



COGEMA

Mining, Inc.

rec'd 8-22-01

August 17, 2001

Mr. Mel Leach, Chief
Fuel Cycle Licensing Branch, FCSS
c/o Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

RE: Submittal of Surety Estimate; License SUA-1341, Docket No. 40-8502

Dear Mr. Leach,

Pursuant to the requirements of SUA-1341 for COGEMA Mining's Irigaray and Christensen Ranch sites, please find attached our annual surety estimate update.

Changes to the update are described in the attached text, with detailed worksheets as backup information. The updated surety now corresponds to the decommissioning plan currently under review by Ms. Elaine Brummett of your staff.

Please contact me if you should have any questions regarding the bond estimate. Your timely review and approval of the new, reduced amount will be greatly appreciated.

Sincerely,


Donna L. Wichers
General Manager

Enclosure

cc: E. Brummett – NRC
J. Vasein, W. Heili – COGEMA

Rec'd from
Miss For ADAMS
Processing
8/29/01

NMSSDIPublic

I GROUNDWATER RESTORATION - Worksheet 1:	\$5,472,033
II DECOMMISSIONING AND SURFACE RECLAMATION:	
A. Process Plant(s) Equipment Removal and Disposal Worksheet 2	\$212,109
B. Plant Building(s) Demolition and Disposal Worksheet 3	\$587,632
C. Process Pond Sludge and Liner Handling Worksheet 4	\$1,305,536
D. Well Abandonment Worksheet 5	\$769,221
E. Wellfield Equipment Removal and Disposal Worksheet 6	\$832,873
F. Topsoil Replacement and Revegetation Worksheet 7	\$757,774
G. Miscellaneous Reclamation Activities Worksheet 8	\$155,926
Sub Total - Decommissioning and Surface Reclamation	\$4,621,071
SUBTOTAL RESTORATION AND RECLAMATION	\$10,093,103
Miscellaneous Costs Associated with Third Party Contractors	
Project Design 2%	
Contractor Profit & Mobilization 8%	
Pre-construction Investigation 1%	
Project Management 5%	
On-site monitoring 0.5%	
Site Security & Liability Assurance 1%	
Longterm Administration 2%	
Contingency <u>15%</u>	
TOTAL CONTINGENCY 34.5%	\$3,482,121
TOTAL RESTORATION AND RECLAMATION	\$13,575,224

GROUNDWATER RESTORATION

	Irigaray Mine Unit(s) #1 Thru #5	Irigaray Mine Unit(s) #6 Thru #9	Christensen Mine Unit #2	Christensen Mine Unit #3	Christensen Mine Unit #4	Christensen Mine Unit #5	Christensen Mine Unit #6	Christensen Mine Unit #7	Christensen Mine Unit #8
Technical Assumptions:									
Wellfield Area (Ft²)	522720	784080	890000	798944	510088	1210968	2021243	1332936	1600000
Wellfield Area (Acres)	12.00	18.00	20.43	18.34	11.71	27.80	46.40	30.6	36.7
Affected Ore Zone Area (Ft²)	522720	784080	890000	798944	550193	1346004	2058344		
Avg Completed Thickness (Ft)	15.0	18.0	11.0	10.0	12.7	19.9	21.8		
Affected Volume:									
Factor For Vertical Flare	20%	20%	20%	20%	20%	20%	20%		
Factor For Horizontal Flare	20%	20%	20%	20%	20%	20%	20%		
Total Volume (Ft³)	11290752	20323353.6	14097600	11504793.6	10061929.6	38593685.7	64815534.85		
Porosity	26.0%	26.0%	26.0%	26.0%	26.0%	26.0%	26.0%		
Gallons Per Cubic Foot	7.48	7.48	7.48	7.48	7.48	7.48	7.48		
Gallons Per Pore Volume	21958254.49	39524858.1	27417012.5	22374522.6	19568440.7	75057000	125664292.2		
Number of Wells in Unit(s)									
Production Wells	150	274	153	185	105	217	202	155	
Injection Wells	310	330	173	277	128	277	244	170	
Monitor Wells	150	165	50	46	44	70	65	66	
Average Well Spacing (Ft)	35	35	85	70	85	85	100	100	
Average Well Depth (Ft)	250	250	345	300	430	450	520	550	

I GROUNDWATER SWEEP									
A. PLANT & OFFICE									
Operating Assumptions:									
Flowrate (gpm)	200	200	200	200	200	200	200		
PV's Required	4	1	1	1	1	1	1		
Total Gallons For Treatment	87833017.96	39524858.1	27417012.5	22374522.6	19568440.7	75057000	125664292.2		
Total KGals for Treatment	87833	39525	27417	22375	19568	75057	125664		
Cost Assumptions:									
Power									
Avg Connected Hp	51.30	51.30	40.00	40.00	40.00	40.00	40.00		
kwh's/Hp	1.00	1.00	0.75	0.75	0.75	0.75	0.75		
\$/Kwh	\$0.051	\$0.051	\$0.038	\$0.038	\$0.038	\$0.038	\$0.038		
Gallons Per Minute	200	200	200	200	200	200	200		
Gallons Per Hour	12000	12000	12000	12000	12000	12000	6000		
Cost Per Hour	2.62	2.62	1.14	1.14	1.14	1.14	1.14		
Cost Per Gallon	0.00022	0.00022	0.00010	0.00010	0.00010	0.00010	0.00019		
Cost Per KGal (\$)	\$0.218	\$0.218	\$0.095	\$0.095	\$0.095	\$0.095	\$0.190		
Chemicals									
Barium Chloride (\$/KGals)	\$0.041	\$0.041	\$0.041	\$0.041	\$0.041	\$0.041	\$0.000		
Antiscalent (\$/KGals)			\$0.108	\$0.108	\$0.108	\$0.108	\$0.108		
Elution (\$/KGals)	\$0.099	\$0.099	\$0.099	\$0.099	\$0.099	\$0.099	\$0.099		
Repair & Maintenance (\$/KGals)	\$0.061	\$0.061	\$0.061	\$0.061	\$0.061	\$0.061	\$0.061		
Analysis (\$/KGals)	\$0.164	\$0.091	\$0.091	\$0.161	\$0.092	\$0.094	\$0.094		
Total Cost Per KGal	\$0.583	\$0.510	\$0.495	\$0.565	\$0.496	\$0.498	\$0.552		
Total Treatment Cost	\$51,209	\$20,159	\$13,571	\$12,642	\$9,706	\$37,378	\$69,367		
Utilities									
Power (\$/Month)	\$1,840	\$1,840	\$200	\$200	\$200	\$200	\$200		
Propane (\$/Month)	\$1,000	\$1,000	\$200	\$200	\$200	\$200	\$200		
Time For Treatment									
Minutes For Treatment	439165	197624	137085	111873	97842	375285	628321		
Hours For Treatment	7319	3294	2285	1865	1631	6255	10472		
Days For Treatment	305	137	95	78	68	261	436		
Average Days Per Month	30.4	30.4	30.4	30.4	30.4	30.4	30.4		
Months For Treatment	10.0	4.5	3.1	2.6	2.2	8.6	14.3		
Utilities Cost (\$)	\$28,476	\$12,814	\$1,252	\$1,022	\$694	\$3,427	\$5,736		
TOTAL PLANT & OFFICE COST	\$79,684	\$32,973	\$14,823	\$13,663	\$10,599	\$40,806	\$75,105	\$0	\$0

