldg.	Potable Water Bldg.	Potable Water Tank Slab	Central Plant Tank Slabs
I. Decontamination Costs								
A Wall Decontamination								
Area to be Decontaminated (ft^2)	0	0	0	0	0	0	0	0
HCl Acid Wash, including labor ($/$ft^2$)	$0.59	$0.59	$0.59	$0.59	$0.59	$0.59	$0.59	$0.59
Subtotal Wall Decontamination Costs	$0	$0	$0	$0	$0	$0	$0	$0
B. Concrete Floor Decontamination								
Area to be Decontaminated (ft^2)	0	0	0	0	0	0	0	0
HCl Acid Wash, including labor ($/$ft^2$)	$0.21	$0.21	$0.21	$0.21	$0.21	$0.21	$0.21	$0.21
Subtotal Concrete Floor Decontamination Costs	$0	$0	$0	$0	$0	$0	$0	$0
C. Deep Well Injection Costs								
Total Kgals for Injection	0	0	0	0	0	0	0	0
Deep Well Injection Unit Cost ($/Kgals)	$4.22	$4.22	$4.22	$4.22	$4.22	$4.22	$4.22	$4.22
Subtotal Deep Well Injection Costs	$0	$0	$0	$0	$0	$0	$0	$0
Subtotal Decontamination Costs per Building	$0	$0	$0	$0	$0	$0	$0	$0
Total Decontamination Costs								
II. Demolition Costs								
A. Building								
Assumptions:								
Dryer bldg. demolition unit cost of $0.73/$ft^3$ for additional radiation safety equipment								
Volume of Building (ft^3)	73000	27000	72000	20000	16500	6300	0	0
Demolition Unit Cost per WDEQ Guideline No 12,App.K ($/$ft^3$)	$0.178	$0.178	$0.178	$0.178	$0.178	$0.178	$0.178	$0.178
Subtotal Building Demolition Costs	$12,994	$4,806	$12,816	$3,560	$2,937	$1,121	$0	$0
B. Concrete Floor								
Area of Concrete Floor (ft^2)	5400	2100	6000	0	800	180	1256	7854
Demolition Unit Cost per WDEQ Guideline No 12,App K ($/$ft^2$)	$3.40	$3.40	$3.40	$3.40	$3.40	$3.40	$3.40	$3.40
Unit Cost in $/$ft^2$ (July 1998 dollars w/o escalator)	$2.95	$2.95	$2.95	$2.95	$2.95	$2.95	$2.95	$2.95
Subtotal Concrete Floor Demolition Costs	$15,951	$6,203	$17,724	$0	$2,363	$532	$3,710	$23,200
C Concrete Footing								
Length of Concrete Footing (ft)	300	200	340	0	120	54	0	0
Demolition Unit Cost per WDEQ Guide. No.12,App K ($/lin. ft)	$11.45	$11.45	$11.45	$11.45	$11.45	$11.45	$11.45	$11.45
Unit Cost in $/lin ft (July 1998 dollars w/o escalator)	$9.95	$9.95	$9.95	$9.95	$9.95	$9.95	$9.95	$9.95
Subtotal Concrete Footing Demolition Costs	$2,984	$1,990	$3,382	$0	$1,194	$537	$0	$0
Subtotal Demolition Costs per Building	$31,929	$12,999	$33,922	$3,560	$6,494	$2,190	$3,710	$23,200
Total Demolition Costs								
III. Disposal Costs								
A Building								
Volume of Building (cy)	2704	1000	2667	741	611	233	0	0
1. On-Site								
Assumptions.								
On-site disposal cost of $1.25/cy								
Percentage (%)	100	100	100	100	100	100	0	0
Volume for Disposal (cubic yards)	2704	1000	2667	741	611	233	0	0
Disposal Unit Cost ($/cy)	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25
Subtotal On-Site Disposal Costs	$3,380	$1,250	$3,333	$926	$764	$292	$0	$0
2. NRC-Licensed Facility								
Percentage (%)	0	0	0	0	0	0	0	0
Volume for Disposal (ft^3)	0	0	0	0	0	0	0	0
Volume for Disposal Assuming 10% Void Space (ft^3)	0	0	0	0	0	0	0	0
Transportation and Disposal Unit Cost ($/$ft^3$)	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33
Subtotal NRC-Licensed Facility Disposal Costs	$0	$0	$0	$0	$0	$0	$0	$0
Subtotal Building Disposal Costs	$3,380	$1,250	$3,333	$926	$764	$292	$0	$0
B. Concrete Floor								
Area of Concrete Floor (ft^2)	5400	2100	6000	0	800	180	1256	7854

Building Demolition and Disposal	Changehouse and Lab Bldg.	Maintenance Building	Main Office	Office Trailers	Process/Fire Water Bldg.	Potable Water Bldg.	Potable Water Tank Slab	Central Plant Tank Slabs
Average Thickness of Concrete Floor (ft)	0.5	0.5	0.5	0	0.5	0.5	1	1
Volume of Concrete Floor (ft^3)	2700	1050	3000	0	400	90	1256	7854
Volume of Concrete Floor (cy)	100	39	111	0	15	3	47	291
1. On-Site								
Percentage (%)	100	100	100	0	100	100	100	100
Volume for Disposal (cy)	100	39	111	0	15	3	47	291
Disposal Unit Cost per WDEQ Guideline No.12,App.K ($/cy)	$4.69	$4.69	$4.69	$4.69	$4.69	$4.69	$4.69	$4.69
Unit Cost in $/cy (July 1998 dollars w/o escalator)	$4.07	$4.07	$4.07	$4.07	$4.07	$4.07	$4.07	$4.07
Subtotal On-Site Disposal Costs	$407	$158	$453	$0	$60	$14	$190	$1,185
2 NRC-Licensed Facility								
Assumptions:								
Additional $2.00/$ft^3$ for segregation of concrete								
Percentage (%)	0	0	0	0	0	0	0	0
Volume for Disposal (ft^3)	0	0	0	0	0	0	0	0
Segregation and Loading Unit Cost ($/$ft^3$)	$2.00	$2.00	$2.00	$2.00	$2.00	$2.00	$2.00	$2.00
Transportation and Disposal Unit Cost ($/$ft^3$)	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33
Subtotal NRC-Licensed Facility Disposal Costs	$0	$0	$0	$0	$0	$0	$0	$0
Subtotal Concrete Floor Disposal Costs	$407	$158	$453	$0	$60	$14	$190	$1,185
C. Concrete Footing								
Length of Concrete Footing (ft)	300	200	340	0	120	54	0	0
Average Depth of Concrete Footing (ft)	4	4	4	0	4	4	4	4
Average Width of Concrete Footing (ft)	1	1	1	0	1	1	1	1
Volume of Concrete Footing (ft^3)	1200	800	1360	0	480	216	0	0
Volume of Concrete Footing (cy)	44	30	50	0	18	8	0	0
Disposal Unit Cost per WDEQ Guideline No 12,App.K ($/cy)	$4.69	$4.69	$4.69	$4.69	$4.69	$4.69	$4.69	$4.69
Unit Cost in $/cy (July 1998 dollars w/o escalator)	$4.07	$4.07	$4.07	$4.07	$4.07	$4.07	$4.07	$4.07
Subtotal Concrete Footing Disposal Costs	$181	$121	$205	$0	$72	$33	$0	$0
Subtotal Disposal Costs per Building	$3,968	$1,529	$3,991	$926	$896	$339	$190	$1,185
Total Disposal Costs								
IV. Health and Safety Costs								
Radiation Safety Equipment RSO removed per item cost and generated	$0	$0	$0	$0	$0	$0	$0	$0
one lump sum cost! Estimated based on operating experience								
Total Health and Safety Costs								
SUBTOTAL BUILDING DEMOLITION AND DISPOSAL COSTS	$35,897	$14,528	$37,913	$4,486	$7,390	$2,529	$3,900	$24,385
TOTAL BUILDING DEMOLITION AND DISPOSAL COSTS								

