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:

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).

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
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File 4.6.4.1
R. Townley w/o atta
L. Spackman, WDEQ/LQD

POWER RESOURCES INC SMITH RANCH URANIUM PROJECT
SURETY ESTIMATE REVISION

Total Restoration and Reclamation Cost Estimate		
I.	GROUNDWATER RESTORATION COST	$10,289,910
II.	EQUIPMENT REMOVAL & DISPOSAL COST	$365,345
III.	BUILDING DEMOLITION AND DISPOSAL COST	$1,165,980
IV.	WELLFIELD BUILDINGS & EQUIPMENT REMOVAL & DISPOSAL COST	$671,510
V.	WELL ABANDONMENT COST	$1,782,875
VI.	WELLFIELD AND SATELLITE SURFACE RECLAMATION COST	$248,403
VII.	TOTAL MISCELLANEOUS RECLAMATION COST	$1,000,120
	SUBTOTAL RECLAMATION AND RESTORATION COST ESTIMATE	$15,524,142
	SUBTOTAL	$15,524,142
	ADMINISTRATIVE, OVERHEAD, AND CONTINGENCY ITEMS (25%)	$3,881,036
	TOTAL	$19,405,178
	TOTAL CALCULATED SURETY (IN 2006 DOLLARS)	$19,405,200

RECURRING COST

	Item	Amount ($)	Units	Cost Basis
ELECTRICAL				
	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 Satellites)	$8,500	unit	
	Cost per Month (Main Office)	$1,825	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	
	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 (e)(2) Material Transport	$1.33	cubic yard	*Costs for Transportation and disposal from current contracts with NRC Licensed Facility*
	11 (e)(2) Material Disposal	$11.00	cubic yard	*& contract trucker*
	Soil/Solid Waste Transport (11(e) (2)	$1.33	cubic yard	*Costs for Transportation and disposal from current contracts with NRC Licensed Facility*
	Soil/Solid Waste Disposal (11(e) (2)	$3.70	cubic yard	*& contract trucker*
	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 equimpment*

RECURRING COST

	Item	Amount ($)	Units	Cost Basis
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*

POWER RESOURCES INC SMITH RANCH URANIUM PROJECT
SURETY ESTIMATE REVISION

Ground Water Restoration	Mine Unit-1	Mine Unit-2	Mine Unit-3	Mine Unit-3 2nd Comp.	Mine Unit- 4	Mine Unit-4A	Mine Unit-4 Extension	Mine Unit-15	Mine Unit-15A	Mine Unit K	Mine Unit 9
PV Assumptions											
Wellfield Area (ft2) (HH x 20 patterns x 10,000)	1,115,229	2,260,172	1,622,462	782,800	1,334,798	1,050,576	340,421	2,600,000	800,000	1,000,000	2,600,000
Wellfield Area (acres)	25.6	51.9	37.2	18.0	30.6	24.1	7.8	59.7	18.4	23.0	59.7
Affected Ore Zone Area (ft2)	1,115,229	2,260,172	1,622,462	782,800	1,334,798	1,050,576	340,421	2,600,000	800,000	1,000,000	2,600,000
Avg. Completed Thickness	18	24	20	14	18	17	18	19	19	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
Flare Factor	1.7	1.4	1.5	2.2	1.7	1.9	3.4	1.2	2.2	2	1.2
Affected Volume (ft3)	34,126,007	75,941,779	48,673,860	24,110,240	40,844,819	33,933,605	20,833,765	59,280,000	33,440,000	40,000,000	62,400,000
Kgallons per Pore Volume	68,921	153,372	98,302	48,693	82,490	68,532	42,076	119,722	67,535	80,784	126,023
Number of Patterns in Unit(s)											
Current	116	146	162	76	128	101	35	251	89	106	0
Estimated next report period	0	0	0	0	0	0	0		0	40	260
Total Estimated	116	146	162	76	128	101	35	251	89	146	260
Number of Wells in Unit(s)											
Production Wells											
Current	115	146	145	Wells	124	101	Wells	251	89	106	0
Estimated next report period	0	0	0	included	0	0	included	0	0	40	260
Total Estimated	115	146	145	under	124	101	under	251	89	146	260
Injection Wells				Wellfield 3			Wellfield 4				
Current	210	262	251		219	175	and	502	155	185	0
Estimated next report period	0	0	0		0	0	Wellfield 4A	0	0	70	455
Total Estimated	210	262	251		219	175		502	155	255	455
Monitoring Wells											
Current	49	50	40		51	39		105	61	56	0
Estimated next report period	0	0	0		0	0		0	0	0	93
Total Estimated	49	50	40		51	39		105	61	56	93
Number of Wells per Wellfield	374	458	436		394	315		858	305	457	808
Total Number of Wells	2835										
Average Well Depth (ft)	500	850	750		850	750		450	500	950	950
I. Ground Water Sweep Costs											
PV's Required	1	1	1	1	1	1	1	1	1	1	1
Total Kgals for Treatment	68,921	153,372	98,302	48,693	82,490	68,532	42,076	119,722	67,535	80,784	126,023
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
Subtotal Ground Water Sweep Costs per Wellfield	$93,085	$207,144	$132,766	$65,765	$111,411	$92,560	$56,828	$161,696	$91,213	$109,107	$170,207
Total Ground Water Sweep Costs	**$1,291,782**										
II. Reverse Osmosis Costs											
PV's Required	3	3	3	3	3	3	3	3	3	3	3
Total Kgals for Treatment	206,763	460,116	294,905	146,079	247,471	205,597	126,228	359,166	202,606	242,352	378,069
Reverse Osmosis Unit Cost ($/Kgal)	$0.96	$0.96	$0.96	$0.96	$0.96	$0.96	$0.96	$0.96	$0.96	$0.96	$0.96
Subtotal Reverse Osmosis Costs per Wellfield	$197,635	$439,804	$281,887	$139,631	$236,546	$196,521	$120,655	$343,310	$193,662	$231,653	$361,379
Total Reverse Osmosis Costs	**$2,742,683**										
III. Chemical Reductant Costs											
Total Kgals for Treatment (2 Pore Volumes)	137842	306744	196603	97386	164980	137065	84152	239444	135071	161568	252046
Chemical Reductant Unit Cost ($/Kgal)	$0.30	$0.30	$0.30	$0.30	$0.30	$0.30	$0.30	$0.30	$0.30	$0.30	$0.30
Subtotal Chemical Reductant Costs per Wellfield	$41,353	$92,023	$58,981	$29,216	$49,494	$41,119	$25,246	$71,833	$40,521	$48,470	$75,614
Total Chemical Reductant Costs	**$573,870**										