GROUNDWATER RESTORATION	Irigaray	Irigaray	Christensen	Christensen	Christensen	Christensen	Christensen	Christensen	Christensen
	Mine Unit(s)	Mine Unit(s)	Mine Unit	Mine Unit	Mine Unit	Mine Unit	Mine Unit	Mine Unit	Mine Unit
	#1 Thru #5	#6 Thru #9	#2	#3	#4	#5	#6	#7	#8
I GROUNDWATER SWEEP (Continued)									
B. WELLFIELD									
Cost Assumptions:									
Power									
Avg Flow/Pump (gpm)	3.86	3.86	20	20	20	20	20		
Avg Hp/Pump	1.50	1.50	5.00	5.00	5.00	5.00	5.00		
Avg # of Pumps Required	51.9	51.9	5.0	5.0	5.0	5.0	5.0		
Avg Connected Hp	77.8	77.8	25	25	25	25	25		
Kwh's/Hp	1.000	1.000	0.750	0.750	0.750	0.750	0.750		
\$/Kwh	\$0.051	\$0.051	\$0.038	\$0.038	\$0.038	\$0.038	\$0.038		
Gallons Per Minute	200	200	200	200	200	200	200		
Gallons Per Hour	12000	12000	12000	12000	12000	12000	12000		
Cost Per Hour (\$)	\$3.97	\$3.97	\$0.71	\$0.71	\$0.71	\$0.71	\$0.71		
Cost Per Gallon (\$)	\$0.0003	\$0.0003	\$0.0001	\$0.0001	\$0.0001	\$0.0001	\$0.0001		
Cost Per KGal (\$)	0.331	0.331	0.059	0.059	0.059	0.059	0.059		
Repair & Maintenance (\$/KGals)	\$0.016	\$0.016	\$0.224	\$0.224	\$0.224	\$0.224	\$0.224		
Total Cost Per KGal	\$0.347	\$0.347	\$0.283	\$0.283	\$0.283	\$0.283	\$0.283		
TOTAL WELLFIELD COST	\$30,447	\$13,701	\$7,769	\$6,340	\$5,545	\$21,269	\$35,610	\$0	\$0
TOTAL GROUNDWATER SWEEP COST	\$110,132	\$46,674	\$22,593	\$20,004	\$16,145	\$62,075	\$110,715	\$0	\$0
II REVERSE OSMOSIS									
A. PLANT & OFFICE									
Operating Assumptions:									
Flowrate (gpm)	300	300	500	500	500	500	500		
PV's Required	3.0	5.0	5.0	5.0	5.0	5.0	5.0		
Total Gallons For Treatment	65874763.47	197624290	137085062	111872613	97842203.3	375285000	628321460.9		
Total KGals for Treatment	65875	197624	137085	111873	97842	375285	628321		
Feed to RO (gpm)	300	300	500	500	500	500	500		
Permeate Flow (gpm)	240	240	375	375	375	375	375		
Brine Flow (gpm)	60	60	125	125	125	125	125		
Average RO Recovery	80.0%	80.0%	75.0%	75.0%	75.0%	75.0%	75.0%		
Cost Assumptions:									
Power									
Avg Connected Hp	120.00	120.00	560.00	560.00	560.00	560.00	560.00		
Kwh's/Hp	1.000	1.000	0.750	0.750	0.750	0.750	0.750		
\$/Kwh	\$0.051	\$0.051	\$0.038	\$0.038	\$0.038	\$0.038	\$0.038		
Gallons Per Minute	300	300	500	500	500	500	500		
Gallons Per Hour	18000	18000	30000	30000	30000	30000	30000		
Cost Per Hour (\$)	\$6.12	\$6.12	\$15.96	\$15.96	\$15.96	\$15.96	\$15.96		
Cost Per Gallon (\$)	\$0.00034	\$0.00034	\$0.00053	\$0.00053	\$0.00053	\$0.00053	\$0.00053		
Cost Per KGal (\$)	\$0.340	\$0.340	\$0.532	\$0.532	\$0.532	\$0.532	\$0.532		
Chemicals									
Sulfuric Acid (\$/KGals)	\$0.076	\$0.076	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000		
Caustic Soda (\$/KGals)	\$0.111	\$0.111	\$0.015	\$0.015	\$0.015	\$0.015	\$0.015		
Hydrochloric Acid (\$/KGals)	\$0.009	\$0.009	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000		
Hydrogen Sulfide (\$/KGals)	\$0.304	\$0.304	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000		
Sodium Sulfate (\$/KGals)			\$0.092	\$0.092	\$0.092	\$0.092	\$0.092		
Antiscalant (\$/KGals)			\$0.108	\$0.108	\$0.108	\$0.108	\$0.108		
Elution (\$/KGals)			\$0.099	\$0.099	\$0.099	\$0.099	\$0.099		
Repair & Maintenance (\$/KGals)	\$0.279	\$0.279	\$0.120	\$0.120	\$0.120	\$0.120	\$0.120		
Sampling & Analysis (\$/KGals)	\$0.164	\$0.091	\$0.091	\$0.161	\$0.092	\$0.094	\$0.094		
Total Cost Per KGal (\$)	\$1.283	\$1.210	\$1.057	\$1.127	\$1.058	\$1.060	\$1.060		
Total Pumping Cost (\$)	\$84,517	\$239,125	\$144,899	\$126,080	\$103,517	\$397,802	\$666,021		
Utilities									
Power (\$/Month)	\$1,840	\$1,840	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000		
Propane (\$/Month)	\$1,000	\$1,000	\$800	\$800	\$800	\$800	\$800		
Time For Treatment									
Minutes For Treatment	219583	658748	274170	223745	195684	750570	1256643		
Hours For Treatment	3660	10979	4570	3729	3261	12510	20944		
Days For Treatment	152	457	190	155	136	521	873		
Average Days Per Month	30.4	30.4	30.4	30.4	30.4	30.4	30.4		
Months For Treatment	5.0	15.0	6.3	5.1	4.5	17.1	28.7		
Utilities Cost (\$)	\$14,200	\$42,600	\$11,340	\$9,180	\$8,100	\$30,780	\$51,660		
TOTAL PLANT & OFFICE COST	\$98,717	\$281,725	\$156,239	\$135,260	\$111,617	\$428,582	\$717,681	\$0	\$0