Wellfield Buildings and Equipment Removal and Disposal	Mine Unit-A	Mine Unit-B	Mine Unit-C	Mine Unit-D	Mine Unit-E	Mine Unit-F	Mine Unit-H	Mine Unit-D Ext.	Mine Unit-I	Mine Unit-J	Mine Unit-JA
I. Wellfield Piping											
Assumptions:											
Number of Header Houses per Wellfield	5	18	20	4	15	43	10	3	6	7	2
Length of Piping per Header House (ft)	15000	15000	15000	15000	15000	15000	15000	15000	15000	12500	15000
Total Length of Piping (ft)	75000	270000	300000	60000	225000	645000	150000	45000	90000	87500	30000
A. Removal and Loading											
Wellfield Piping Removal Unit Cost ($/ft of pipe)	$0.42	$0.42	$0.42	$0.42	$0.42	$0.42	$0.42	$0.42	$0.42	$0.42	$0.42
Subtotal Wellfield Piping Removal and Loading Costs	$31,500	$113,400	$126,000	$25,200	$94,500	$270,900	$63,000	$18,900	$37,800	$36,750	$12,600
B. Transport and Disposal Costs (NRC-Licensed Facility)											
Average Diameter of Piping (inches)	2	2	2	2	2	2	2	2	2	2	2
Chipped Volume Reduction (ft^3/ft)	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Chipped Volume per Wellfield (ft^3)	375	1350	1500	300	1125	3225	750	225	450	437.5	150
Volume for Disposal Assuming 10% Void Space (ft^3)	413	1485	1650	330	1238	3548	825	248	495	481	165
Transportation and Disposal Unit Cost ($/$ft^3$)	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33
Subtotal Wellfield Piping Transport and Disposal Costs	$5,092	$18,310	$20,345	$4,069	$15,265	$43,747	$10,172	$3,058	$6,103	$5,931	$2,034
Wellfield Piping Costs per Wellfield	$36,592	$131,710	$146,345	$29,269	$109,765	$314,647	$73,172	$21,958	$43,903	$42,681	$14,634
C. Capitol Costs											
PVC Pipe Shredder	$50,000										
BFI Containers (2@$7,800.00 each) (Operator Owned)	$15,600										
Total Wellfield Piping Costs	**$1,014,676**										
II. Well Pumps and Tubing											
Assumptions:											
Pump and tubing removal costs included under ground water restoration labor costs											
60% of production/injection wells contain pumps and/or tubing											
A. Pump and Tubing Transportation and Disposal											
Number of Production Wells	27	141	190	43	119	459	154	30	125	122	40
Number of Injection Wells	50	319	343	74	212	873	316	67	236	234	80
1. Pump Volume											
Number of Production Wells with Pumps	16	85	114	26	71	275	92	18	75	73	24
Average Pump Volume (ft^3)	1	1	1	1	1	1	1	1	1	1	1
Pump Volume per Wellfield (ft^3)	16	85	114	26	71	275	92	18	75	73	24
2. Tubing Volume											
Assumptions:											
Average tubing length/wellfield based on average well depth minus 25 ft											
Number of Production Wells with Tubing	16	85	114	26	71	275	92	18	75	73	24
Number of Injection Wells with Tubing	30	191	206	44	127	524	190	40	142	140	48
Average Tubing Length per Well (ft)	475	425	525	575	525	625	475	575	625	515	515
Tubing Length per Wellfield (ft)	21850	117300	168000	40250	103950	499375	133950	33350	135625	109695	37080
Diameter of Production Well Fiberglass Tubing (inches)	2	2	2	2	2	2	2	2	2	2	2
Diameter of Injection Well HDPE Tubing (inches)	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
Chipped Volume Reduction (ft^3/ft)	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Chipped Volume per Wellfield (ft^3)	109	587	840	201	520	2497	670	167	678	548	185
Volume of Pump and Tubing (ft^3)	125	672	954	227	591	2772	762	185	753	621	209
Volume for Disposal Assuming 10% Void Space (ft^3)	138	739	1049	250	650	3049	838	204	828	683	230
Transportation and Disposal Unit Cost ($/$ft^3$)	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33
Subtotal Pump and Tubing Transport and Disposal Costs	$1,702	$9,112	$12,934	$3,083	$8,015	$37,594	$10,333	$2,515	$10,209	$8,421	$2,836
Pump and Tubing Costs per Wellfield	$1,702	$9,112	$12,934	$3,083	$8,015	$37,594	$10,333	$2,515	$10,209	$8,421	$2,836
Total Pump and Tubing Costs	**$106,754**										
III. Buried Trunkline	A/B-Wellfields			D/E-Wellfields							
Assumptions:											
A/B-Wellfields use the same trunkline											
D/E-Wellfields use the same trunkline											
Length of Trunkline Trench (ft)	6500		5900	12000		11700	13200	5500	10750	2500	0
A. Removal and Loading											
Main Pipeline Removal Unit Cost ($/ft of trench)	$0.84		$0.84	$0.84		$0.84	$0.84	$0.84	$0.84	$0.84	$0.84
Subtotal Trunkline Removal and Loading Costs	$5,460		$4,956	$10,080		$9,828	$11,088	$4,620	$9,030	$2,100	$0
B. Transport and Disposal Costs (NRC-Licensed Facility)											
1. 3" HDPE Trunkline											
Piping Length (ft)	6500		5900	12000		11700	13200	5500	10750	0	0
Chipped Volume Reduction (ft^3/ft)	0.022		0.022	0.022		0.022	0.022	0.022	0.022	0.022	0.022
Chipped Volume (ft^3)	143		129.8	264		257.4	290.4	121	236.5	0	0
2. 6" HDPE Trunkline											
Piping Length (ft)	0		0	0		0	0	11000	3000	0	0
Chipped Volume Reduction (ft^3/ft)	0.078		0.078	0.078		0.078	0.078	0.078	0.078	0.078	0.078
Chipped Volume (ft^3)	0		0	0		0	0	858	234	0	0
3. 10" HDPE Trunkline											
Piping Length (ft)	13000		0	0		0	0	0	750	2000	0