POWER RESOURCES INC SMITH RANCH URANIUM PROJECT
SURETY ESTIMATE REVISION

Ground Water Restoration	Mine Unit-1	Mine Unit-2	Mine Unit-3	Mine Unit-3 2nd Comp.	Mine Unit- 4	Mine Unit-4A	Mine Unit-4 Extension	Mine Unit-15	Mine Unit-15A	Mine Unit K	Mine Unit 9
IV. Elution Costs											
A. Elution Processing Costs											
Kgals/Elution Required	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000
Number of Elutions	8	18	11	6	9	8	5	14	8	9	14
Processing Unit Cost ($/Elution)	$900	$900	$900	$900	$900	$900	$900	$900	$900	$900	$900
Subtotal Processing Costs per Wellfield	$7,200	$16,200	$9,900	$5,400	$8,100	$7,200	$4,500	$12,600	$7,200	$8,100	$12,600
Total Elution Costs	**$99,000**										
B. Deep Well Injection Costs											
Deep Well Injection Volume (Kgals/Elution)	12	12	12	12	12	12	12	12	12	12	12
Total Kgals for Injection	96	216	132	72	108	96	60	168	96	108	168
Deep Well Injection Unit Cost ($/Kgals)	$1.40	$1.40	$1.40	$1.40	$1.40	$1.40	$1.40	$1.40	$1.40	$1.40	$1.40
Subtotal Deep Well Injection Costs	$134	$301	$184	$100	$151	$134	$84	$234	$134	$151	$234
Subtotal Well Injection Costs per Wellfield	$7,334	$16,501	$10,084	$5,500	$8,251	$7,334	$4,584	$12,834	$7,334	$8,251	$12,834
Total Well Injection	$100,841										
Total : Elution & Deep Well	**$199,841**										
V. Monitoring and Sampling Costs											
A. Active Restoration Period											
Estimated Restoration Period (Years)	2	2	2	2	2	2	2	2	2	2	2
1. UCL Sampling											
# of Wells	49	51	43		55	36		108	60	61	93
$/sample	$50	$50	$50	$50	$50	$50	$50	$50	$50	$50	$50
Samples/Year	6	6	6		6	6		6	6	6	6
Sub-total Restoration Analyses	$29,400	$30,600	$25,800		$33,000	$21,600		$64,800	$36,000	$36,600	$55,800
B. Stability Period											
Estimated Stabilization Period (Years)	1	1	1		1	1		1	1	1	1
1. Full Suite Analyses (Guideline 8)											
# of Wells	17	31	24		20	10		61	34	34	56
Samples/Year	3	3	3		3	3		3	3	3	3
$/sample	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200
2. Short List Analyses											
# of Wells	17	31	24		20	10		61	34	34	56
Samples/Year	9	9	9		9	9		9	9	9	9
$/sample	$70	$70	$70	$70	$70	$70	$70	$70	$70	$70	$70
Sub-total Stability Analyses	$20,910	$38,130	$29,520		$24,600	$12,300		$75,030	$41,820	$41,820	$68,880
Subtotal Monitoring and Sampling Costs per Wellfield	$50,310	$68,730	$55,320		$57,600	$33,900		$139,830	$77,820	$78,420	$124,680
Total Monitoring and Sampling Costs	**$686,610**										
VI. Mechanical Integrity Test (MIT) Costs											
Five Year MIT Unit Cost ($/well)	$188	$188	$188	$188	$188	$188	$188	$188	$188	$188	$188
Number of Wells (30% of Inj. and Rest. Wells)	63	79	75		66	53		151	47	77	137
Subtotal Mechanical Integrity Testing Costs per Wellfield	$11,855	$14,790	$14,169		$12,363	$9,879		$28,338	$8,750	$14,395	$25,685
Total Mechanical Integrity Testing Cost	**$140,224**										
TOTAL RESTORATION COSTS PER WELLFIELD	$401,572	$838,992	$553,207	$240,112	$475,665	$381,313	$207,313	$757,841	$419,300	$490,296	$770,399
TOTAL WELLFIELD RESTORATION COST	**$5,536,010**										
VII. Building Utility Costs	Central Plant	Main Office	Satellite SR-1	Satellite SR-2							
Electricity ($/Month)	$8,500	$1,825	$8,500	$8,500							
Number of Months	48	60	36	36							
Subtotal Utility Costs per Building	$408,000	$109,500	$306,000	$306,000							

Ground Water Restoration	Mine Unit-1	Mine Unit-2	Mine Unit-3	Mine Unit-3 2nd Comp.	Mine Unit- 4	Mine Unit-4A	Mine Unit-4 Extension	Mine Unit-15	Mine Unit-15A	Mine Unit K	Mine Unit 9
Total Building Utility Costs	**$1,129,500**										
VIII. 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)	4										
Total Vehicle Operation Costs	**$808,400**										
IX. Labor Costs											
Number of Environmental Managers/RSOs	1										
$/Year MV	$100,000										
Number of Restoration Managers	1										
$/Year MV	$80,000										
Number of Environmental Technicians	2										
$/Year MV	$34,000										
Number of Operators/Laborers	7										
$/Year MV	$34,000										
Number of Maintenance Technicians	2										
$/Year MV	$34,000										
Number of Years	4										
Total Labor Costs	$2,216,000										
IX. Capital Costs											
Purchase RO Units (1X400 gpm Units)	$600,000										
Total Capital Costs	**$600,000**										
TOTAL GROUND WATER RESTORATION COSTS	**$10,289,910**										

Equipment Removal and Loading		CPP Ion Ex. Plant	Central Plant	Dryer Building	Satellite SR-1	Pilot ISL	Water Pumphouse	Bone Yard	Satellite SR-2
I. Removal and Loading Costs									
A. Tankage									
Number of Tanks		13	51	0	10	15	3	30	10
Volume of Tank Construction Material (ft^3)		835	1340	300	397	260	164	1648	397
1. Labor									
Number of Persons		3	3	3	3	3	3	3	3
Ft^3/Day		25	25	25	25	25	25	25	25
Number of Days		33	54	12	16	10	7	66	16
$/Day/Person		$136	$136	$136	$136	$136	$136	$136	$136
Subtotal Labor Costs		$13,668	$21,923	$4,908	$6,544	$4,254	$2,683	$26,963	$6,544
2. Equipment									
Number of Days		33	54	12	16	10	7	66	16
$/Day		$338	$338	$338	$338	$338	$338	$338	$338
Subtotal Equipment Costs		$11,295	$18,117	$4,056	$5,408	$3,515	$2,217	$22,281	$5,408
Subtotal Tankage Removal and Loading Costs		$24,963	$40,040	$8,964	$11,952	$7,769	$4,900	$49,244	$11,952
B. PVC/Steel Pipe									
PVC Pipe Footage		2800	5000		4000	1500	0	0	4000
Average PVC Pipe Diameter (inches)		3	3	3	3	3	3	0	3
Shredded PVC Pipe Volume Reduction (ft^3/ft)		0.016	0.016	0.016	0.016	0.016	0.016	0	0.016
Volume of Shredded PVC Pipe (ft^3)		45	80	0	64	24	0	0	64
Steel Pipe Footage		1100	0	0	0	0	80	0	0
Average Steel Pipe Diameter (inches)		6	0	0	0	0	8	0	0
Volume (ft^3)		216	0	0	0	0	30	0	0
1. Labor									
Number of Persons		2	2	2	2	2	2	2	2
Ft/Day		300	300	300	300	300	300	300	300
Number of Days		13	17	0	13	5	0	0	13
$/Day/Person		$136	$136	$136	$136	$136	$136	$136	$136
Subtotal PVC/Steel Pipe Labor Costs		$3,545	$4,545	$0	$3,545	$1,363	$73	$0	$3,545
Subtotal PVC/Steel Pipe Removal and Loading Costs		$3,545	$4,545	$0	$3,545	$1,363	$73	$0	$3,545
C. Pumps									
Number of Pumps		21	43	0	13	12	2	0	13
Average Volume (ft^3/pump)		4.93	4.93	0	4.93	4.93	4.93	4.93	4.93
Volume of Pumps (ft^3)		103.53	211.99	0	64.09	59.16	9.86	0	64.09
1. Labor									
Number of Persons		1	1	1	1	1	1	0	1
Pumps/Day		2	2	2	2	2	2	0	2
Number of Days		10.5	21.5	0	7	6	1	0	7
$/Day/Person		$136	$136	$136	$136	$136	$136	$136	$136
Subtotal Labor Costs		$1,432	$2,931	$0	$954	$818	$136	$0	$954
Subtotal Pump Removal and Loading Costs		$1,432	$2,931	$0	$954	$818	$136	$0	$954
D. Dryer									
Dryer Volume (ft^3)				200					
1. Labor									
Number of Persons		0	0	5	0	0	0	0	0
Ft^3/Day		0	0	175	0	0	0	0	0
Number of Days		0	0	2	0	0	0	0	0
$/Day/Person		$136	$136	$136	$136	$136	$136	$136	$136
Total Labor Cost		$0	$0	$1,363	$0	$0	$0	$0	$0
Total Dryer Dismantling and Loading Cost		$0	$0	$1,363	$0	$0	$0	$0	$0
Subtotal Equipment Removal and Loading Costs per Facility		$43,608	$69,439	$15,235	$22,995	$14,204	$7,792	$76,207	$22,995
Total Equipment Removal and Loading Costs		$272,476							
II. Transportation and Disposal Costs (NRC-Licensed Facility)									
A. Tankage									
Volume of Tank Construction Material (ft^3)		835	1340	300	397	260	164	1648	397
Volume for Disposal Assuming 10% Void Space (ft^3)		919	1474	330	436	286	180	1813	436
Transportation and Disposal Unit Cost ($/$ft^3$)		$12.33	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33
Subtotal Tankage Transportation and Disposal Costs		$11,331	$18,174	$4,069	$5,376	$3,526	$2,219	$22,354	$5,376
B. PVC / Steel Pipe									
Volume of Shredded PVC Pipe (ft^3)		44.8	80	0	64	24	0	0	64
Volume for Disposal Assuming 10% Void Space (ft^3)		49	88	0	70	26	0	0	70
Volume of Steel Pipe (ft^3)		296	0	0	0	0	30	30	
Volume for Disposal Assuming 10% Void Space (ft^3)		326	0	0	0	0	33	33	0
Transportation and Disposal Unit Cost ($/$ft^3$)		$12.33	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33
Subtotal PVC Pipe Transportation and Disposal Costs		$4,624	$1,085	$0	$863	$321	$407	$407	$863
C. Pumps									
Volume of Pumps (ft^3)		103.53	211.99	0	64	59	9.86	0	64
Volume for Disposal Assuming 10% Void Space (ft^3)		114	233	0	70	65	11	0	70
Transportation and Disposal Unit Cost ($/$ft^3$)		$12.33	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33
Subtotal Pump Transportation and Disposal Costs		$1,406	$2,873	$0	$863	$801	$136	$0	$863
D. Dryer									
Dryer Volume (ft^3)		0	0	400	0	0	0	0	0
Volume for Disposal Assuming Dryer Remains Intact (ft^3)		0	0	400	0	0	0	0	0
Transportation and Disposal Unit Cost ($/$ft^3$)		$12.33	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33
Total Dryer Transportation and Disposal Costs		$0	$0	$4,932	$0	$0	$0	$0	$0
Subtotal Equipment Transportation and Disposal Costs per Facility		$17,361	$22,132	$9,001	$7,102	$4,648	$2,762	$22,761	$7,102
Total Equipment Transportation and Disposal Costs		$92,869							
III. Health and Safety Costs									
Radiation Safety Equipment	Accounted for on BLDGS workbook, Section IV	$0	$0	$0	$0	$0	0	$0	$0
Total Health and Safety Costs		$0							
SUBTOTAL EQUIPMENT REMOVAL AND DISPOSAL COSTS PER FACILITY		$60,969	$91,571	$24,236	$30,097	$18,852	$10,554	$98,968	$30,097
TOTAL EQUIPMENT REMOVAL AND DISPOSAL COSTS		$365,345							