GROUNDWATER RESTORATION	Irigaray Mine Unit(s) #1 Thru #5	Irigaray Mine Unit(s) #6 Thru #9	Christensen Mine Unit #2	Christensen Mine Unit #3	Christensen Mine Unit #4	Christensen Mine Unit #5	Christensen Mine Unit #6	Christensen Mine Unit #7	Christensen Mine Unit #8
II REVERSE OSMOSIS (Continued)									
B. WELLFIELD									
Cost Assumptions:									
Power									
Avg Flow/Pump (gpm)	3.86	3.86	20.00	20.00	20.00	20.00	20.00		
Avg Hp/Pump	1.50	1.50	5.00	5.00	5.00	5.00	5.00		
Avg # of Pumps Required	77.8	77.8	62.4	62.4	62.4	62.4	62.4		
Avg Connected Hp	116.7	116.7	187.1	187.1	187.1	187.1	187.1		
Kwh's/Hp	1.000	1.000	0.750	0.750	0.750	0.750	0.750		
\$/Kwh	\$0.051	\$0.051	\$0.038	\$0.038	\$0.038	\$0.038	\$0.038		
Gallons Per Minute	300	300	500	500	500	500	500		
Gallons Per Hour	18000	18000	30000	30000	30000	30000	30000		
Cost Per Hour (\$)	\$5.95	\$5.95	\$5.33	\$5.33	\$5.33	\$5.33	\$5.33		
Cost Per Gallon (\$)	\$0.0003	\$0.0003	\$0.0002	\$0.0002	\$0.0002	\$0.0002	\$0.0002		
Cost Per KGal (\$)	\$0.331	\$0.331	\$0.178	\$0.178	\$0.178	\$0.178	\$0.178		
Repair & Maintenance (\$/KGals)	\$0.016	\$0.016	\$0.224	\$0.224	\$0.224	\$0.224	\$0.224		
Total Cost Per KGal	\$0.347	\$0.347	\$0.402	\$0.402	\$0.402	\$0.402	\$0.402		
TOTAL WELLFIELD COST	\$22,835	\$68,506	\$55,073	\$44,944	\$39,308	\$150,769	\$252,425	\$0	\$0
TOTAL REVERSE OSMOSIS COST	\$121,553	\$350,232	\$211,312	\$180,205	\$150,925	\$579,351	\$970,106	\$0	\$0

GROUNDWATER RESTORATION	Irigaray Mine Unit(s) #1 Thru #5	Irigaray Mine Unit(s) #6 Thru #9	Christensen Mine Unit #2	Christensen Mine Unit #3	Christensen Mine Unit #4	Christensen Mine Unit #5	Christensen Mine Unit #6	Christensen Mine Unit #7	Christensen Mine Unit #8
III WASTE DISPOSAL WELL									
Operating Assumptions:									
Annual Evaporation Capacity (Gals)			1,917,612	1,917,612	1,917,612	1,917,612	1,917,612		
Avg. Monthly Evap. Capacity (Gals)			159,801	159,801	159,801	159,801	159,801		
Total Disposal Requirement									
RO Brine Total Gallons			34,271,266	27,968,153	24,460,551	93,821,250	157,080,365		
RO Brine Total KGallons			34,271	27,968	24,461	93,821	157,080		
Brine Concentration Factor			60%	60%	60%	60%	60%		
Total Concentrated Brine (Gals)			20,562,759	16,780,892	14,676,330	56,292,750	94,248,219		
Months of RO Operation			6.3	5.1	4.5	17.1	28.7		
Average Monthly Req'm't (Gallons)			3,263,930	3,290,371	3,261,407	3,291,974	3,283,910		
Monthly Balance for DDW (Gals)			3,104,129	3,130,570	3,101,606	3,132,173	3,124,109		
Total WDW Disposal (Gallons)			19,556,013	15,965,907	13,957,226	53,560,153	89,661,930		
Total WDW Disposal (KGals)			19,556	15,966	13,957	53,560	89,662		
Cost Assumptions:									
Power									
Avg Connected Hp			100.00	100.00	100.00	100.00	100.00		
WDW Avg Connected Hp			180.00	180.00	180.00	180.00	180.00		
Kwh's/Hp			0.750	0.750	0.750	0.750	0.750		
\$/Kwh			\$0.038	\$0.038	\$0.038	\$0.038	\$0.038		
Gallons Per Minute			150	150	150	150	150		
Gallons Per Hour			9000	9000	9000	9000	9000		
Cost Per Hour (\$)			\$7.98	\$7.98	\$7.98	\$7.98	\$7.98		
Cost Per Gallon (\$)			\$0.0009	\$0.0009	\$0.0009	\$0.0009	\$0.0009		
Cost Per KGal (\$)			\$0.887	\$0.887	\$0.887	\$0.887	\$0.887		
Chemicals (\$/KGals)									
RO Antiscalant (\$/KGals)			\$0.192	\$0.192	\$0.192	\$0.192	\$0.192		
WDW Antiscalant (\$/KGals)			\$0.226	\$0.226	\$0.226	\$0.226	\$0.226		
Sulfuric Acid (\$/KGals)			\$0.280	\$0.280	\$0.280	\$0.280	\$0.280		
Corrosion Inhibitor			\$0.217	\$0.217	\$0.217	\$0.217	\$0.217		
Algacide			\$0.052	\$0.052	\$0.052	\$0.052	\$0.052		
Other			\$0.080	\$0.080	\$0.080	\$0.080	\$0.080		
Repair & Maint (\$/KGals)			\$0.230	\$0.230	\$0.230	\$0.230	\$0.230		
Total Cost Per KGal			\$2.164	\$2.164	\$2.164	\$2.164	\$2.164		
TOTAL WASTE DISPOSAL WELL COST			\$42,313	\$34,545	\$30,199	\$115,886	\$193,999	\$0	\$0
IV STABILIZATION MONITORING									
Operating Assumptions:									
Time of Stabilization (mos)	9	9	9	9	9	9	9		
Frequency of Analysis (mos)	3	3	3	3	3	3	3		
Total Sets of Analysis	3	3	3	3	3	3	3		
Cost Assumptions:									
Power (\$/Month)	\$0	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000		
Total Power Cost	\$0	\$9,000	\$9,000	\$9,000	\$9,000	\$9,000	\$9,000		
Sampling & Analysis (each set)	\$3,600	\$3,600	\$3,600	\$3,600	\$3,600	\$3,600	\$3,600		
Total Sampling & Analysis Cost (\$)	\$10,800	\$10,800	\$10,800	\$10,800	\$10,800	\$10,800	\$10,800		
Utilities (\$/Month)	\$0	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000		
Total Utilities Cost (\$)	\$0	\$18,000	\$18,000	\$18,000	\$18,000	\$18,000	\$18,000		
TOTAL STABILIZATION COST	\$10,800	\$37,800	\$37,800	\$37,800	\$37,800	\$37,800	\$37,800	\$0	\$0