Wellfield Buildings and Equipment Removal and Disposal	Mine Unit-A	Mine Unit-B	Mine Unit-C	Mine Unit-D	Mine Unit-E	Mine Unit-F	Mine Unit-H	Mine Unit-D Ext.	Mine Unit-I	Mine Unit-J	Mine Unit-JA
Chipped Volume Reduction (ft^3/ft)	0.277		0.277	0.277		0.277	0.277	0.277	0.277	0.277	0.277
Chipped Volume (ft^3)	3601		0	0		0	0	0	207.75	554	0
4. 12" HDPE Trunkline											
Piping Length (ft)	0		11800	24000		0	0	0	0	2000	0
Chipped Volume Reduction (ft^3/ft)	0.293		0.293	0.293		0.293	0.293	0.293	0.293	0.293	0.293
Chipped Volume (ft^3)	0		3457.4	7032		0	0	0	0	586	0
5. 14" HDPE Trunkline											
Piping Length (ft)	0		0	0		23400	26400	0	8500	0	0
Chipped Volume Reduction (ft^3/ft)	0.359		0.359	0.359		0.359	0.359	0.359	0.359	0.359	0.359
Chipped Volume (ft^3)	0		0	0		8400.6	9477.6	0	3051.5	0	0
6. 18" HDPE Trunkline											
Piping Length (ft)	0	0	0	0	0	0	0	0	0	0	0
Chipped Volume Reduction (ft^3/ft)	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47
Chipped Volume (ft^3)	0	0	0	0	0	0	0	0	0	0	0
Total Trunkline Chipped Volume (ft^3)	3744	0	3587.2	7296		8658	9768	979	3729.75	1140	0
Volume for Disposal Assuming 10% Void Space (ft^3)	4118		3946	8026		9524	10745	1077	4103	1254	0
Transportation and Disposal Unit Cost ($/$ft^3$)	$12.33		$12.33	$12.33		$12.33	$12.33	$12.33	$12.33	$12.33	$12.33
Subtotal Trunkline Transport and Disposal Costs	$50,775		$48,654	$98,961		$117,431	$132,486	$13,279	$50,590	$15,462	$0
Trunkline Decommissioning Costs per Wellfield	$56,235		$53,610	$109,041		$127,259	$143,574	$17,899	$59,620	$17,562	$0
Total Trunkline Decommissioning Costs	**$584,800**										
IV. Well Houses											
Total Quantity	90	490	552	117	331	1347	470	97	361	213	72
Average Well House Volume (ft^3)	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86
A. Removal											
Total Volume (ft^3)	167.4	911.4	1026.72	217.62	615.66	2505.42	874.2	180.42	671.46	396.18	133.92
Demolition Unit Cost per WDEQ Guideline No 12,App K ($/$ft^3$)	$0.171	$0.171	$0.171	$0.171	$0.171	$0.171	$0.171	$0.171	$0.171	$0.171	$0.171
Subtotal Well House Demolition Costs	$29	$156	$176	$37	$105	$428	$149	$31	$115	$68	$23
B. Survey and Decontamination											
Assumptions											
Cost per Well House	$3.97	$3.97	$3.97	$3.97	$3.97	$3.97	$3.97	$3.97	$3.97	$3.97	$3.97
Subtotal Survey and Decontamination Costs	$357	$1,945	$2,192	$465	$1,314	$5,348	$1,866	$385	$1,433	$846	$286
C. Disposal											
Total Volume (cy)	6	34	38	8	23	93	32	7	25	15	5
Volume for Disposal Assuming 10% Void Space (cy)	7	37	42	9	25	102	36	7	27	16	5
Transportation and Disposal Unit Cost ($/$ft^3$)	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33
Subtotal On-Site Disposal Costs	$86	$456	$518	$111	$308	$1,258	$444	$86	$333	$197	$62
Well House Removal and Disposal Costs per Wellfield	$472	$2,557	$2,886	$613	$1,727	$7,034	$2,459	$502	$1,881	$1,111	$371
Total Well House Removal and Disposal Costs	**$21,613**										
VI. Header Houses											
Total Quantity	5	18	20	4	15	43	10	3	6	9	2
Average Header House Volume (ft^3)	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
A. Removal											
Total Volume (ft^3)	62.5	225	250	50	187.5	537.5	125	37.5	75	112.5	25
Demolition Unit Cost per WDEQ Guideline No 12,App.K ($/$ft^3$)	$0.178	$0.178	$0.178	$0.178	$0.178	$0.178	$0.178	$0.178	$0.178	$0.178	$0.178
Subtotal Building Demolition Costs	$11	$40	$45	$9	$33	$96	$22	$7	$13	$20	$4
B. Survey and Decontamination											
Assumptions:											
Cost per Header House	$312	$312	$312	$312	$312	$312	$312	$312	$312	$312	$312
Subtotal Survey and Decontamination Costs	$1,558	$5,610	$6,233	$1,247	$4,675	$13,401	$3,116	$935	$1,870	$2,805	$623
C. Disposal											
Total Volume (cy)	2	8	9	2	7	20	5	1	3	4	1
Volume for Disposal Assuming 10% Void Space (cy)	3	9	10	2	8	22	5	2	3	5	1
Disposal Unit Cost per WDEQ Guideline No 12,App.K ($/cy)	$6.39	$6.39	$6.39	$6.39	$6.39	$6.39	$6.39	$6.39	$6.39	$6.39	$6.39
Subtotal On-Site Disposal Costs	$19	$58	$64	$13	$51	$141	$32	$13	$19	$32	$6
Header House Removal and Disposal Costs per Wellfield	$1,588	$5,708	$6,341	$1,269	$4,759	$13,637	$3,170	$954	$1,903	$2,857	$634
Total Header House Removal and Disposal Costs	**$42,821**										
TOTAL REMOVAL AND DISPOSAL COSTS PER WELLFIELD	$96,590	$149,087	$222,116	$143,275	$124,267	$500,171	$232,708	$43,829	$117,515	$72,632	$18,474
TOTAL WELLFIELD BUILDINGS AND EQUIPMENT REMOVAL AND DISPOSAL COSTS	**$1,786,264**										

Well Abandonment		Mine Unit-A	Mine Unit-B	Mine Unit-C	Mine Unit-D	Mine Unit-E	Mine Unit-F	Mine Unit-H	Mine Unit-D Ext.	Mine Unit-I	Mine Unit-J	Mine Unit-JA
I.	**Well Abandonment (Wellfields)**											
	# of Production Wells	0	141	190	43	119	459	154	30	125	120	40
	# of Injection Wells	0	319	343	74	212	873	316	67	236	240	80
	# of Monitoring Wells	0	67	78	38	86	134	81	20	39	41	10
	#of Restoration Wells	0	30	19	0	0	15	0	0	0	0	0
	Total Number of Wells	0	557	630	155	417	1481	551	117	400	401	130
	Average Diameter of Casing (inches)	5	5	5	5	5	5	5	5	5	5	4.5
	Average Depth (ft)	500	450	550	600	550	650	500	600	650	540	500
	Well Abandonment Unit Cost ($/well)	$339	$333	$344	$349	$344	$355	$339	$349	$355	$344	$339
	Subtotal Abandonment Cost per Wellfield	$0	$185,687	$216,701	$54,137	$143,435	$525,118	$186,607	$40,865	$141,828	$137,932	$44,027
	Total Wellfield Abandonment Costs	**$1,676,337**										
II.	**Waste Disposal Well Abandonment**	**Morton No.1-20**	**Vollman No.33-27**	(Construction not anticipated)								
	A. Well Plugging											
	Drill Rig Operation ($/hr)	150	0									
	Number of Hours	31	0									
	Drill Rig Operating Costs	$4,650	$0									
	Cementing Costs	$7,500	$0									
	Equipment Transport Costs	$1,000	$0									
	Well Cap Welding Costs	$1,000	$0									
	Brine Makeup and Injection Costs	$1,500	$0									
	Subtotal Well Plugging Costs per Well	$15,650	$0									
	B. Pump Dismantling and Decontamination											
	Number of Persons	2	0									
	Number of Pumps	2	0									
	Pumps/Day	0.5	0									
	Number of Days	4	0									
	$/Day/Person	$136	$0									
	Subtotal Dismantling and Decon Costs per Well	$1,091	$0									
	C Tubing String Disposal (NRC-Licensed Facility)											
	Length of Tubing String (ft)	9000	0									
	Diameter of Tubing String (inches)	2.875	0									
	Volume of Tubing String (ft^3)	406	0									
	Transportation and Disposal Unit Cost ($/$ft^3$)	$12.33	$0.00									
	Subtotal Tubing String Disposal Costs per Well	$5,000	$0									
	Subtotal Waste Disposal Well Abandonment Costs per Well	$21,741	$0									
	Total Waste Disposal Well Abandonment Costs	**$21,741**										
TOTAL WELL ABANDONMENT COSTS		**$1,698,078**										