POWER RESOURCES INC SMITH RANCH URANIUM PROJECT
SURETY ESTIMATE REVISION

Building Demolition and Disposal	CPP Ion Ex. Plant	Central Plant	Dryer Building	Office Building	Storage Building	Water Treat Plant	Shop Building	Pilot ISL Building	Fresh Water Pumphouse	DDW Buildings
I. Decontamination Costs										
A. Wall Decontamination										
Area to be Decontaminated (ft^2)	10,810	15,900	0	0	1,152	576	4,826	12,000	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	$0.59
Subtotal Wall Decontamination Costs	$6,382	$9,387	$0	$0	$680	$340	$2,849	$7,085	$0	$0
B. Concrete Floor Decontamination										
Area to be Decontaminated (ft^2)	11,550	16,500	3,500	0	1,678	839	7,028	17,477	0	0
HCl Acid Wash, including labor ($/$ft^2$)	$0.21	$0.21	$0.21	$0.21	$0.21	$0.21	$0.21	$0.21	$0.21	$0.21
Subtotal Concrete Floor Decontamination Costs	$2,403	$3,433	$728	$0	$349	$175	$1,462	$3,637	$0	$0
C. Deep Well Injection Costs										
Total Kgals for Injection	22.36	32.4	3.5	0	2.83	1.415	11.854	29.477	0	0
Deep Well Injection Unit Cost ($/Kgals)	$1.40	$1.40	$1.40	$1.40	$1.40	$1.40	$1.40	$1.40	$1.40	$1.40
Subtotal Deep Well Injection Costs	$31	$45	$5	$0	$4	$2	$17	$41	$0	$0
Subtotal Decontamination Costs per Building	$8,816	$12,865	$733	$0	$1,033	$517	$4,328	$10,763	$0	$0
Total Decontamination Costs	**$45,237**									
II. Demolition Costs										
A. Building										
Assumptions:										
Dryer bldg. demolition unit cost of $0.73/$ft^2$ for additional										
radiation safety equipment										
Volume of Building (ft^3)	346,500	577,500	122,500	0	16,780	8,390	175,700	314,586	8,320	660.3
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
Subtotal Building Demolition Costs	$61,677	$102,795	$21,805	$0	$2,987	$1,493	$31,275	$55,996	$1,481	$118
B. Concrete Floor										
Area of Concrete Floor (ft^2)	11,550	16,500	3500	0	1678	839	7028	17477	832	0
Demolition Unit Cost per WDEQ Guideline No.12,App.K ($/$ft^3$)	$3.40	$3.40	$3.40	$3.40	$3.17	$3.17	$3.17	$3.17	$3.17	$3.17
Subtotal Concrete Floor Demolition Costs	$39,270	$56,100	$11,900	$0	$5,319	$2,660	$22,279	$55,402	$2,637	$0
C. Concrete Footing										
Length of Concrete Footing (ft)	430	514	237	0	164	116	335	529	115	0
Demolition Unit Cost per WDEQ Guideline No.12,App.K ($/$ft^3$)	$12.22	$12.22	$12.22	$12.22	$12.22	$12.22	$12.22	$12.22	$12.22	$12.22
Subtotal Concrete Footing Demolition Costs	$5,253	$6,279	$2,892	$0	$2,002	$1,416	$4,098	$6,462	$1,405	$0
Subtotal Demolition Costs per Building	$106,200	$165,174	$36,597	$0	$10,308	$5,569	$57,652	$117,860	$5,523	$118
Total Demolition Costs	**$761,910**									
III. Disposal Costs										
A. Building										
Volume of Building (cy)	12833	21389	4537	0	621	311	6507	11651	308	24
1. On-Site										
Assumptions:										
On-site disposal cost of $1.25/cy										
Percentage (%)	100	100	100	100	100	100	100	100	100	100
Volume for Disposal (cubic yards)	12833	21389	4537	0	621	311	6507	11651	308	24
Disposal Unit Cost ($/cy)	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25
Subtotal On-Site Disposal Costs	$16,042	$26,736	$5,671	$0	$777	$388	$8,134	$14,564	$385	$31

Building Demolition and Disposal	CPP Ion Ex. Plant	Central Plant	Dryer Building	Office Building	Storage Building	Water Treat Plant	Shop Building	Pilot ISL Building	Fresh Water Pumphouse	DDW Buildings
2. NRC-Licensed Facility										
Percentage (%)	0	0	0	0	0	0	0	0	0	0
Volume for Disposal (ft^3)	0	0	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	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	$12.33
Subtotal NRC-Licensed Facility Disposal Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Subtotal Building Disposal Costs	$16,042	$26,736	$5,671	$0	$777	$388	$8,134	$14,564	$385	$31
B. Concrete Floor										
Area of Concrete Floor (ft^2)	11550	16500	3500	0	1678	839	7028	17477	1186	0
Average Thickness of Concrete Floor (ft)	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Volume of Concrete Floor (ft^3)	8662.5	12375	2625	0	1258.5	629.25	5271	13107.75	889.5	0
Volume of Concrete Floor (cy)	321	458	97	0	47	23	195	485	33	0
1. On-Site										
Percentage (%)	75	75	75	100	100	100	100	75	100	0
Volume for Disposal (cy)	241	344	73	0	47	23	195	364	33	0
Disposal Unit Cost per WDEQ Guideline No.12,App.K ($/cy)	$6.39	$6.39	$6.39	$6.39	$6.39	$6.39	$6.39	$6.39	$6.39	$6.39
Subtotal On-Site Disposal Costs	$1,538	$2,197	$466	$0	$298	$149	$1,247	$2,327	$211	$0
2. NRC-Licensed Facility										
Assumptions:										
Additional $2.60/cy for segregation of concrete										
Percentage (%)	25	25	25	0	0	0	0	25	0	0
Volume for Disposal (ft^3)	2166	3094	656	0	0	0	0	3277	0	0
Segregation and Loading Unit Cost ($/$ft^3$)	$2.60	$2.60	$2.60	$2.60	$2.60	$2.60	$2.60	$2.60	$2.60	$2.60
Transportation and Disposal Unit Cost ($/$ft^3$)	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33
Subtotal NRC-Licensed Facility Disposal Costs	$32,333	$46,190	$9,798	$0	$0	$0	$0	$48,925	$0	$0
Subtotal Concrete Floor Disposal Costs	$33,871	$48,387	$10,264	$0	$298	$149	$1,247	$51,252	$211	$0
C. Concrete Footing										
Length of Concrete Footing (ft)	430	514	237	0	164	116	335	529	124	0
Average Depth of Concrete Footing (ft)	4	4	4	4	4	4	4	4	4	4
Average Width of Concrete Footing (ft)	1	1	1	1	1	1	1	1	1	1
Volume of Concrete Footing (ft^3)	1720	2055	947	0	655	463	1341	2115	496	0
Volume of Concrete Footing (cy)	64	76	35	0	24	17	50	78	18	0
Disposal Unit Cost per WDEQ Guideline No.12,App.K ($/cy)	$6.39	$6.39	$6.39	$6.39	$6.39	$6.39	$6.39	$6.39	$6.39	$6.39
Subtotal Concrete Footing Disposal Costs	$407	$486	$224	$0	$155	$110	$317	$501	$117	$0
Subtotal Disposal Costs per Building	$50,320	$75,609	$16,159	$0	$1,230	$647	$9,698	$66,317	$713	$31
Total Disposal Costs	**$348,223**									
IV. Health and Safety Costs										
Radiation Safety Equipment RSO removed per item cost and generated one lump sum cost!	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Health and Safety Costs	**$10,610**									
SUBTOTAL BUILDING DEMOLITION AND DISPOSAL COSTS	$165,336	$253,648	$53,489	$0	$12,571	$6,733	$71,678	$194,940	$6,236	$149
TOTAL BUILDING DEMOLITION AND DISPOSAL COSTS	**$1,165,980**									