GROUNDWATER RESTORATION		Irigaray Mine Unit(s) #1 Thru #5	Irigaray Mine Unit(s) #6 Thru #9	Christensen Mine Unit #2	Christensen Mine Unit #3	Christensen Mine Unit #4	Christensen Mine Unit #5	Christensen Mine Unit #6	Christensen Mine Unit #7	Christensen Mine Unit #8		
V LABOR (Irigaray and Christensen Combined)												
Cost Assumptions		Cost/Hour	Hours/Year	Cost								
Crew:												
1 Supervisor		\$25.00	2080	\$52,000								
4 Operators		\$20.00	2080	\$168,400								
2 Maintenance		\$20.00	2080	\$83,200								
2 Vehicles		\$12.00	2080	\$49,920								
Cost per Year					\$351,520							
Time Required - Years (See Figure 1)		3.6										
TOTAL RESTORATION LABOR COST		\$1,265,472										
		Irigaray Mine Unit(s) #1 Thru #9	Christensen Mine Unit #2 Thru #4	Total Christensen & Irigaray								
VI RESTORATION CAPITAL REQUIREMENTS												
I Deep Disposal Well(s)			\$0	\$0								
II Plug and Abandon DDW (2)			\$200,000	\$200,000								
III 500 GPM Reverse Osmosis Unit			\$0	\$0								
Total		\$0	\$200,000	\$200,000								
		Irigaray Mine Unit(s) #1 Thru #5	Irigaray Mine Unit(s) #6 Thru #9	Christensen Mine Unit #2	Christensen Mine Unit #3	Christensen Mine Unit #4	Christensen Mine Unit #5	Christensen Mine Unit #6	Christensen Mine Unit #7	Christensen Mine Unit #8	TOTAL	
SUMMARY:												
I GROUNDWATER SWEEP		\$110,132	\$46,674	\$22,593	\$20,004	\$16,145	\$62,075	\$110,715	\$0			
II REVERSE OSMOSIS		\$121,553	\$350,232	\$211,312	\$180,205	\$150,925	\$579,351	\$970,106	\$0			
III WASTE DISPOSAL WELL		\$0	\$0	\$42,313	\$34,545	\$30,199	\$115,886	\$193,999	\$0			
IV STABILIZATION		\$10,800	\$37,800	\$37,800	\$37,800	\$37,800	\$37,800	\$37,800	\$0			
SUB TOTAL		\$242,485	\$434,706	\$314,017	\$272,553	\$235,068	\$795,112	\$1,312,619	\$0		\$3,606,561	
V LABOR												\$1,265,472
VI CAPITAL												\$200,000
TOTAL GROUNDWATER RESTORATION COST												\$5,072,033
												\$400,000
GRAND TOTAL												\$5,472,033

WDEQ Mandated Estimate for Excursion Well Cleanup (April 2000)

WDEQ Mandated Estimate for Excursion Well Cleanup (April 2000)