Wellfield and Satellite Surface Reclamation	Mine Unit-A/B	Mine Unit-C	Mine Unit-D	Mine Unit-E	Mine Unit-F	Mine Unit-H	Mine Unit-D Ext.	Mine Unit-I	Mine Unit-J	Mine Unit-JA
I. Wellfield Pattern Area Reclamation										
Pattern Area (acres)	20	31	6 5	23	77	26	5	21	28	0
Disking/Seeding Unit Cost ($/acre)	$280	$280	$280	$280	$280	$280	$280	$280	$280	$280
Subtotal Pattern Area Reclamation Costs per Wellfield	$5,600	$8,680	$1,820	$6,440	$21,560	$7,280	$1,400	$5,880	$7,840	$0
Total Wellfield Pattern Area Reclamation Costs	**$66,500**									
II. Wellfield Road Reclamation										
A. Road Construction Before January 1, 1997										
Length of Wellfield Roads (1000 ft)	12.2	11.3	2.4	13.3	15	0	0	0	0	0
Wellfield Road Reclamation Unit Cost ($/1000 ft)	$828	$828	$828	$828	$828	$828	$828	$828	$828	$828
Subtotal Pre-1997 Wellfield Road Reclamation Costs	$10,102	$9,356	$1,987	$11,012	$12,420	$0	$0	$0	$0	$0
B Road Construction After January 1, 1997										
Length of Wellfield Roads (1000 ft)	0.6	0	0	0	3	15.7	5	5	5	1
Wellfield Road Reclamation Unit Cost ($/1000 ft)	$426	$426	$426	$426	$426	$426	$426	$426	$426	$426
Subtotal Post-1997 Wellfield Road Reclamation Costs	$256	$0	$0	$0	$1,278	$6,688	$2,130	$2,130	$2,130	$426
Subtotal Road Reclamation Costs per Wellfield	$10,358	$9,356	$1,987	$11,012	$13,698	$6,688	$2,130	$2,130	$2,130	$426
Total Wellfield Road Reclamation Costs	**$59,915**									
SUBTOTAL SURFACE RECLAMATION COSTS PER WELLFIELD	$15,958	$18,036	$3,807	$17,452	$35,258	$13,968	$3,530	$8,010	$9,970	$426
TOTAL WELLFIELD SURFACE RECLAMATION COSTS	**$126,415**									
III. Satellite Area Reclamation	**Satellite No.1**	**Satellite No.2**	**Satellite No.3**							
Assumptions:										
Area of Disturbance (acres)	1	1	1							
Average Depth of Stripped Topsoil (ft)	1	0.67	0.67							
Surface Grade: Level Ground										
Average Length of Topsoil Haul (ft)	1000	500	500							
A. Ripping Overburden with Dozer										
Ripping Unit Cost per WDEQ Guideline No 12, App.H ($/acre)	$814.22	$814.22	$814.22							
Subtotal Ripping Costs	$814 00	$814.00	$814							
B Topsoil Application with Scraper										
Volume of Topsoil Removed (cy)	1613	1081	1081							
Application Unit Cost per WDEQ Guideline No.12, App.C ($/cy)	$0.71	$0 71	$0.71							
Subtotal Topsoil Application Costs	$1,145	$767	$767							
C. Discing and Seeding										
Discing/Seeding Unit Cost ($/acre)	$0	$280	$280							
Subtotal Discing/Seeding Costs	$0	$280	$280							
Subtotal Surface Reclamation Costs per Satellite	$1,959	$1,861	$1,861							
Total Satellite Building Area Reclamation Costs	**$5,681**									
IV Surface Reclamation										
A. Removal and disposal of contaminated soil around wells										
Volume of contaminated soil (C.37 yd3 per injection and production well - estimate)	199	197	43	122	493	174	36	134	132	44
Disposal of contaminated soil ($/yd3) (As per Byproduct Materal contract)	$12 33	$12.33	$12.33	$12 33	$12.33	$12 33	$12.33	$12 33	$12.33	$12 33
Equipment (Backhoe $65/hr)	$6,457 43	$6,409.33	$1,406.93	$3,980 28	$16,017.30	$5,651 75	$1,166.43	$4,341.03	$4,304.95	$1,443 00
Labor (1 man-hour ($17.hr) per 2 Yd3 - estimate)	$1,688.87	$1,676 29	$367 97	$1,041.00	$4,189 14	$1,478 15	$305.07	$1,135.35	$1,125.91	$377 40
Subtotal removal and disposal of contaminated soil	8,158.62	8,097 94	1,787.22	5,033.60	20,218.77	7,142 23	1,483.82	5,488.70	5,443.19	1,832.73
Total	64,686 82									
B Recontour and seeding										
Recontour and seeding (est $280/acre)	$280 00	$280.00	$280 00	$280 00	$280.00	$280.00	$280 00	$280.00	$280 00	$280 00
Subtotal Recontour and Seeding	5600	8680	1820	6440	21560	7280	1400	5880	7840	0
Total	66500									
Total Surface Reclamation	131,186 82									
TOTAL WELLFIELD AND SATELLITE SURFACE RECLAMATION COSTS	**$263,283**									

Miscellaneous Reclamation									
I.	**CPF/Office Area Reclamation**								
	Assumptions								
		Concrete, asphalt, and building material used to backfill low areas							
		No topsoil salvaged or applied (area is pre-law)							
		CPF/Office area = 10 acres							
	A.	Ripping and Hauling Asphalt							
		Assumptions							
			Average haul distance (ft)				500		
			Surface grade (%)				0%		
			Average Thickness of Asphalt (ft)				0.5		
		Surface Area (acres)					3.4		
		Ripping Unit Cost per WDEQ Guideline No.12, App.I ($/acre)					$474.92		
		Volume of Asphalt (cy)					2743		
		Hauling Unit Cost per WDEQ Guideline No 12, App.C ($/cy)					$0.60		
		Total Asphalt Ripping and Hauling Cost					$3,260		
	B.	Borrow Cover							
		1.	Topsoil Removal/Replacement						
			Assumptions						
				Surface area of borrow area (acres)			3		
				Six inches of topsoil removed and replaced at borrow area					
			Volume of topsoil (cy)				2420		
			Topsoil Removal/Replacement per WDEQ Guideline No.12, App.C ($/cy)				$1.12		
			Total Topsoil Removal/Replacement Cost				$2,710		
		2.	Borrow Application						
			Assumptions						
				Final borrow cover depth will range from 0 to 4 ft, average = 1 ft					
				Average haul distance = 1000 ft					
				Surface grade (%)			0%		
			Borrow Volume (cy)				16133		
			Borrow Cover Unit Cost per WDEQ Guideline No.12, App.C ($/cy)				$0.70		
			Total Borrow Application Cost				$11,293		
		Total Borrow Cover Cost					$14,003		
	C.	Discing/Seeding							
		Assumptions							
			Includes discing/seeding of borrow area (3 acres)						
		Surface Area (acres)					13		
		Discing/Seeding Unit Cost ($/acre)					$280		
		Total Discing/Seeding Costs					$3,640		
	Total CPF/Office Area Reclamation						**$20,903**		
II.	**Access Road Reclamation**						**CPF/Office Area**	**Sat No. 1**	**Sat No. 3**	**Connecting Road**
	A.	Assumptions								
		CPF/Office Area Road is pre-law (no topsoil applied)								
		Surface grade					5%	0%	0%	0%
		Length of road (miles)					2.5	3	1	2
		Average road width (ft)					25	30	30	30
	B.	Ripping and Hauling Asphalt								
		Assumptions								
			Average haul distance (miles)				1.25	0	0	0
			Average Thickness of Asphalt (ft)				0.5	0	0	0
		Asphalt Surface Area (acres)					7.6	0.0	0.0	0.0
		Ripping Unit Cost per WDEQ Guideline No.12, App.I ($/acre)					$474.92	$474.92	$474.92	$474.92
		Volume of Asphalt (cy)					6111	0	0	0
		Hauling Unit Cost per WDEQ Guideline No.12, App.C ($/cy)					$1.91	$1.91	$1.91	$1.91
		Subtotal Asphalt Ripping and Hauling Costs					$15,270	$0	$0	$0
	B.	Gravel Road Base Removal								
		Assumptions								
			Average haul distance (ft)				0	1000	1000	1000
		Gravel Road Base Width (ft)					0	14	14	14
		Gravel Road Base Area (acres)					0 0	5.1	1.7	3.4
		Average Road Base Depth (ft)					0	0.5	0.5	0.5
		Volume of Road Base (cy)					0	4107	1369	2738
		Removal Unit Cost per WDEQ Guideline No.12, App.C ($/cy)					$0.87	$0.87	$0.87	$0.87
		Subtotal Gravel Road Base Removal Costs					$0	$3,573	$1,191	$2,382
	C.	Ripping Overburden with Dozer								
		Overburden Surface Area (acres)					0.0	10.9	3.6	7.3
		Ripping Unit Cost per WDEQ Guideline No.12, App.II ($/acre)					$814.22	$814.22	$814.22	$814.22
		Subtotal Ripping Overburden Costs					$0	$8,882	$2,961	$5,922
	D.	Topsoil Application								
		Assumptions								
			Average haul distance (ft)				0	5000	1500	1500