Building Demolition and Disposal	Satellite SR-1	Yellowcake Warehouse	Satellite SR-2
I. Decontamination Costs			
A. Wall Decontamination			
Area to be Decontaminated (ft^2)	0	3100	
HCl Acid Wash, including labor ($/$ft^2$)	$0.59	$0.59	$0.59
Subtotal Wall Decontamination Costs	$0	$1,830	$0
B. Concrete Floor Decontamination			
Area to be Decontaminated (ft^2)	9000	2750	9000
HCl Acid Wash, including labor ($/$ft^2$)	$0.21	$0.21	$0.21
Subtotal Concrete Floor Decontamination Costs	$1,873	$572	$1,873
C. Deep Well Injection Costs			
Total Kgals for Injection	9	5.85	9
Deep Well Injection Unit Cost ($/Kgals)	$1.40	$1.40	$1.40
Subtotal Deep Well Injection Costs	$13	$8	$13
Subtotal Decontamination Costs per Building	$1,886	$2,410	$1,886
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)	402,000	55,000	402,000
Demolition Unit Cost per WDEQ Guideline No.12,App.K ($/$ft^3$)	$0.178	$0.178	$0.178
Subtotal Building Demolition Costs	$71,556	$9,790	$71,556
B. Concrete Floor			
Area of Concrete Floor (ft^2)	13400	2750	13400
Demolition Unit Cost per WDEQ Guideline No.12,App.K ($/$ft^3$)	$3.05	$3.05	$3.05
Subtotal Concrete Floor Demolition Costs	$40,870	$8,388	$40,870
C. Concrete Footing			
Length of Concrete Footing (ft)	463	210	463
Demolition Unit Cost per WDEQ Guideline No.12,App.K ($/$ft^3$)	$12.22	$12.22	$12.22
Subtotal Concrete Footing Demolition Costs	$5,658	$2,563	$5,658
Subtotal Demolition Costs per Building	$118,084	$20,741	$118,084
Total Demolition Costs			
III. Disposal Costs			
A. Building			
Volume of Building (cy)	14889	2037	14889
1. On-Site			
Assumptions:			
On-site disposal cost of $1.25/cy			
Percentage (%)	100	100	100
Volume for Disposal (cubic yards)	14889	2037	14889
Disposal Unit Cost ($/cy)	$1.25	$1.25	$1.25
Subtotal On-Site Disposal Costs	$18,611	$2,546	$18,611

Building Demolition and Disposal	Satellite SR-1	Yellowcake Warehouse	Satellite SR-2
2. NRC-Licensed Facility			
Percentage (%)	0	0	0
Volume for Disposal (ft^3)	0	0	0
Volume for Disposal Assuming 10% Void Space (ft^3)	0	0	0
Transportation and Disposal Unit Cost ($/ft^3)	$12.33	$12.33	$12.33
Subtotal NRC-Licensed Facility Disposal Costs	$0	$0	$0
Subtotal Building Disposal Costs	$18,611	$2,546	$18,611
B. Concrete Floor			
Area of Concrete Floor (ft^2)	13400	2750	13400
Average Thickness of Concrete Floor (ft)	0.75	0.75	0.75
Volume of Concrete Floor (ft^3)	10050	2062.5	10050
Volume of Concrete Floor (cy)	372	76	372
1. On-Site			
Percentage (%)	75	75	75
Volume for Disposal (cy)	279	57	279
Disposal Unit Cost per WDEQ Guideline No.12,App.K ($/cy)	$6.39	$6.39	$6.39
Subtotal On-Site Disposal Costs	$1,784	$366	$1,784
2. NRC-Licensed Facility			
Assumptions:			
Additional $2.60/cy for segregation of concrete			
Percentage (%)	25	25	25
Volume for Disposal (ft^3)	2513	516	2513
Segregation and Loading Unit Cost ($/ft^3)	$2.60	$2.60	$2.60
Transportation and Disposal Unit Cost ($/ft^3)	$12.33	$12.33	$12.33
Subtotal NRC-Licensed Facility Disposal Costs	$37,512	$7,698	$37,512
Subtotal Concrete Floor Disposal Costs	$39,296	$8,064	$39,296
C. Concrete Footing			
Length of Concrete Footing (ft)	463	210	463
Average Depth of Concrete Footing (ft)	4	4	4
Average Width of Concrete Footing (ft)	1	1	1
Volume of Concrete Footing (ft^3)	1852	839	1852
Volume of Concrete Footing (cy)	69	31	69
Disposal Unit Cost per WDEQ Guideline No.12,App.K ($/cy)	$6.39	$6.39	$6.39
Subtotal Concrete Footing Disposal Costs	$438	$199	$438
Subtotal Disposal Costs per Building	$58,345	$10,809	$58,345
Total Disposal Costs			
IV. Health and Safety Costs			
Radiation Safety Equipment RSO removed per item cost and generated	$0	$0	$0
one lump sum cost!			
Total Health and Safety Costs			
SUBTOTAL BUILDING DEMOLITION AND DISPOSAL COSTS	$178,315	$33,960	$178,315
TOTAL BUILDING DEMOLITION AND DISPOSAL COSTS			

Wellfield Buildings and Equipment Removal and Disposal	Mine Unit-1	Mine Unit-2	Mine Unit-3	Mine Unit-4	Mine Unit-4A	Mine Unit-15	Mine Unit-15A	Mine Unit-K	Mine Unit-9
I. Wellfield Piping									
Assumptions:									
Number of Header Houses per Wellfield	6	5	8	6	5	13	4	5	13
Length of Piping per Header House (ft)	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Length of Piping (ft)	12000	10000	16000	12000	10000	26000	8000	10000	26000
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
Subtotal Wellfield Piping Removal and Loading Costs	$5,040	$4,200	$6,720	$5,040	$4,200	$10,920	$3,360	$4,200	$10,920
B. Transport and Disposal Costs (NRC-Licensed Facility)									
Average Diameter of Piping (inches)	2	2	2	2	2	2	2	2	2
Chipped Volume Reduction (ft^3/ft)	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Chipped Volume per Wellfield (ft^3)	60	50	80	60	50	130	40	50	130
Volume for Disposal Assuming 10% Void Space (ft^3)	66	55	88	66	55	143	44	55	143
Transportation and Disposal Unit Cost ($/$ft^3$)	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33	$12.33
Subtotal Wellfield Piping Transport and Disposal Costs	$814	$678	$1,085	$814	$678	$1,763	$543	$678	$1,763
Wellfield Piping Costs per Wellfield	$5,854	$4,878	$7,805	$5,854	$4,878	$12,683	$3,903	$4,878	$12,683
C. Capitol Costs									
Fiberglass/ poly / PVC Pipe Shredder (Operator Owned)	$50,000								
BFI Containers (2@$7,800.00 each) (Operator Owned)	$15,600								
Total Wellfield Piping Costs	**$129,016**								
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	115	146	145	124	101	251	89	146	260
Number of Injection Wells	210	262	251	219	175	502	155	255	455
1. Pump Volume									
Number of Production Wells with Pumps	69	88	87	74	61	151	53	88	156
Average Pump Volume (ft^3)	1	1	1	1	1	1	1	1	1
Pump Volume per Wellfield (ft^3)	69	88	87	74	61	151	53	88	156
2. Tubing Volume									
Assumptions:									
Average tubing length/wellfield based on average well depth minus 25 ft									
Number of Production Wells with Tubing	69	88	87	74	61	151	53	88	156
Number of Injection Wells with Tubing	126	157	151	131	105	301	93	153	273
Average Tubing Length per Well (ft)	475	825	725	825	725	425	475	925	925
Tubing Length per Wellfield (ft)	92625	202125	172550	169125	120350	192100	69350	222925	396825
Diameter of Production Well Fiberglass Tubing (inches)	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
Chipped Volume Reduction (ft^3/ft)	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Chipped Volume per Wellfield (ft^3)	463	1011	863	846	602	961	347	1115	1984