PLANT EQUIPMENT REMOVAL AND DISPOSAL	Irigaray							Christensen				
	Maint Area & Laboratory	Main Process Building	Expansion Building	Resin +Sand Filter Media	Dry Pack Area	Restoration Building	Sub Total	Satellite Plant	Resin + Sand Filter Media	Restoration Extension	Wellfield Modules	Sub Total
Volume (Yds*)	40	200	180	110	40	40		91	197	42	55	
Quantity Per Truck Load (Yds*)	20	20	20	20	20	20		20	20	20	20	
Number of Truck Loads	2.0	10.0	9.0	5.5	2.0	2.0		4.55	9.9	2.1	2.8	
I Decontamination Cost												
Decontamination Cost (\$/Load)	\$550	\$550	\$550	\$550	\$550	\$550		\$550	\$550	\$550	\$550	
Percent Requiring Decontamination	20.0%	100.0%	100.0%	0.0%	100.0%	100.0%		100.0%	0.0%	100.0%	100.0%	
Total Cost	\$220	\$5,500	\$4,950	\$0	\$1,100	\$1,100	\$12,870	\$2,503	\$0	\$1,155	\$1,513	\$5,170
II Dismantle and Loading Cost												
Cost Per Truck Load (\$)	\$715	\$715	\$715	\$715	\$715	\$715		\$715	\$715	\$715	\$715	
Total Cost	\$1,430	\$7,150	\$6,435	\$3,933	\$1,430	\$1,430	\$21,808	\$3,253	\$7,043	\$1,502	\$1,966	\$13,764
III Oversize Charges												
Percent Requiring Permits	40.0%	40.0%	40.0%	0.0%	60.0%	40.0%		40.0%	0.0%	40.0%	0.0%	
Cost Per Truck Load (\$)	\$326	\$326	\$326	\$326	\$326	\$326		\$326	\$326	\$326	\$326	
Total Cost	\$261	\$1,304	\$1,174	\$0	\$391	\$261	\$3,390	\$593	\$0	\$274	\$0	\$867
IV Transportation & Disposal												
A. Landfill												
Percent To Be Shipped	80.0%	80.0%	80.0%	0.0%	50.0%	80.0%		80.0%	0.0%	80.0%	80.0%	
Distance (Miles)	48	48	48	48	48	48		48	48	48	48	
Cost Per Mile (\$)	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58		\$2.58	\$2.58	\$2.58	\$2.58	
Transportation Cost	\$198	\$991	\$892	\$0	\$124	\$198		\$451	\$0	\$208	\$272	
Disposal Fee Per Cubic Yard	\$12.00	\$12.00	\$12.00	\$12.00	\$12.00	\$12.00		\$12.00	\$12.00	\$12.00	\$12.00	
Disposal Cost (\$)	\$384	\$1,920	\$1,728	\$0	\$240	\$384		\$874	\$0	\$403	\$528	
Total Cost	\$582	\$2,911	\$2,620	\$0	\$364	\$582		\$1,324	\$0	\$611	\$800	
B. Licensed Site												
Percent To Be Shipped	20.0%	20.0%	20.0%	100.0%	50.0%	20.0%		20.0%	100.0%	20.0%	20.0%	
Distance (Miles)	150	150	150	150	150	150		150	150	150	150	
Cost Per Mile (\$)	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58		\$2.58	\$2.58	\$2.58	\$2.58	
Transportation Cost	\$155	\$774	\$697	\$2,129	\$387	\$155		\$352	\$3,812	\$163	\$213	
Disposal Cost Per Cubic Foot (\$)	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00		\$11.00	\$11.00	\$11.00	\$11.00	
Quantity Per Truck Load (Yds*)	20.0	20.0	20.0	20.0	20.0	20.0		20.0	20.0	20.0	20.0	
Quantity Per Truck Load (Ft³)	540	540	540	540	540	540		540	540	540	540	
Disposal Cost	\$2,376	\$11,880	\$10,692	\$32,670	\$5,940	\$2,376		\$5,405	\$58,509	\$2,495	\$3,267	
Total Cost Licensed Site	\$2,531	\$12,654	\$11,389	\$34,799	\$6,327	\$2,531		\$5,758	\$62,321	\$2,657	\$3,480	
Total Cost Transportation & Disposal	\$3,113	\$15,565	\$14,008	\$34,799	\$6,691	\$3,113	\$77,288	\$7,082	\$62,321	\$3,269	\$4,280	\$76,952
TOTAL COST	\$5,024	\$29,519	\$26,567	\$38,731	\$9,612	\$5,904	\$115,356	\$13,431	\$69,364	\$6,199	\$7,759	\$96,753
TOTAL COST - IRIGARAY AND CHRISTENSEN												\$212,109

	Irigaray							Christensen							
	Maint Area Laboratory	Warehouse & Offices	Main Process Building	Expansion Building	Dry Pack Area	Restoration Building	Sub Total	Satellite Plant	Wellfield Modules	Booster Pump Bldgs.	Restoration Extension	Office Building	Warehouse		
BUILDING DEMOLITION AND DISPOSAL															
Structural Character	1 Story Steel Frame	1 Story Steel Frame	1 Story Steel Frame	1 Story Steel Frame	3 Story Steel/Masonry	1 Story Steel Frame		2 Story Steel Frame	1 Story Pre Fab (22)	1 Story Pre Fab (4)	2 Story Steel Fram	1 Story Pre-Fab	1 Story Steel Frame		
Demolition Volume (Ft³)	179400	108720	430400	386400	126000	69640		192000	95040	46720	72000	64800	11000		
Cost of Demolition Per Ft³	\$0.1310	\$0.1310	\$0.1310	\$0.1310	\$0.1310	\$0.1310		\$0.1310	\$0.1310	\$0.1310	\$0.1310	\$0.1310	\$0.1310		
Demolition Cost (\$)	\$23,503	\$14,243	\$56,387	\$50,622	\$16,507	\$9,124	\$170,386	\$25,154	\$12,451	\$6,121	\$9,433	\$8,489	\$1,441	\$63,089	
Factor For Gutting	15.0%	10.0%	30.0%	10.0%	20.0%	10.0%		20.0%	0.0%	0.0%	20.0%	10.0%	10.0%		
Cost For Gutting (\$)	\$3,525	\$1,424	\$16,916	\$5,062	\$3,301	\$912	\$31,142	\$5,031	\$0	\$0	\$1,887	\$849	\$144	\$7,910	
Weight (pounds)	158761	96212	380885	341947	111504	61628		169912	66660	28032	63717	38802	9735		
Weight per Truckload	40000	40000	40000	40000	40000	40000		40000	40000	40000	40000	40000	40000		
Number of Truckloads	4.0	2.4	9.5	8.5	2.8	1.5		4.2	1.7	0.7	1.6	1.0	0.2		
Distance to Landfill	48	48	48	48	48	48		48	48	48	48	48	48		
Cost per Mile	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58		\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58		
Transportation Cost	\$492	\$298	\$1,179	\$1,059	\$345	\$191	\$3,563	\$526	\$206	\$87	\$197	\$120	\$30	\$1,167	
Disposal Cost per Ton	\$35.70	\$35.70	\$35.70	\$35.70	\$35.70	\$35.70		\$35.70	\$35.70	\$35.70	\$35.70	\$35.70	\$35.70		
Disposal Cost	\$2,834	\$1,717	\$6,799	\$6,104	\$1,990	\$1,100	\$20,544	\$3,033	\$1,190	\$500	\$1,137	\$693	\$174	\$6,727	
TOTAL COST	\$30,354	\$17,683	\$81,281	\$62,847	\$22,144	\$11,327	\$225,636	\$33,744	\$13,847	\$6,708	\$12,654	\$10,151	\$1,789	\$78,893	
TOTAL COST IRIGARAY AND CHRISTENSEN														\$304,529	