Miscellaneous Reclamation						
Topsoil Surface Area (ft^2)			0	475200	158400	316800
Depth of Topsoil (ft)			0	0.5	0.5	0.5
Volume of Topsoil (cy)			0	8800	2933	5867
Topsoil Unit Cost per WDEQ Guideline No.12, App.C ($/cy)			$0.71	$0.71	$0.71	$0.71
Subtotal Topsoil Application Costs			$0	$6,248	$2,083	$4,165
E. Discing/Seeding						
Assumptions						
Surface Area (acres)			7.6	10.9	3.6	7.3
Discing/Seeding Unit Cost ($/acre)			$280	$280	$280	$280
Subtotal Discing/Seeding Costs			$2,121	$3,055	$1,018	$2,036
Subtotal Reclamation Costs per Access Road			$17,391	$21,758	$7,253	$14,505
Total Access Road Reclamation Costs			**$60,907**			
III. Wastewater Pipeline Reclamation			**SAT2 to SAT1 WW Pipeline**	**SAT3 to SAT2 PSR**	**H-WF Rest. Bypass**	
A. Pipeline Removal and Loading						
Length of HDPE Pipe Trench (ft)			24000	22000	2200	
Main Pipeline Removal Unit Cost ($/ft of trench)			$0.42	$0.42	$0.42	
Subtotal Pipeline Removal Costs			$10,080	$9,240	$924	
B. Pipeline Transportation and Disposal (NRC-Licensed Facility)						
Pipe Diameter (inches)			3	4	3	
Chipped Volume Reduction (ft^3/ft)			0.022	0.032	0.022	
Subtotal Volume of Shredded PVC Pipe (ft^3)			528	704	48.4	
Transportation and Disposal Unit Cost ($/ft^3)			$12.33	$12.33	$12.33	
Subtotal Pipeline Disposal Costs			$6,510	$8,680	$597	
C. Discing/Seeding						
Assumptions:						
Width of Pipeline Trench (ft)			10	10	8	
Area of Pipeline Trench (acres)			5.5	5.1	0.4	
Discing/Seeding Unit Cost ($/acre)			$280	$280	$280	
Subtotal Discing/Seeding Costs			$1,543	$1,414	$113	
Subtotal Reclamation Costs per Pipeline			$18,133	$19,334	$1,634	
Total Wastewater Pipeline Reclamation Costs			**$39,101**			
IV. Radium Settling Basin Reclamation			**E. Radium Pond**	**W. Radium Pond**		
A. Soil Sampling and Monitoring						
Number of Soil Samples			10	10		
$/Sample			$50	$50		
Subtotal Soil Sampling and Monitoring Costs			$500	$500		
C. Grade and Contour						
Volume of Embankment Material (CY)			6,400	6,400		
Average Grade (%)			0	0		
Distance (ft)			50	50		
Material Moving Unit Cost per WDEQ Guideline No.12, App.E ($/cy)			$0.092	$0.092		
Subtotal Grade and Contour Costs			$589	$589		
C. Topsoil Application						
Assumptions:						
Area of surface disturbance (ft^2)			37500	37500		
Average thickness of topsoil (ft)			1	1		
Average haul distance (ft)			2000	2000		
Surface grade (%)			0%	0%		
Volume of Topsoil (cy)			1,389	1,389		
Topsoil Unit Cost per WDEQ Guideline No.12, App.C ($/cy)			$0.71	$0.71		
Subtotal Topsoil Application Costs			$986	$986		
D. Discing/Seeding						
Assumptions:						
Area of surface disturbance (acres)			1	1		
Discing/Seeding Unit Cost ($/acre)			$280	$280		
Subtotal Discing/Seeding Costs			$280	$280		
Subtotal Reclamation Costs per Radium Pond			$2,355	$2,355		
Total Radium Settling Basin Reclamation Costs			**$4,710**			
V. Purge Storage Reservoir Reclamation			**PSR-1**	**PSR-2**		
A. Soil Sampling and Analysis Costs			$3,000	$3,000		
B. Leachate Collection System Removal Costs			$5,000	$0		
C. Topsoil/Subsoil Application						
Assumptions:						
Average haul distance (ft)			1000	150		
Surface grade (%)			0%	0%		
Volume of Topsoil/Subsoil (cy)			83000	74000		
Topsoil/Subsoil Unit Cost per WDEQ Guideline No.12, App.C ($/cy)			$0.71	$0.71		
Topsoil/Subsoil Unit Cost per WDEQ Guideline No 12, App.E ($/cy)			$0.194	$0.194		
Unit Cost in $/cy (July 1998 dollars w/o escalator)			$0.17	$0.17		

Miscellaneous Reclamation						
		Subtotal Topsoil/Subsoil Application Costs per Reservoir	$72,920	$65,013		
	D.	Discing/Seeding				
		Surface Area (acres)	6	32		
		Discing/Seeding Unit Cost ($/acre)	$280	$280		
		Subtotal Discing/Seeding Costs	$1,680	$8,960		
	Subtotal Reclamation Costs per Reservoir		$82,600	$76,973		
	Total Purge Storage Reservoir Reclamation Costs		**$159,573**			
VI.	**Irrigation Area Reclamation**		**Irrigator No. 1A**	**Irrigator No. 2**		
	A.	Irrigation Equipment Removal Costs	$2,000	$2,000		
	B.	Plowing				
		Assumptions:				
		Plowing Unit Cost ($/acre)	$30	$30		
		Irrigation Area (acres)	55	116		
		Number of Cultivations	2	2		
		Subtotal Plowing Costs	$3,300	$6,960		
	C.	Discing/Seeding				
		Discing/Seeding Unit Cost ($/acre)	$280	$280		
		Subtotal Discing/Seeding Costs	$15,400	$32,480		
	Subtotal Reclamation Costs per Irrigation Area		$20,700	$41,440		
	Total Irrigation Area Reclamation Costs		**$62,140**			
VII.	**Drilling Fluid Storage Cell Reclamation**					
		Assumptions:				
		Each cell is 100 ft (width) by 100 ft (length) by 10 ft (depth)				
		Volume of each cell, discounting side slopes (cy)	3704			
		Surface area disturbance associated with each cell (acres)	1			
		Average haul distance (ft)	500			
		Surface grade (%)	0			
	A.	Topsoil/Subsoil Application				
		Topsoil/Subsoil Unit Cost per WDEQ Guideline No.12, App.C ($/cy)	$0.71			
		Topsoil/Subsoil Application Costs per Storage Cell	$2,630			
	B.	Discing/Seeding				
		Discing/Seeding Unit Cost ($/acre)	$280			
		Subtotal Discing/Seeding Costs	$280			
	Subtotal Reclamation Costs per Storage Cell		$2,910			
	Total Number of Storage Cells		5			
	Total Drilling Fluid Storage Cell Reclamation Costs		**$14,550**			
VIII.	**Revegetation of Exxon Reclaimed Lands**					
		Assumptions:				
		Reseeding potential areas of erosion ($/acre)	$280			
		Surface Area (acres)	217			
	Total Exxon Reclaimed Lands Revegetation Costs		**$60,760**			
IX.	**Potential Mitigation Plan For Irrigator No.1A (Requested by WDEQ-LQD)**					
		Assumptions:				
		Harvesting grass for 2 years will further reduce Se levels in vegetation				
		Harvest grass for 2 years @ $2000/year.	$4,000			
		Analyze Se in grass for 2 years @$165/sample X 4 samples X 2 yrs.	$1,320			
		Analyze Se in soil for 2 years @$174/sample X 28 samples X 2 yrs.	$9,744			
		Add 1 ft. of Se free water to 58 acre irrigation area @ cost of $6000.	$6,000			
		If desired, plow, disk and reseed area with alfalfa @ cost of $4400.	$4,400			
	Total Potential Mitigation Plan Costs- Call $30,000		**$30,000**			
X.	**Potential Mitigation Plan For Irrigator No.2 (Requested by WDEQ-LQD)**					
		Assumptions:				
		Harvesting grass for 2 years will further reduce Se levels in vegetation.				
		Harvest grass for 2 years @ $4000/year.	$8,000			
		Analyze Se in grass for 2 years @$165/sample X 4 samples X 2 yrs.	$1,320			
		Analyze Se in soil for 2 years @$174/sample X 32 samples X 2 yrs.	$11,136			
		Add 1 ft. of Se free water to 116 acre irrigation area @ cost of $12000.	$12,000			
		If desired, plow, disk and reseed area with alfalfa @ cost of $8800.	$8,800			
	Total Potential Mitigation Plan Costs- Call $42,000		**$42,000**			
XI.	**Potential Mitigation Plan for Shallow Well Casing Leak Investigation**					
		Assumptions:				
		Investigation and potential mitigation plan as of June 2002.				
		Assume cost of $250,000.				
	Total Preliminary Cost		**$250,000**			
TOTAL MISCELLANEOUS RECLAMATION COSTS			**$744,644**			

CLAY LINER REMOVAL AND LOADING						
Clay Liner Removal and Loading Cost						
	Labor =	17	per hour			Based on current labor rates
	Trackhoe =	$ 1,125.00	per week or	$ 28.13	per hour	All Inclusive, based on current rental rates
	Belly Dump with Operator =	$ 100.00	per hour			Based on current contractor pricing
	Belly Dump Size =	20	cubic yards			
	Disposal Rate =	40	yards/hour			Estimate based on experience
	TOTAL REMOVAL AND LOADING	**$ 3.63**	**per cubic yard**			