Wellfield Buildings and Equipment Removal and Disposal	Mine Unit-1	Mine Unit-2	Mine Unit-3	Mine Unit-4	Mine Unit-4A	Mine Unit-15	Mine Unit-15A	Mine Unit-K	Mine Unit-9
Volume of Pump and Tubing (ft^3)	532	1099	950	920	663	1112	400	1203	2140
Volume for Disposal Assuming 10% Void Space (ft^3)	585	1209	1045	1012	729	1223	440	1323	2354
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 Pump and Tubing Transport and Disposal Costs	$7,213	$14,907	$12,885	$12,478	$8,989	$15,080	$5,425	$16,313	$29,025
Pump and Tubing Costs per Wellfield	$7,213	$14,907	$12,885	$12,478	$8,989	$15,080	$5,425	$16,313	$29,025
Total Pump and Tubing Costs	**$122,315**								
III. Buried Trunkline									
Assumptions:									
Length of Trunkline Trench (ft)	5075	7600	4790	7105	5460	10000	0	0	7000
A. Removal and Loading									
Main Pipeline Removal Unit Cost ($/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	$4,263	$6,384	$4,024	$5,968	$4,586	$8,400	$0	$0	$5,880
B. Transport and Disposal Costs (NRC-Licensed Facility)									
1. 1" Carbon Steel Trunkline									
Piping Length (ft)						10000	0	0	0
Volume (ft^3)						218	0	0	0
2. 1" HDPE Trunkline									
Piping Length (ft)						10000	0	0	0
Chipped Volume Reduction (ft^3/ft)						0.005	0.005	0.005	0.005
Chipped Volume (ft^3)						50	0	0	0
3. 3" HDPE Trunkline									
Piping Length (ft)	5075	7600	4790	7105	5460	0	0	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)	112	167	105	156	120	0	0	0	0
4. 6" HDPE Trunkline									
Piping Length (ft)	2410	10000	4820	3520	3800	20000	320	2288	12736
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)	188	780	376	275	296	1560	25	178	993
5. 8" HDPE Trunkline									
Piping Length (ft)	4100		1100	2400	1840	0	4266	1104	2926
Chipped Volume Reduction (ft^3/ft)	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
Chipped Volume (ft^3)	615	0	165	360	276	0	640	166	439
6. 10" HDPE Trunkline									
Piping Length (ft)	0	5200	3660	2280	2400	0	1400	0	1910
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)	0	1440	1014	632	665	0	388	0	529
7. 12" HDPE Trunkline									
Piping Length (ft)	1460	0	0	3210	2060	0	1080	0	4278
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)	427.78	0	0	941	604	0	316	0	1253
8. 14" HDPE Trunkline									
Piping Length (ft)	740	0	0	0	0	0	3120	0	1800

Wellfield Buildings and Equipment Removal and Disposal	Mine Unit-1	Mine Unit-2	Mine Unit-3	Mine Unit-4	Mine Unit-4A	Mine Unit-15	Mine Unit-15A	Mine Unit-K	Mine Unit-9
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)	266	0	0	0	0	0	1120	0	646
9. 16" HDPE Trunkline									
Piping Length (ft)	1440	0	0	2800	820	0	0	2210	1110
Chipped Volume Reduction (ft^3/ft)	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Chipped Volume (ft^3)	576	0	0	1120	328	0	0	884	444
10. 18" HDPE Trunkline									
Piping Length (ft)								2086	3630
Chipped Volume Reduction (ft^3/ft)	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62
Chipped Volume (ft^3)	0	0	0	0	0	0	0	1293	2251
Total Trunkline Chipped Volume (ft^3)	2184.07	2387.6	1660.16	3482.96	2288.9	1560	2489.18	2521.384	6555.632
Volume for Disposal Assuming 10% Void Space (ft^3)	2402	2626	1826	3831	2518	1716	2738	2774	7211
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	$29,617	$32,379	$22,515	$47,236	$31,047	$21,158	$33,760	$34,203	$88,912
Trunkline Decommissioning Costs per Wellfield	$33,880	$38,763	$26,539	$53,204	$35,633	$29,558	$33,760	$34,203	$94,792
Total Trunkline Decommissioning Costs	**$380,332**								
IV. Well Houses									
Total Quantity	315	408	396	343	276	392	244	401	715
Average Well House Volume (ft^3)	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86	1.86
A. Removal									
Total Volume (ft^3)	585.9	758.88	736.56	637.98	513.36	729.12	453.84	745.86	1329.9
Demolition Unit Cost per WDEQ Guideline No.12,App.K ($/ft^3$)	$0.178	$0.178	$0.178	$0.178	$0.178	$0.178	$0.178	$0.178	$0.178
Subtotal Well House Demolition Costs	$104	$135	$131	$114	$91	$130	$81	$133	$237
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
Subtotal Survey and Decontamination Costs	$1,251	$1,620	$1,572	$1,362	$1,096	$1,556	$969	$1,592	$2,839
C. Disposal at NRC licensed Facility									
Total Volume (cy)	22	28	27	24	19	27	17	28	49
Volume for Disposal Assuming 10% Void Space (cy)	24	31	30	26	21	30	18	30	54
Transportation and Disposal Unit Cost ($/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	$296	$382	$370	$321	$259	$370	$222	$370	$666
Well House Removal and Disposal Costs per Wellfield	$1,651	$2,137	$2,073	$1,797	$1,446	$2,056	$1,272	$2,095	$3,742
Total Well House Removal and Disposal Costs	**$18,269**								
V. Header Houses (Includes Booster Stations)									
Total Quantity	6	5	8	6	5	13	5	7	13
Average Header House Volume (ft^3)	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
A. Removal									
Total Volume (ft^3)	75	62.5	100	75	62.5	162.5	62.5	87.5	162.5
Demolition Unit Cost per WDEQ Guideline No.12,App.K ($/ft^3$)	$0.178	$0.178	$0.178	$0.178	$0.178	$0.178	$0.178	$0.178	$0.178

Wellfield Buildings and Equipment Removal and Disposal	Mine Unit-1	Mine Unit-2	Mine Unit-3	Mine Unit-4	Mine Unit-4A	Mine Unit-15	Mine Unit-15A	Mine Unit-K	Mine Unit-9
Subtotal Building Demolition Costs	$13	$11	$18	$13	$11	$29	$11	$16	$29
B. Survey and Decontamination									
Assumptions:									
Cost per Header House	$312	$312	$312	$312	$312	$312	$312	$312	$312
Subtotal Survey and Decontamination Costs	$1,870	$1,558	$2,493	$1,870	$1,558	$4,051	$1,558	$2,181	$4,051
C. Disposal									
Total Volume (cy)	3	2	4	3	2	6	2	3	6
Volume for Disposal Assuming 10% Void Space (cy)	3	3	4	3	3	7	3	4	7
Demolition Unit Cost per WDEQ Guideline No.12,App.K ($/ft^3)	$6.39	$6.39	$6.39	$6.39	$6.39	$6.39	$6.39	$6.39	$6.39
Subtotal On-Site Disposal Costs	$19	$19	$26	$19	$19	$45	$19	$26	$45
Header House Removal and Disposal Costs per Wellfield	$1,902	$1,588	$2,537	$1,902	$1,588	$4,125	$1,588	$2,223	$4,125
Total Header House Removal and Disposal Costs	**$21,578**								
TOTAL REMOVAL AND DISPOSAL COSTS PER WELLFIELD	$50,500	$62,273	$51,839	$75,235	$52,534	$63,502	$45,948	$59,712	$144,367
TOTAL WELLFIELD BUILDINGS AND EQUIPMENT REMOVAL AND DISPOSAL COSTS	**$671,510**								