CONCRETE DECONTAMINATION, DEMOLITION & DISPOSAL

Area (Ft²)	8020	7100	17600	18400	5600	3600		9600	0	1440	3600	0	1000	
Average Thickness (Ft)	0.5	0.5	0.5	0.5	1	0.5		0.5	0.0	0.5	0.5	0.0	0.5	
Volume (Ft³)	4010	3550	8800	9200	5600	1800		4800	0	720	1800	0	500	
Percent Requiring Decontamination	0.0%	0.0%	100.0%	100.0%	100.0%	100.0%		100.0%	0.0%	100.0%	100.0%	0.0%	0.0%	
Percent Decontaminated	0.0%	0.0%	75.0%	75.0%	40.0%	75.0%		75.0%	0.0%	100.0%	100.0%	0.0%	0.0%	
Decontamination (\$/Ft²)	\$0.170	\$0.170	\$0.170	\$0.170	\$0.170	\$0.170		\$0.170	\$0.170	\$0.170	\$0.170	\$0.170	\$0.170	
Decontamination Cost	\$0	\$0	\$2,248	\$2,350	\$382	\$460	\$5,440	\$1,226	\$0	\$245	\$613	\$0	\$0	\$2,085
Demolition (\$/Ft²)	\$1.887	\$1.887	\$1.887	\$1.887	\$1.887	\$1.887		\$1.887	\$1.887	\$1.887	\$1.887	\$1.887	\$1.887	
Demolition Cost	\$15,130	\$13,394	\$33,203	\$34,712	\$10,565	\$6,792	\$113,796	\$18,111	\$0	\$2,717	\$6,792	\$0	\$1,887	\$29,506
Transportation & Disposal														
A. Onsite Disposal														
Percent to be Disposed Onsite	100%	100%	75%	75%	40%	75%		75%	0%	100%	100%	0%	100%	
Transportation Cost	\$0	\$0	\$0	\$0	\$0	\$0		\$0	\$0	\$0	\$0	\$0	\$0	
Disposal Cost per Cubic Foot	\$0.049	\$0.049	\$0.049	\$0.049	\$0.049	\$0.049		\$0.049	\$0.049	\$0.049	\$0.049	\$0.049	\$0.049	
Disposal Cost (\$)	\$196	\$174	\$323	\$338	\$110	\$66	\$1,208	\$176	\$0	\$35	\$88	\$0	\$25	\$324
B. Licensed Site														
Percent to be Shipped	0%	0%	25%	25%	60%	25%		25%	100%	0%	0%	100%	0%	
Distance (Miles)	150	150	150	150	150	150		150	150	150	150	150	150	
Cost per Mile (\$)	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58		\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	
Transportation Cost	\$0	\$0	\$1,577	\$1,648	\$2,408	\$323	\$5,956	\$860	\$0	\$0	\$0	\$0	\$0	\$860
Disposal Cost per Cubic Foot	\$3.70	\$3.70	\$3.70	\$3.70	\$3.70	\$3.70		\$3.70	\$3.70	\$3.70	\$3.70	\$3.70	\$3.70	
Quantity Per Truck Load (Yds³)	20	20	20	20	20	20		20	20	20	20	20	20	
Quantity Per Truck Load (Ft³)	540	540	540	540	540	540		540	540	540	540	540	540	
Disposal Cost (\$)	\$0	\$0	\$8,140	\$8,510	\$12,432	\$1,665	\$30,747	\$4,440	\$0	\$0	\$0	\$0	\$0	\$4,440
TOTAL COST	\$15,327	\$13,568	\$45,491	\$47,559	\$25,896	\$9,305	\$157,146	\$24,813	\$0	\$2,997	\$7,493	\$0	\$1,911	\$37,215
TOTAL COST IRIGARAY AND CHRISTENSEN														\$194,361

Irigaray							Christensen							
Maint Area	Warehouse	Main Process	Expansion	Dry Pack	Restoration		Satellite	Wellfield	Booster	Restoration	Office			
Laboratory	& Offices	Building	Building	Area	Building	Sub Total	Plant	Modules	Pump Bldgs.	Extension	Building	Warehouse	Sub Total	
SOIL REMOVAL & DISPOSAL														
Assume removal of 3" of Contaminated Soil under Primary Areas, Disposal at a Licensed facility.														
Removal, Front End Loader (\$50/hr)	\$0	\$0	\$815	\$852	\$259	\$167	\$2,093	\$444	\$0	\$0	\$0	\$0	\$0	\$444
Quantity to be Shipped (Ft³)	0	0	4400	4600	1400	900	2400	2400	0	0	0	0	0	0
Distance (Miles)	150	150	150	150	150	150	150	150	150	150	150	150	150	150
Cost Per Mile (\$)	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58
Transportation Cost (\$)	\$0	\$0	\$3,153	\$3,297	\$1,003	\$645	\$8,098	\$1,720	\$0	\$0	\$0	\$0	\$0	\$1,720
Disposal fee Per Cubic Foot(\$)	\$3.70	\$3.70	\$3.70	\$3.70	\$3.70	\$3.70	\$3.70	\$3.70	\$3.70	\$3.70	\$3.70	\$3.70	\$3.70	\$3.70
Quantity per Truckload (Ft³)	540	540	540	540	540	540	540	540	540	540	540	540	540	540
Disposal Cost (\$)	\$0	\$0	\$16,280	\$17,020	\$5,180	\$3,330	\$41,810	\$8,880	\$0	\$0	\$0	\$0	\$0	\$8,880
Removal, NPDES Pts.														
Quantity to be Shipped (Ft³)			559					5,030						
Distance (Miles)	150	150	150	150	150	150	150	150	150	150	150	150	150	150
Cost Per Mile (\$)	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58
Transportation Cost (\$)	\$0	\$0	\$401	\$0	\$0	\$0	\$401	\$3,605	\$0	\$0	\$0	\$0	\$0	\$3,605
Disposal fee Per Cubic Foot(\$)	\$3.70	\$3.70	\$3.70	\$3.70	\$3.70	\$3.70	\$3.70	\$3.70	\$3.70	\$3.70	\$3.70	\$3.70	\$3.70	\$3.70
Quantity per Truckload (Ft³)	540	540	540	540	540	540	540	540	540	540	540	540	540	540
Disposal Cost (\$)	\$0	\$0	\$2,068	\$0	\$0	\$0	\$2,068	\$18,611	\$0	\$0	\$0	\$0	\$0	\$18,611
Total Cost	\$0	\$0	\$22,717	\$21,169	\$6,442	\$4,142	\$54,470	\$33,260	\$0	\$0	\$0	\$0	\$0	\$33,260
TOTAL COST	\$0	\$0	\$22,717	\$21,169	\$6,442	\$4,142	\$54,470	\$33,260	\$0	\$0	\$0	\$0	\$0	\$33,260
TOTAL COST IRIGARAY AND CHRISTENSEN														\$87,730
RADIATION SURVEY														
Area required (acres)	0.18	0.16	0.40	0.42	0.13	0.08		0.22	0.00	0.03	0.08	0.00	0.02	
Survey Cost (\$/acre)	\$580.00	\$580.00	\$580.00	\$580.00	\$580.00	\$580.00		\$580.00	\$580.00	\$580.00	\$580.00	\$580.00	\$580.00	
TOTAL SURVEY COST (\$)	\$107	\$95	\$234	\$245	\$75	\$48	\$804	\$128	\$0	\$19	\$48	\$0	\$13	\$208
TOTAL COST	\$45,788	\$31,346	\$149,723	\$131,820	\$54,558	\$24,822	\$438,056	\$91,945	\$13,847	\$9,724	\$20,195	\$10,151	\$3,713	\$149,576
TOTAL COST IRIGARAY AND CHRISTENSEN														\$587,632