WELLFIELD BUILDING REMOVAL AND DEMO				
Cost per Well Head Cover				
	Env. Scanner =	17	per hour	Based on current labor rates
	Operator =	17	per hour	Based on current labor rates
	Total Wellhead Covers =	2300		
	HCl 35% Cost =	$ 0.137	per pound	Based on current Univar costs for bulk HCl - April 2007
	Acid Usage Rate =	4.1	pounds per wellhead cover	Estimate based on experience
	Acid Unit Cost =	$ 0.56	per wellhead cover	
	Total Labor Rate =	$ 39.70	per hour	
	Cleaning Rate	10	wellheads per hour	Estimate based on experience
	Survey / Decon.	**$ 3.97**	**per wellhead cover**	
Cost per Header House				
	Env. Scanner =	17	per hour	Based on current labor rates
	Operator =	17	per hour	Based on current labor rates
	Number of Operators =	2		Based on experience
	HCl 35% Cost =	$ 0.137	per pound	Based on current Univar costs for bulk HCl - April 2007
	Acid Usage Rate =	20	pounds per header house	Estimate
	Acid Unit Cost =	$ 2.74	per header house	
	Total Labor Rate =	$ 311.64	per hour	
	Cleaning Rate	1	header house per day	Estimate based on experience
	Survey / Decon.	**$ 311.64**	**per header house**	

ACID WASH								
Current acid cost is $275/ ton or .1375per lb.								
Commercial Concentrated acid is 37%								
Assume a 10% wash solution the price of the wash solution is $.012 per gallon								
Assume that .25 gallon of acid wash is used per sq ft. to clean walls.								
Assume that 1 gallon of acid wash is used per sq ft. to clean floors.								
Using the square footage supplied in the bond the following assumptions were used to								
generate the cost per square ft multiplier.								
Using the CPP IX and Plant square footages the assumption is as follows								
Acid Wash (Walls)								
Labor	2	Men		Bond CPP IX and CPP sq. footage				
Rate	$17	hr.						
Time	20	8hr. Days						
Man Lift Rental	$8,900.00	Month						
Labor Cost per sq. ft.	$0.54							
Acid	$0.003							
Consumables	$0.05							
Total	$0.59							
Acid Wash (Floors)								
Labor	2	Men		Bond CPP IX and CPP sq. footage				
Rate	$17	hr.						
Time	15	8hr. Days						
Labor Cost per sq. ft.	$0.15							
Acid	$0.01							
Consumables	$0.05							
Total	$0.21							

RADIUM TREATMENT			
Assumptions:			
1.	Based on actual 1998 operating costs from Satellite No. 2		
Radium Treatment Costs per 1000 Gallons			
	Chemical	= $	0.177
	Filtration	= $	0.021
	Electricity	= $	0.048
	By Product Disposal of Sludge	= $	0.097
TOTAL RADIUM TREATMENT COSTS PER 1000 GALLONS		**= $**	**0.34**

GROUNDWATER SWEEP (GWS)

Assumptions:

1. All pumps are 5 hp pumping at 5.0 gpm
2. Cost of electricity from Recurring Cost Sheet
3. All water pumped is disposed at WDW with a 20 hp pump
4. Repair and maintenance costs estimated at $0.50/1000 gallons, Operator Experience
5. Process sampling and analysis costs estimated at $0.03/1000 gallons, Operator Experience
6. Labor costs are not included

Wellfield Pumping Costs per 1000 Gallons

$$\frac{1000 \text{ gal}}{} \times \frac{5 \text{ hp}}{5 \text{ gpm}} \times \frac{1 \text{ hr}}{60 \text{ min}} \times \frac{0.746 \text{ kwh}}{\text{hp}} \times \frac{\$ 0.048}{\text{kwh}} = \$ 0.60$$

Pumping to WDW Costs per 1000 Gallons

$$\frac{1000 \text{ gal}}{} \times \frac{75 \text{ hp}}{200 \text{ gpm}} \times \frac{1 \text{ hr}}{60 \text{ min}} \times \frac{0.746 \text{ kwh}}{\text{hp}} \times \frac{\$ 0.048}{\text{kwh}} = \$ 0.22$$

Repair and Maintenance Costs per 1000 Gallons = $ 0.5

Process Sampling and Analysis Costs per 1000 Gallons = $ 0.03

TOTAL GWS COSTS PER 1000 GALLONS **= $ 1.35**

REVERSE OSMOSIS (RO)

Assumptions:

1. Cost of electricity from Recurring Cost Sheet
2. 75% permeate/25% reject split
3. Membrane life of 5 years with a cost of $700 per membrane element
4. Includes cost of pumping from wellfield to RO Unit
5. Process sampling and analysis costs estimated at $0.03/1000 gallons - Operator Experience
6. Labor costs are not included

Reverse Osmosis Costs per 1000 Gallons		
Electricity	= $	0.48
Chemicals	= $	$0.13
Membrane Replacement	= $	$0.06
Repair and Maintenance	= $	0.26
Process Sampling and Analysis	= $	0.03
TOTAL RO COSTS PER 1000 GALLONS	**= $**	**0.96**

Chemical Costs		
Scale Inhibitor	$2.00	$/lb
Dose Rate	6.75	ppm
RO Flow	400	gpm
lbs scale/1000gal	0.06	
Cost per 1000 gal	$0.11	
Cleaning Chemicals	0.02	
Total Chemical Cost	$0.13	

Membrane Replacement		
For 400gpm RO	400	
Number of membranes	96	
Cost per Membrane	$600.00	
Years of Life	5	
Labor to Change Membrane	$480.00	
Cost per 1000 gal	$0.06	

REVERSE OSMOSIS (RO) pg 2					
	Electrical Costs				
	for 400gpm RO				
	Mine Unit				
	Charge Pumps				
	Mine Unit Feed	Motor HP	Motor Quantity	KW	
	Deep Disposal Charge Pump	3	40	89.52	
		50	2	74.6	
		60	1	44.76	
		60	1	44.76	
			Total Installed KW	253.64	
			Cost per Hour	11.4138	
			Cost pre 1000gal	0.475575	

CHEMICAL REDUCTANT		
Assumptions:		
1.	Bioremediation is utilized	
2.	Based on actual operating costs during restoration activities	
3.	Added the cost of using cheese whey	
TOTAL CHEMICAL REDUCTANT COSTS PER Kgal	**= $**	**$0.30**

DEEP WELL INJECTION

Assumptions:

1. Pump 75 hp pumping at 45 gpm
2. Cost of electricity = $0.03/kwh
3. Repair and maintenance costs based on average injection volume of 8,000,000 gallons per year
4. Repair and maintenance costs estimated at $.50/1000 gallons
5. Chemical costs based on average injection volume of 8,000,000 gallons per year
6. Labor costs are not included

Waste Disposal Pumping Costs per 1000 Gallons

$$1000\ \text{gal} \times \frac{75\ \text{hp}}{45\ \text{gpm}} \times \frac{1\ \text{hr}}{60\ \text{min}} \times \frac{0.746\ \text{kwh}}{\text{hp}} \times \frac{\$\ 0.048}{\text{kwh}} = \$\ 0.99$$