Well Abandonment	Mine Unit-1	Mine Unit-2	Mine Unit-3	Mine Unit-3 2nd Comp.	Mine Unit-4	Mine Unit-4A	Mine Unit-15	Mine Unit-15A	Mine Unit-K	Mine Unit-9
I. Well Abandonment (Wellfields)										
# of Production Wells	115	146	145	Wells	124	101	251	89	146	260
# of Injection Wells	210	262	251	included	219	175	502	155	255	455
# of Monitoring Wells	49	50	40	under	51	39	105	61	56	93
Total Number of Wells	374	458	436		394	315	858	305	457	808
Average Diameter of Casing (inches)	5	5	5		5	5	4.5	4.5	4.5	4.5
Average Depth (ft)	500	850	750		850	750	450	500	950	950
Well Abandonment Unit Cost ($/well)	$339	$376	$365		$376	$365	$333	$333	$333	$376
Subtotal Abandonment Cost per Wellfield	$126,663	$172,103	$159,214		$148,053	$115,029	$286,031	$101,678	$152,350	$303,622
Total Wellfield Abandonment Costs	**$1,564,743**									
II. Waste Disposal Well Abandonment	DDW#1	DDW#2	SW DDW							
A. Well Plugging										
All lump sum costs										
Subtotal Well Plugging Costs per Well - based on current DDW Permit	$71,342	$71,342	$56,509							
B Pump Dismantling and Decontamination										
Number of Persons	2	2	2							
Number of Pumps	2	2	2							
Pumps/Day	0.5	0.5	0.5							
Number of Days	4	4	4							
$/Day/Person	$136	$136	$136							
Subtotal Dismantling and Decon Costs per Well	$1,091	$1,091	$1,091							
C. Tubing String Disposal (NRC-Licensed Facility)										
Length of Tubing String (ft)	10100	10100	8000							
Diameter of Tubing String (inches)	2.875	2.875	2.875							
Volume of Tubing String (ft^3)	455	455	360							
Transportation and Disposal Unit Cost ($/$ft^3$)	$12.33	$12.33	$12.33							
Subtotal Tubing String Disposal Costs per Well	$5,611	$5,611	$4,445							
Subtotal Waste Disposal Well Abandonment Costs per Well	$78,044	$78,044	$62,044							
Total Waste Disposal Well Abandonment Costs	**$218,132**									
TOTAL WELL ABANDONMENT COSTS	**$1,782,875**									

Wellfield and Satellite Surface Reclamation	Mine Unit-1	Mine Unit-2	Mine Unit-3	Mine Unit-3 2nd Comp.	Mine Unit-4	Mine Unit-4A	Mine Unit-15	Mine Unit-15A	Mine Unit-K	Mine Unit-9
I. Wellfield Pattern Area, Laydown Area, and Road Reclamation										
Area (acres)	27.1	53.2	38.7	18.0	31.4	29.6	59.0	18.0	23.0	59.0
Disking/Seeding Unit Cost ($/acre)	$280	$280	$280	$280	$280	$280	$280	$280	$280	$280
Subtotal Pattern Area, Laydown Area, and Road Reclamation Costs	$7,588	$14,907	$10,842	$5,040	$8,800	$8,288	$16,520	$5,040	$6,440	$16,520
Total Wellfield Area Reclamation Costs	**$99,985**									
II. Satellite Area Reclamation	SR-1	SR-2								
Assumptions:										
Area of Disturbance (acres)	2.05	3								
Average Depth of Stripped Topsoil (ft)	1	1								
Surface Grade: Level Ground										
Average Length of Topsoil Haul (ft)	1000	500								
A. Ripping Overburden with Dozer										
Ripping Unit Cost per WDEQ Guideline No 12, App.11 ($/acre)	$814.22	$814.22								
Subtotal Ripping Costs	$1,669	$2,443								
B. Topsoil Application with Scraper										
Volume of Topsoil Removed (cy)	3307	4840								
Ripping Unit Cost per WDEQ Guideline No 12, App.11 ($/acre)	$0.71	$0.71								
Subtotal Topsoil Application Costs	$2,348	$3,436								
C. Discing and Seeding										
Discing/Seeding Unit Cost ($/acre)	$280	$280								
Subtotal Discing/Seeding Costs	$574	$840								
Subtotal Surface Reclamation Costs per Satellite	$4,591	$6,719								
Total Satellite Building Area Reclamation Costs	**$11,310**									
III Surface Reclamation	**Mine Unit-1**	**Mine Unit-2**	**Mine Unit-3**	**Mine Unit-3 2nd Comp.**	**Mine Unit- 4**	**Mine Unit-4A**	**Mine Unit-15**	**Mine Unit-15A**	**Mine Unit K**	**Mine Unit 9**
A. Removal and disposal of contaminated soil around wells										
Volume of contaminated soil (0.37 yd3 per injection and production well - estimate)	120.25	150.96	146.52		136.91	102.12	278.61	90.28	148.37	264.55
Disposal of contaminated soil ($/yd3) (As per Byproduct Material contract)	$12.33	$12.33	$12.33		$12.33	$12.33	$12.33	$12.33	$12.33	$12.33
Equipment (Backhoe $65/hr)	$3,908.13	$4,906.20	$4,761.90	Wells accounted	$4,124.58	$3,318.90	$9,054.83	$2,934.10	$4,822.03	$8,597.88
Labor (1 man-hour ($17.hr) per 2 Yd3 - estimate)	$1,022.13	$1,283.16	$1,245.42	for in MU3	$1,078.74	$868.02	$2,368.19	$767.38	$1,261.15	$2,248.68
Subtotal removal and disposal of contaminated soil	$4,942.58	$6,201.69	$6,019.65		$5,215.64	$4,199.25	$11,435.34	$3,713.81	$6,095.50	$10,858.88
Total	$58,682.34									
B. Disc and seeding										
Disc and seeding (est. $280/acre)	$280.00	$280.00	$280.00		$280.00	$280.00	$280.00	$280.00	$280.00	$280.00
Subtotal Recontour and Seeding	$7,588.00	$14,907.20	$10,841.60		$8,800.40	$8,288.00	$5,040.00	$6,440.00	$16,520.00	$0.00
Total	$78,425.20									
Total Surface Reclamation	**$137,108**									
Total	**$248,403**									

Miscellaneous Reclamation								
I.	**CPP/Office Area/Pilot Plant/Maint. Shop/Chem. Storage/Yard Reclamation**							
	Assumptions							
	Concrete Pad= 0.3 acres							
	Total Area = 10 57 acres							
A	Concrete Pad							
	Area of Concrete Pad (ft^2)	13068						
	Demolition Unit Cost per WDEQ Guideline No.12,App K ($/ft^2$)	$3.40						
	Average Thickness of Concrete Floor (ft)	0 50						
	Volume of Concrete Floor (ft^3)	6,534						
	Volume of Concrete Floor (cy)	242						
	On-Site Disposal Unit Cost per WDEQ Guideline No.12,App.K ($/cy)	$5.00						
	Subtotal Concrete Pad Demolition and Disposal Costs	$45,641						
B.	Gravel Road Base Removal							
	Assumptions							
	Average haul distance (ft)	1000						
	Gravel Road Base Width (ft)							
	Gravel Road Base Area (acres)	8 0						
	Average Road Base Depth (ft)	0.5						
	Volume of Road Base (cy)	6453						
	Removal Unit Cost per WDEQ Guideline No 12, App.C ($/cy)	$0 87						
	Subtotal Gravel Road Base Removal Costs	$5,589						
B	Ripping Overburden with Dozer							
	Overburden Surface Area (acres)	10.6						
	Ripping Unit Cost per WDEQ Guideline No.12, App.11 ($/acre)	$814.22						
	Subtotal Ripping Overburden Costs	$8,606						
C.	Topsoil Application							
	Assumptions:							
	Area of surface disturbance (ft^2)	460426						
	Average thickness of topsoil (ft)	1						
	Average haul distance (ft)	2000						
	Surface grade (%)	0%						
	Volume of Topsoil (cy)	17,053						
	Topsoil Unit Cost per WDEQ Guideline No.12, App.C ($/cy)	$1 12						
	Subtotal Topsoil Application Costs	$19,150						
D.	Discing/Seeding							
	Assumptions							
	Surface Area (acres)	10 57						
	Discing/Seeding Unit Cost ($/acre)	$280						
	Total Discing/Seeding Costs	$2,960						
	Total CPP/Office/Yard Area Reclamation	**$76,357**						
II.	**Access Road Reclamation**	**CPP Access Rd.**	**CPP to SAT 3**	**Access to WF**	**MU-15 Access**	**SR2 Access**		
A	Assumptions							
	Surface grade	1%	5%	5%	0%	5%		
	Length of Road (ft)	5173	15827	15557	10560	8500		
	Width of Road (ft)	40	30	14	30	30		
	Area of road (acres)	4.8	10.9	5.0	7 3	5.9		
B.	Gravel Road Base Removal							
	Assumptions							
	Average haul distance (ft)	1000	1000	1000	1000	1000		
	Gravel Road Base Width (ft)	30	20	10	20	20		
	Gravel Road Base Area (acres)	3 56	7.27	3.57	4 85	3 90		
	Average Road Base Depth (ft)	0.5	0.5	0.5	0.5	0.5		
	Volume of Road Base (cy)	2874	5862	2881	3911	3148		
	Removal Unit Cost per WDEQ Guideline No.12, App.C ($/cy)	$0.87	$0.87	$0.87	$0 87	$0.87		
	Subtotal Gravel Road Base Removal Costs	$2,489	$5,076	$2,495	$3,387	$2,726		
C.	Ripping Overburden with Dozer							
	Overburden Surface Area (acres)	4.8	10 9	5.0	7 3	5.9		
	Ripping Unit Cost per WDEQ Guideline No 12, App.11 ($/acre)	$814.22	$814.22	$814 22	$814.22	$814.22		
	Subtotal Ripping Overburden Costs	$3,868	$8,875	$4,071	$5,922	$4,766		
D.	Topsoil Application							
	Assumptions							
	Average haul distance (ft)	1500	1500	1500	1500	1500		
	Topsoil Surface Area (ft^2)	206910	474804	217800	316800	255000		
	Depth of Topsoil (ft)	0.5	0.5	0 5	0.5	0.5		
	Volume of Topsoil (cy)	3832	8793	4033	5867	4722		
	Topsoil Unit Cost per WDEQ Guideline No 12, App.C ($/cy)	$1.50	$1 50	$0.82	$0.82	$0.82		
	Subtotal Topsoil Application Costs	$5,748	$13,189	$3,307	$4,811	$3,872		
E.	Discing/Seeding							
	Assumptions							