POND RECLAMATION COST	Irigaray								517				Christensen				
	Pond A	Pond B	Pond C	Pond D	Pond E	Pond RA	Pond RB	Pond 1	Pond 2A	Pond 2B	Pond 3	Brine Pond 1	Brine Pond 2	Brine Pond 3	Brine Pond 4	Permeate Pond	
POND SLUDGE:																	
Average Sludge Depth (Ft)	0.188	0.156	0.123	0.135	0.227	0.188	0.158					0.166	0.222	0.143	0.068	0.000	
Average Area of Sludge (Ft²)	50,845	50,604	62,291	62,291	29,583	50,845	50,604					20,909	20,909	20,909	20,909	-	
Volume of Sludge (Ft³)	9,583	7,907	7,683	8,435	6,729	9,583	7,907					3,466	4,651	2,983	1,414	-	
Volume of Sludge (Yds³)	355	293	285	312	249	355	293	0	0	0	0	128	172	110	52	0	
Volume of Sludge Per Truck Load (Yds³)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	
# of Truck Loads of Sludge	17.8	14.7	14.3	15.6	12.5	17.8	14.7	0.0	0.0	0.0	0.0	6.4	8.6	5.5	2.6	0.0	
Sludge Handling Cost Per Load (\$)	\$238.00	\$238.00	\$238.00	\$238.00	\$238.00	\$238.00	\$238.00	\$238.00	\$238.00	\$238.00	\$238.00	\$238.00	\$238.00	\$238.00	\$238.00	\$238.00	
Total Sludge Handling Cost (\$)	\$4,236	\$3,499	\$3,403	\$3,713	\$2,975	\$4,236	\$3,499	\$0	\$0	\$0	\$0	\$1,523	\$2,047	\$1,309	\$619	\$0	
Transportation & Disposal																	
Percent To Be Shipped	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
Distance (Miles)	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	
Cost Per Mile (\$)	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	
Transportation Cost (\$)	\$6,889	\$5,689	\$5,534	\$6,037	\$4,838	\$6,889	\$5,689	\$0	\$0	\$0	\$0	\$2,477	\$3,328	\$2,129	\$1,006	\$0	
Disposal Cost Per Cubic Foot (\$)	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	
Quantity Per Truck Load (Yds³)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	
Quantity Per Truck Load (Ft³)	540	540	540	540	540	540	540	540	540	540	540	540	540	540	540	540	
Disposal Cost (\$)	\$105,732	\$87,318	\$84,942	\$92,664	\$74,250	\$105,732	\$87,318	\$0	\$0	\$0	\$0	\$38,016	\$51,084	\$32,670	\$15,444	\$0	
Total Transportation & Disposal (\$)	\$112,621	\$93,007	\$90,476	\$98,701	\$79,088	\$112,621	\$93,007	\$0	\$0	\$0	\$0	\$40,493	\$54,412	\$34,799	\$16,450	\$0	
TOTAL SLUDGE COST (\$)	\$116,857	\$96,506	\$93,879	\$102,414	\$82,063	\$116,857	\$96,506	\$0	\$0	\$0	\$0	\$42,016	\$56,459	\$36,108	\$17,069	\$0	
POND LINER:																	
Total Pond Area (Acres)	1.75	1.72	1.75	1.72	0.78	2.17	2.17					1.10	1.10	1.10	1.10	0.00	
Total Pond Area (Ft²)	76230	74923.2	76230	74923.2	33976.8	94525.2	94525.2	0	0	0	0	47916	47916	47916	47916	0	
Factor For Sloping Sides	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	0.0%	
Total Liner Area (Ft²)	91476	89908	91476	89908	40772	113430	113430	0	0	0	0	57499	57499	57499	57499	0	
Liner Thickness (Millimeters)	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	0	
Liner Thickness (Inches)	0.1181	0.1181	0.1181	0.1181	0.1181	0.1181	0.1181	0.1181	0.1181	0.1181	0.1181	0.1181	0.1181	0.1181	0.1181	0	
Liner Thickness (Ft)	0.0098	0.0098	0.0098	0.0098	0.0098	0.0098	0.0098	0.0098	0.0098	0.0098	0.0098	0.0098	0.0098	0.0098	0.0098	0	
"Swell" Factor	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	0.0%	
Liner Volume (Ft³)	1121	1101	1121	1101	499	1390	1390	0	0	0	0	704	704	704	704	0	
Truck Loads of Liner	2.1	2.0	2.1	2.0	0.9	2.6	2.6	0.0	0.0	0.0	0.0	1.3	1.3	1.3	1.3	0.0	
Liner Handling Cost (\$)																	
Labor Crew Cost per Hour (\$)	\$120	\$120	\$120	\$120	\$120	\$120	\$120	\$120	\$120	\$120	\$120	\$120	\$120	\$120	\$120	\$0	
Hours per Load	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	
Liner Handling Cost Per Load (\$)	\$240.00	\$240.00	\$240.00	\$240.00	\$240.00	\$240.00	\$240.00	\$240.00	\$240.00	\$240.00	\$240.00	\$240.00	\$240.00	\$240.00	\$240.00	\$0.00	
Total Liner Handling Cost (\$)	\$504	\$480	\$504	\$480	\$216	\$624	\$624	\$0	\$0	\$0	\$0	\$312	\$312	\$312	\$312	\$0	
Transportation & Disposal																	
Percent To Be Shipped	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
Distance (Miles)	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	
Cost Per Mile (\$)	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	
Transportation Cost (\$)	\$813	\$774	\$813	\$774	\$348	\$1,006	\$1,006	\$0	\$0	\$0	\$0	\$503	\$503	\$503	\$503	\$0	
Disposal Cost Per Cubic Foot (\$)	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	
Quantity Per Truck Load (Ft³)	540	540	540	540	540	540	540	540	540	540	540	540	540	540	540	540	
Disposal Cost (\$)	\$12,474	\$11,880	\$12,474	\$11,880	\$5,346	\$15,444	\$15,444	\$0	\$0	\$0	\$0	\$7,722	\$7,722	\$7,722	\$7,722	\$0	
Total Transportation & Disposal (\$)	\$13,287	\$12,654	\$13,287	\$12,654	\$5,694	\$16,450	\$16,450	\$0	\$0	\$0	\$0	\$8,225	\$8,225	\$8,225	\$8,225	\$0	
TOTAL LINER COST (\$)	\$13,791	\$13,134	\$13,791	\$13,134	\$5,910	\$17,074	\$17,074	\$0	\$0	\$0	\$0	\$8,537	\$8,537	\$8,537	\$8,537	\$0	
POND BACKFILL:																	
Backfill required (Yds³)	8740	8580	8740	8580	2517	14617	16319	2345	1837	1537	163	9048	9048	9048	9048	18070	
Backfill Cost (\$/Yd³)	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	
TOTAL BACKFILL COST (\$)	\$8,740	\$8,580	\$8,740	\$8,580	\$2,517	\$14,617	\$16,319	\$2,345	\$1,837	\$1,537	\$163	\$9,048	\$9,048	\$9,048	\$9,048	\$18,070	
\$128,237																	