Repair and Maintenance Costs per 1000 Gallons = $ $0.50

Chemical Costs per 1000 Gallons = $ 2.73

Scale Inhibitor	= $	1.20
Corrosion Inhibitor	= $	1.16
Oxygen Scavenger	= $	0.37

TOTAL DEEP WELL INJECTION COSTS PER 1000 GALLONS = $ 4.22

WELL ABANDONMENT														
Assumptions:														
1	**Typical 8 hour working day**													
2	Trackhoe for 8.0 hr/day to dig and reclaim pit													
3	Use hose reel for 8 hr/day to pull equipment from well													
4	Use cementer for 8.0 hr/day to pump cement/plug gel													
5	Use tow vehicle for 8.0 hr/day to tow hose reel and cementer													
6	Labor for backhoe, hose reel, cementer will require 3 workers at 8.0 hr/day													
	Materials include 7.5 sacks of cement/100 ft and 1 sack of plug gel/100 ft of 5" well casing.													
	Cost of cement is $7.62 and plug gel cost is $6.45/sack.													
	Cement costs for 2007 = GCC Dakota Cement; Plug gel costs for 2007 = Casper Well Products													
	Fixed Costs													
	Trackhoe													
		8	hours	X	$	28.125	per hour			=$	225.00			
	Hose Reel/Tow Vehicle													
		8	hours	X	$	45	per hour			=$	360.00			
	Cementer													
		8	hours	X	$	45	per hour			=$	360.00			
	Tow Vehicle													
		8	hours	X	$	45	per hour			=$	360.00			
	Labor													
3	men=	24	man	X	$	17	per man			=$	409.02			
			hours				hour							
			Total Fixed Costs per 8.0 hr/day							=$	1714.02			
	Variable Costs				(per 100 ft of well depth)									
	Materials													
		7.5	sack cement		X	$	7.62	per		=$	57.15			
			per 100 feet					sack						
		1	sack plug gel		X	$	6.45	per ho		=$	6.45			
			per 100 feet					plug						

WELL ABANDONMENT Page 2															
	Total materials Cost (per 100 ft of well depth)										$	63.60			
	Total number of wells completed per/day														
		6													
	Cost per Well per Unit of Average Depth														
					Well Depth (ft)										
						450					**=$**	**333**			
						500					**=$**	**339**			
						550					**=$**	**344**			
						600					**=$**	**349**			
						650					**=$**	**355**			
						700					**=$**	**360**			
						750					**=$**	**365**			
						800					**=$**	**370**			
						850					**=$**	**376**			
						900					**=$**	**381**			
						950					**=$**	**386**			

FIVE YEAR MECHANICAL INTEGRITY TESTS (MIT)															
Assumptions:															
1	Pulling Unit for 8.0 hr/day per Recurring Cost Sheet														
2	MIT Unit for 8.0 hr/day per Recurring Cost Sheet														
3	Labor for operation of pulling unit will require 2 workers at $17/hr														
4	Labor for operation of MIT Unit will require 1 worker at $17/hr														
5	Average wells plugged per day is 6														
MIT Costs per Well															
Equipment:															
	Pulling Unit														
		8	hours	X	$	45	per hour					=$	360.00		
	MIT Unit														
		8	hours	X	$	45	per hour					=$	360.00		
Labor:															
	Pulling Unit														
		8	hours	X	$	17.04	per hour	X	2	workers		=$	$272.68		
	MIT Unit														
		8	hours	X	$	17.04	per hour					=$	136.34		
							TOTAL MIT COST PER DAY					**=$**	1129.00		
	Wells Completed					6	per day								
							MIT COSTS PER WELL					**=$**	188.17		

MAIN PIPELINE REMOVAL

Assumptions:

1. Trenching with trackhoe at 750 ft/day
2. Pipeline extraction and backfilling with trackhoe at 750 ft/day
3. Trackhoe rental: $1,125/week all inclusive fuel, maintenance, mob
5. Trackhoe operation requires 1 worker at $17/hour
6. Pipeline extraction requires 2 workers at $17/hour (in addition to trackhoe operator)
7. Pipelines removed simutaneously
8. Includes removal of manholes
9. Operating schedule: 8 hrs/day, 5 days/week

Main Pipeline Removal Costs per ft of Trench

Equipment

Trackhoe

$\frac{\$\ 1125}{\text{week}} \times \frac{1\ \text{week}}{5\ \text{days}} \times \frac{1\ \text{days}}{750\ \text{ft}} = \$\ 0.30$

Labor

Trackhoe Operation

$\frac{\$\ 17}{\text{man hr}} \times \frac{8\ \text{man hrs}}{1\ \text{day}} \times \frac{1\ \text{days}}{750\ \text{ft}} = \$\ 0.18$

Pipeline Extraction

$\frac{\$\ 17}{\text{man hr}} \times \frac{16\ \text{man hrs}}{1\ \text{day}} \times \frac{2\ \text{day}}{750\ \text{ft}} = \$\ 0.36$

MAIN PIPELINE REMOVAL COST PER FT OF TRENCH =$ 0.84

WELLFIELD PIPING REMOVAL

Assumptions:

1. Trenching with backhoe at 1500 ft/day
2. Pipeline extraction and backfilling with backhoe at 1500/day
3. Backhoe rental: $1,125/week, all inclusive fuel, maintenance, mob
4. Backhoe operation requires 1 worker at $17/hour - CB
5. Pipeline extraction requires 2 workers at $17/hour (in addition to trackhoe operator)
6. Operating schedule: 8 hrs/day, 5 days/week

Main Pipeline Removal Costs per ft of Pipe

Equipment

Backhoe

$1125/week X 1 week/5 days X 1 days/1500 ft =$ 0.15

Labor

Backhoe Operation

$17/man hr X 8 man hrs/1 day X 1 days/1500 ft =$ 0.09

Pipeline Extraction

$17/man hr X 16 man hrs/1 day X 1 day/1500 ft =$ 0.18

MAIN PIPELINE REMOVAL COST PER FT OF PIPE =$ 0.420

WELLFIELD ROAD RECLAMATION

Assumptions (Roads constructed before January 1, 1997):

1. Gravel road base removed at cost of $0.866/cy/1000 ft (WDEQ Guideline No. 12, App. C, Level Ground, 500 ft haul)
2. Gravel road base: average depth = 0.25 ft, average width = 10 ft
3. Roads scarified prior to topsoil application at cost of $41.87/acre (WDEQ Guideline No. 12, Appendix P)
4. Grading of scarified roads prior to topsoil application at cost of $45.65/acre (WDEQ Guideline No. 12, Appendix G)
5. Topsoil applied at cost of $0.866/cy/1000 ft (WDEQ Guideline No. 12, App. C, Level Ground, 500 ft haul)
6. Stripped topsoil: average depth = 0.67 ft, average width = 25 ft
7. Discing/seeding cost of $280/acre is based on actual contractor costs

Gravel Road Base Removal Costs per 1000 ft of Road

$$\frac{1000\ ft}{} \times \frac{0.25\ ft}{} \times \frac{10\ ft}{} \times \frac{1\ cy}{27\ ft^3} \times \frac{\$0.87}{cy} = \$\ 80$$

Scarification Costs per 1000 ft of Road

$$\frac{1000\ ft}{} \times \frac{25\ ft}{} \times \frac{1\ acre}{4.356E{+}04\ ft^2} \times \frac{\$41.87}{acre} = \$\ 24$$

Grading Costs per 1000 ft of Road

$$\frac{1000\ ft}{} \times \frac{25\ ft}{} \times \frac{1\ acre}{4.356E{+}04\ ft^2} \times \frac{\$45.65}{acre} = \$\ 26$$

Topsoil Application Costs per 1000 ft of Road

$$\frac{1000\ ft}{} \times \frac{0.67\ ft}{} \times \frac{25\ ft}{} \times \frac{1\ cy}{27\ ft^3} \times \frac{\$0.87}{cy} = \$\ 537$$

Discing/Seeding Costs per 1000 ft of Road

$$\frac{1000\ ft}{} \times \frac{25\ ft}{} \times \frac{1\ acre}{4.356E{+}04\ ft^2} \times \frac{\$280}{acre} = \$\ 161$$

TOTAL WELLFIELD ROAD RECLAMATION COSTS PER 1000 FT OF ROAD (BEFORE JANUARY 1, 1997) = $ 828

Assumptions (Roads constructed after January 1, 1997):

1. Gravel road base will not be removed
2. Roads scarified prior to topsoil application at cost of $36.30/acre (WDEQ Guideline No. 12, Appendix P)
3. Grading of scarified roads prior to topsoil application at cost of $38.45/acre (WDEQ Guideline No. 12, Appendix G)
4. Topsoil applied at cost of $0.60/cy/1000 ft (WDEQ Guideline No. 12, App. C, Level Ground, 500 ft haul)
5. Stripped topsoil: average depth = 0.4 ft, average width = 20 ft
6. Discing/seeding cost of $200/acre is based on actual contractor costs

Scarification Costs per 1000 ft of Road

$$\frac{1000\ ft}{} \times \frac{20\ ft}{} \times \frac{1\ acre}{4.356E{+}04\ ft^2} \times \frac{\$41.87}{acre} = \$\ 19$$