Miscellaneous Reclamation								
		Surface Area (acres)		4.8	10.9	5.0	7.3	5.9
		Discing/Seeding Unit Cost ($/acre)		$280	$280	$280	$280	$280
		Subtotal Discing/Seeding Costs		$1,330	$3,052	$1,400	$2,036	$1,639
		Subtotal Reclamation Costs per Access Road		$13,435	$30,192	$11,273	$16,156	$13,003
		Total Access Road Reclamation Costs		**$84,059**				
III.	**Trunk Lines**			**Trunk Line #1 (To MU-4)**	**Trunk Line #2 (To SR-1)**	**Trunk Line #3 (MU-15 to SR-1)**	**Trunk Line #4 (O-Sand Pilot)**	**Trunk Line to SR-2**
		Length of Trench (ft)		7750	8500	21250	5500	2500
	A.	Removal and Loading						
		Main Pipeline Removal Unit Cost ($/ft of trench)		$0.91	$0.91	$0.91	$0.91	$0.91
		Subtotal Trunkline Removal and Loading Costs		$7,053	$7,735	$19,338	$5,005	$2,275
	B.	Transport and Disposal Costs (NRC-Licensed Facility)						
	1.	2" HDPE Trunkline						
		Piping Length (ft)		7750	42500	21250	22000	22000
		Chipped Volume Reduction (ft^3/ft)		0.005	0.005	0.005	0.005	0.005
		Chipped Volume (ft^3)		38.75	212.5	106.25	110	110
	1.	3" HDPE Trunkline						
		Piping Length (ft)		0	0	0	0	0
		Chipped Volume Reduction (ft^3/ft)		0.022	0.022	0.022	0.022	0.022
		Chipped Volume (ft^3)		0	0	0	0	0
	2.	6" HDPE Trunkline						
		Piping Length (ft)		7750	17000	42500	*0	0
		Chipped Volume Reduction (ft^3/ft)		0.078	0.078	0.078	0.078	0.078
		Chipped Volume (ft^3)		604.5	1326	3315	0	0
	3.	8" HDPE Trunkline						
		Piping Length (ft)		0	0	0	0	0
		Chipped Volume Reduction (ft^3/ft)		0.15	0.15	0.15	0.15	0.15
		Chipped Volume (ft^3)		0	0	0	0	0
	3.	10" HDPE Trunkline						
		Piping Length (ft)		0	0	0	0	0
		Chipped Volume Reduction (ft^3/ft)		0.277	0.277	0.277	0.277	0.277
		Chipped Volume (ft^3)		0	0	0	0	0
	4.	12" HDPE Trunkline						
		Piping Length (ft)		0	9000	0	0	0
		Chipped Volume Reduction (ft^3/ft)		0.293	0.293	0.293	0.293	0.293
		Chipped Volume (ft^3)		0	2637	0	0	0
	5.	14" HDPE Trunkline						
		Piping Length (ft)		0	0	0	0	0
		Chipped Volume Reduction (ft^3/ft)		0.359	0.359	0.359	0.359	0.359
		Chipped Volume (ft^3)		0	0	0	0	0
	5.	16" HDPE Trunkline						
		Piping Length (ft)		15500	11000	21120	15500	15500
		Chipped Volume Reduction (ft^3/ft)		0.4	0.4	0.4	0.4	0.4
		Chipped Volume (ft^3)		6200	4400	8448	6200	6200
	6	18" HDPE Trunkline						
		Piping Length (ft)		0	31500	0	0	2320
		Chipped Volume Reduction (ft^3/ft)		0.47	0.47	0.47	0.47	0.47
		Chipped Volume (ft^3)		0	14805	0	0	1090
		Total Pipeline Disposal Volume		6804.5	23168	11763	6200	7290.4
		Volume for Disposal Assuming 10% Void Space (ft^3)		7485	25485	12939	6820	8019
		Transportation and Disposal Unit Cost (NRC-Licensed Facility) ($/$ft^3$)		$12.33	$12.33	$12.33	$12.33	$12.33
				$92,290	$314,230	$159,538	$84,091	$98,874
	C.	Discing/Seeding						
		Assumptions:						
		Width of Pipeline Trench (ft)		4	4	4	4	4
		Area of Pipeline Trench (acres)		0.7	0.8	2.0	0.5	0.2
		Discing/Seeding Unit Cost ($/acre)		$280	$280	$280	$280	$280
		Subtotal Discing/Seeding Costs		$199	$219	$546	$141	$64
		Subtotal Reclamation Costs per Pipeline		$99,542	$322,184	$179,422	$89,237	$101,213
		Total Pipeline Reclamation Costs		**$791,598**				
IV.	**Settling Basin/Evap. Pond Reclamation**			**Evaporation Pond**	**SettlingPond**			
	A.	Soil Sampling and Monitoring						
		Number of Soil Samples		0	15			
		$/Sample		$50	$50			
		Subtotal Soil Sampling and Monitoring Costs		$0	$750			

Miscellaneous Reclamation												
	B.	Liner/Subsoil Removal and Disposal										
			Assumptions:									
				Clay liner and subsoil constitute by-product material								
				Thickness of clay liner (ft)					0.5	0.5		
				Thickness of contaminated subsoil (ft)					0.5	0.5		
				Removal and Loading Unit Cost based on engineer's design								
				report and Cat Performance Handbook								
			Width of Pond (ft)						200	252		
			Length of Pond (ft)						100	432		
			Depth of Pond (ft)						10	20		
			Surface area of pond (ft^2)						20000	108864		
		1.	Removal and Loading	(Settling Pond is not By-Product, therefore can stay in place)								
				Volume of Clay Liner (cy)					65	0		
				Clay Liner Removal and Loading Unit Cost ($/cy)					$3.63	$3.63		
			Subtotal Liner Removal and Loading Costs						$235	$0		
		2.	Transportation and Disposal									
				Volume of Clay Liner (ft^3)					1755	0		
				Volume of Geotextile Liner (ft^3)					50	0		
				Volume of Geotextile Liner @ 40% void (ft^3)					83	0		
				Transportation and Disposal Unit Cost ($/$ft^3$)(As per byproduct material contract)					$12.33	$12.33		
			Subtotal Liner Transportation and Disposal Costs						$22,667	$0		
		Subtotal Liner Removal and Disposal Costs							$22,902	$0		
	C	Grade and Contour										
			Volume of Embankment Material (CY)						7,407	80,640		
			Average Grade (%)						0	0		
			Distance (ft)						50	100		
			Material Moving Unit Cost per WDEQ Guideline No.12, App.E ($/cy)						$0.092	$0.161		
		Subtotal Grade and Contour Costs							$681	$12,983		
	C.	Topsoil Application										
			Assumptions:									
				Area of surface disturbance (ft^2)					20000	108899		
				Average thickness of topsoil (ft)					1	1		
				Average haul distance (ft)					1000	1000		
				Surface grade (%)					0%	3%		
			Volume of Topsoil (cy)						741	4,033		
			Topsoil Unit Cost per WDEQ Guideline No.12, App.C ($/cy)						$1.12	$1.12		
		Subtotal Topsoil Application Costs							$832	$4,529		
	D.	Discing/Seeding										
			Assumptions:									
				Area of surface disturbance (acres)					0.5	2.5		
			Discing/Seeding Unit Cost ($/acre)						$280	$280		
		Subtotal Discing/Seeding Costs							$140	$700		
	Subtotal Reclamation Costs per Pond								$24,555	$18,962		
	Total Settling Basin/Evap. Ponds Reclamation Costs								**$43,518**			
V.	**Miscellaneous Structures**											
	A.	Potable Water Wells										
			Total Depth (ft) (5- 5-inch Diameter Wells, @ 750 ft)						3,750			
			Well Abandonment Unit Cost ($/100 ft) - per State Engineers Office						$63.10			
		Subtotal Potable Water Wells Abandonment Costs							$2,366.25			
	B.	Fuel Area										
			Concrete Floor									
				Area of Concrete Floor (ft^2)					375			
				Demolition Unit Cost per WDEQ Guideline No.12,App.K ($/$ft^2$)					$3.40			
			Subtotal Concrete Floor Demolition Costs						$1,275			
			Concrete Footing									
				Length of Concrete Footing (ft)					77			
				Demolition Unit Cost per WDEQ Guide. No.12,App K ($/lin. ft)					$12.22			
			Subtotal Concrete Footing Demolition Costs						$947			
		Subtotal Fuel Area Costs							$2,222			
	Total Miscellaneous Structures Reclamation Costs								**$4,588.25**			
TOTAL MISCELLANEOUS RECLAMATION COSTS									**$1,000,120**			

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	2300			
	HCl 35% Cost	$ 0.137	per pound		Based on current Univar costs for bulk HCl - April 2007
	Acid Usage Ra	4.1	pounds per wellhead cover		Estimate based on experience
	Acid Unit Cost	$ 0.56	per wellhead cover		
	Total Labor Ra	$ 39.70	per hour		
	Cleaning Rate	10	wellheads per hour		Estimate based on experience
	Survey / Deco	**$ 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 Op	2			Based on experience
	HCl 35% Cost	$ 0.137	per pound		Based on current Univar costs for bulk HCl - April 2007
	Acid Usage Ra	20	pounds per header house		Estimate
	Acid Unit Cost	$ 2.74	per header house		
	Total Labor Ra	$ 311.64	per hour		
	Cleaning Rate	1	header house per day		Estimate based on experience
	Survey / Deco	**$ 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					
	HUP SURETY ONLY				
Assumptions:					
1.	Based on actual operating costs				
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					**Chemical Costs**		
	Electricity	= $	0.48				
	Chemicals	= $	$0.13		Scale Inhibitor	$2.00	$/lb
	Membrane Replacement	= $	$0.06		Dose Rate	6.75	ppm
	Repair and Maintenance	= $	0.26		RO Flow	400	gpm
	Process Sampling and Analysis	= $	0.03				
					lbs scale/1000gal	0.056330727	
TOTAL RO COSTS PER 1000 GALLONS		**= $**	**0.96**				
					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) pg2							
	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	$11.41			
			Cost pre 1000gal	$0.48			

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**

ELUTION PROCESSING	
Assumptions:	
1. Based on actual operating costs	
TOTAL PROCESSING COSTS PER ELUTION	**= $ 900**

DEEP WELL INJECTION

Assumptions:

1. Pump 150 hp pumping at 100 gpm
2. Cost of electricity from Recurring Cost Sheet
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, Operator Experience
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

$$\frac{1000 \text{ gal}}{} \times \frac{150 \text{ hp}}{100 \text{ gpm}} \times \frac{1 \text{ hr}}{60 \text{ min}} \times \frac{0.746 \text{ kwh}}{\text{hp}} \times \frac{\$ 0.048}{\text{kwh}} = \$ 0.90$$

Repair and Maintenance Costs per 1000 Gallons = $ 0.5

TOTAL DEEP WELL INJECTION COSTS PER 1000 GALLONS = $ **1.40**

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	$	28.13	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

$	1125	X	1	week	X	1	days	=$	0.30
week			5	days		750	ft		

Labor

Trackhoe Operation

$	17	X	8	man hrs	X	1	days	=$	0.18
man hr			1	day		750	ft		

Pipeline Extraction

$	17	X	16	man hrs	X	2	day	=$	0.36
man hr			1	day		750	ft		

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
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

$\frac{\$\ 1125}{\text{week}} \times \frac{1\ \text{week}}{5\ \text{days}} \times \frac{1\ \text{days}}{1500\ \text{ft}} = \$\ 0.15$

Labor

Backhoe Operation

$\frac{\$\ 17}{\text{man hr}} \times \frac{8\ \text{man hrs}}{1\ \text{day}} \times \frac{1\ \text{days}}{1500\ \text{ft}} = \$\ 0.09$

Pipeline Extraction

$\frac{\$\ 17}{\text{man hr}} \times \frac{16\ \text{man hrs}}{1\ \text{day}} \times \frac{1\ \text{day}}{1500\ \text{ft}} = \$\ 0.18$

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 $0.86/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 $41.87/acre (WDEQ Guideline No. 12, Appendix P)
3. Grading of scarified roads prior to topsoil application at cost of $45.65/acre (WDEQ Guideline No. 12, Appendix G)
4. Topsoil applied at cost of $0.86/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 $280/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

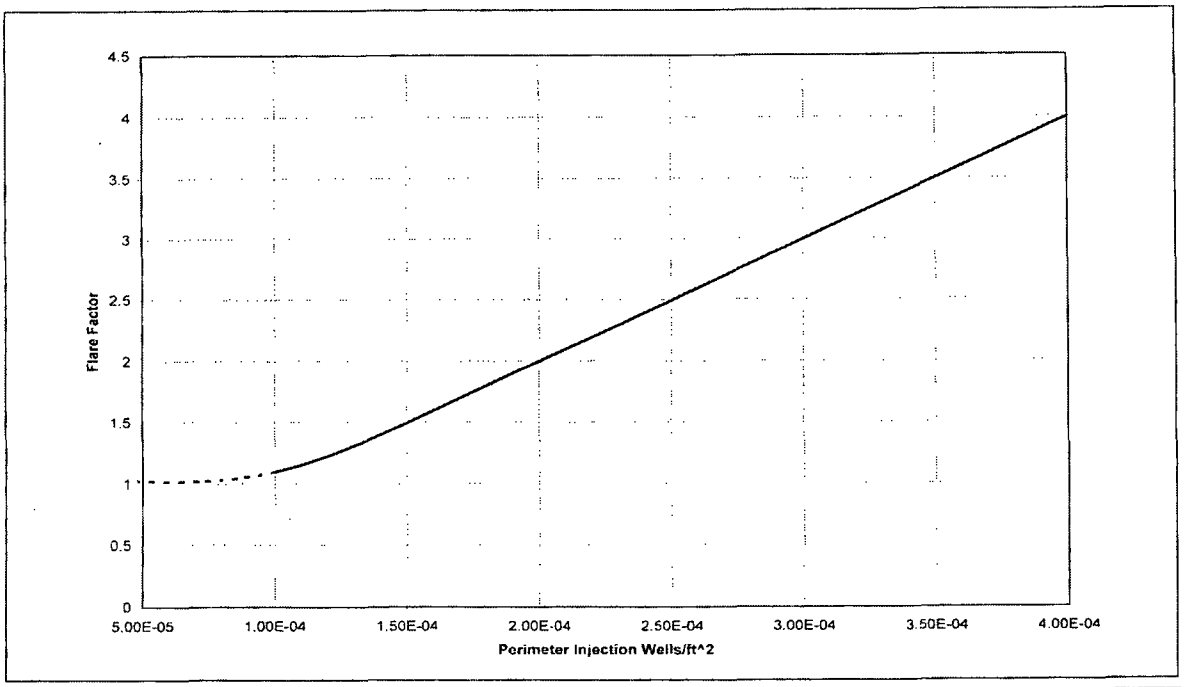
POWER RESOURCES INC SMITH RANCH URANIUM PROJECT
SURETY ESTIMATE REVISION

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
Environmental Science/Engineering/Modeling

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					