Grading Costs per 1000 ft of Road

$$\frac{1000\ ft}{} \times \frac{20\ ft}{} \times \frac{1\ acre}{4.356E{+}04\ ft^2} \times \frac{\$45.65}{acre} = \$\ 21$$

Topsoil Application Costs per 1000 ft of Road

$$\frac{1000\ ft}{} \times \frac{0.40\ ft}{} \times \frac{20\ ft}{} \times \frac{1\ cy}{27\ ft^3} \times \frac{\$0.87}{cy} = \$\ 257$$

Discing/Seeding Costs per 1000 ft of Road

$$\frac{1000\ ft}{} \times \frac{20\ ft}{} \times \frac{1\ acre}{4.356E{+}04\ ft^2} \times \frac{\$280}{acre} = \$\ 129$$

TOTAL WELLFIELD ROAD RECLAMATION COSTS PER 1000 FT OF ROAD (AFTER JANUARY 1, 1997) = $ 426

BYPRODUCT MATERIAL TRANSPORTATION AND DISPOSAL

Assumptions:

1. Based on actual 2007 contracted costs for transportation to and disposal at an NRC-licensed disposal facility. Byproduct disposal costs as per contract are different between materials & soils
2. Includes profit for transporter and disposal facility.
3. All types of waste shipped vi bulk container (30-yd^3 dumpster or 30-yd^3 dump truck).

Transportation Cost			Disposal Cost			Total	
$ 1.33	/ft^3	+	$ 11.00	/ft^3	=	$ 12.33	/ft^3
					=	**$ 12.33**	**/ft^3**

Soils Transportation Cost			Disposal Costs			
$ 1.33			$3.70	/ft^3		
= $35.91	/yd^3	+ =	$100.00	/yd^3	=	**$135.91** /$yd^3$

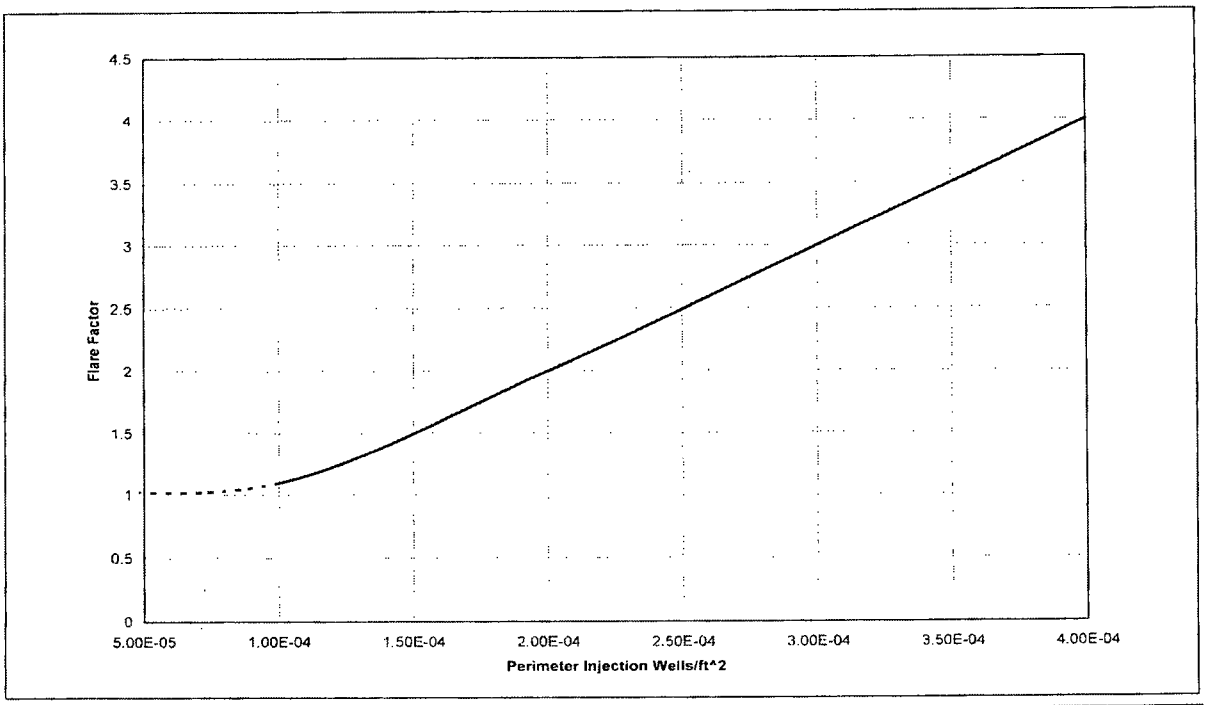
POWER RESOURCES INC HIGHLAND URANIUM PROJECT
2006-2007 SURETY ESTIMATE REVISION

DISKING/SEEDING									
Assumptions:									
1.	Based on actual contractor costs in 2007								
2.	Drill Seeding $250/Acre - based on contractor estamate 6/2007								
3.	Seed cost $30/Acre - Based on 5/07 seed costs at SRHUP								
TOTAL DISKING/SEEDING COSTS PER ACRE					**= $**	**280.00**			

FLARE FACTOR CALCULATION

Assumptions:

1. Flare Factor Conservatively Estimated from Figure 3-16, Lewis Water Consultants, Inc., Oct. 1999 (below)
2. Number of Perimeter Injection Wells per sq.ft. estimated from wellfield spacing, total area, and perimeter area



Lewis Water Consultants

RAMC Smith Ranch Facility

Figure 3-16. Predicted wellfield flare factor for RAMC commercial wellfields, as a function of wellfield scale

Date: 9/14/99
Project: RAMC Wellfield Evaluation
File: land.ppt

PORE VOLUME AND RESTORATION TIMING CALCULATION

Assumptions:

1. Pore Volumes required for wellfield resoration are conservatively estimated from Table 3-2, Lewis Water Consultants, Inc., Oct. 1999 (below)
2. Restoration Target is Return to Class of Use, Class I Groundwater (WDEQ)
3. Conservatively Assumes 1PV groundwater sweep, 3PVs RO with Reductant added to final 2 PVs of RO stream (4PV's total)
4. Restoration Timing is conservatively estimated at 2 years for all wellfields based on 400 gpm sweep rate and largest wellfield affected volume (Wellfield 15) at Smith Ranch.

Table 3-2. Predicted Wellfield 1 Restoration Timing

Constituent	Restoration Target (Background)	Number of Pore Volumes to Meet Target	Time Required to Meet Target (Baseline), days	Restoration Target (Class of use[a])	Number of Pore Volumes to Meet Target	Time Required to Meet Target (Class-of-Use),days
U	0.168	3.2	150	5	1.8	86
Se	0.001	3.2	150	0.01	2.3	109
Cl	4.176	4.4	210	250	0	0
SO_4	113.125	3.8	179	250	2.5	117
HCO_3	228.194	2.3	109	na	na	na
Ca	72.617	3.8	179	na	na	na
Na	22.525	3.2	150	na	na	na
As	0.001	3.0	141	0.05	0	0
B	0.100	3.2	150	0.75	0	0
Fe	0.065	0	0	0.3	0	0
Mn	0.022	4.4	210	0.05	3.4	160
Mg	17.364	3.2	150	na	na	na
K	7.269	3.2	150	na	na	na
F	0.322	3.2	150	2.4	na	na
SiO_2	16.975	3.2	150	na	na	na
Zn	0.010	3.2	150	5	0	0

[a] -- standards listed are for Wyoming Class I ground water, although baseline wellfield ground water does not meet this standard due to excessive radium.

Abbreviations/Acronyms						
$	Dollars					
$/Kgal	Dollars per 1000 gallons					
avg	average					
ft	feet					
ft2	square feet					
ft3	cubic feet					
gal	gallon					
gpm	gallons per minute					
H&S	Health and Safety					
H2S	Hydrogen Sulfide					
H2SO4	Sulfuric Acid					
HCl	Hydrochloric Acid					
Hp	Horsepower					
Kgal	1000 gallons					
Kwh	Kilowatt-hours					
NaOH	Caustic Soda					
OD	Outside Diameter					
PPE	personal protective equipment					
PV	Pore Volume Estimate					
reqm't	requirement					
RO	Reverse Osmosis					
WDW	Waste Disposal Well					
yd3	cubic yards					
yr	year					