POND RECLAMATION COST	Irigaray								517				Christensen				
	Pond A	Pond B	Pond C	Pond D	Pond E	Pond RA	Pond RB	Pond 1	Pond 2A	Pond 2B	Pond 3	Brine Pond 1	Brine Pond 2	Brine Pond 3	Brine Pond 4	Permeate Pond	
RADIATION SURVEY																	
Areal required (acres)	1.75	1.72	1.75	1.72	0.78	2.17	2.17	0.85	0.43	0.43	0.11	1.10	1.10	1.10	1.10	0	
Survey Cost (\$/acre)	\$580.00	\$580.00	\$580.00	\$580.00	\$580.00	\$580.00	\$580.00	\$580.00	\$580.00	\$580.00	\$580.00	\$580.00	\$580.00	\$580.00	\$580.00	\$1.00	
TOTAL SURVEY COST (\$)	\$1,015	\$998	\$1,015	\$998	\$452	\$1,259	\$1,259	\$493	\$249	\$249	\$64	\$638	\$638	\$638	\$638	\$0	
LEAK DETECTION SYSTEM REMOVAL																	
Volume of Gravel and Piping (Ft³) (Assume 3")			14337	13851				9261									
Quantity per Truckload (Ft³)			540	540				540									
Quantity to be Shipped (Loads)			26.6	25.7				17.2									
Distance (Miles)			150	150				150									
Cost per Mile (\$)			\$2.58	\$2.58				\$2.58									
Transportation Cost (\$)			\$10,275	\$9,927				\$6,637									
Handling Cost (\$238/Load)			\$6,319	\$6,105				\$4,082									
Disposal Fee per Cubic Foot (\$)			\$3.70	\$3.70				\$3.70									
Disposal Cost (\$)			\$53,047	\$51,249				\$34,266									
TOTAL LEAK DETECTION SYSTEM REMOVAL	\$0	\$0	\$69,641	\$67,280	\$0	\$0	\$0	\$44,984	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
TOTAL POND RECLAMATION COST	\$140,403	\$119,218	\$187,066	\$192,406	\$90,942	\$149,808	\$131,158	\$47,822	\$2,086	\$1,786	\$227	\$60,239	\$74,682	\$54,331	\$35,292	\$18,070	
																\$1,305,536	

SUMMARY - IRIGARAY:

TOTAL SLUDGE COST (\$)	\$705,082
TOTAL LINER COST (\$)	\$93,908
TOTAL BACKFILL COST (\$)	\$73,975
TOTAL RADIATION SURVEY COST (\$)	\$8,051
LEAK DETECTION SYSTEM REMOVAL	\$181,905
TOTAL POND RECLAMATION COST	\$1,062,921

SUMMARY - CHRISTENSEN:

TOTAL SLUDGE COST (\$)	\$151,652
TOTAL LINER COST (\$)	\$34,148
TOTAL BACKFILL COST (\$)	\$54,262
TOTAL RADIATION SURVEY COST (\$)	\$2,552
LEAK DETECTION SYSTEM REMOVAL	\$0
TOTAL POND RECLAMATION COST	\$242,614
TOTAL PROJECT COST - CR and IR (\$)	\$1,305,536

	Irigaray				Christensen			
	Mine Units #1 Thru #9	517 USMT Test Sites	Monitor/ Trend	Sub Total	Mine Units #2 Thru #7	Monitor/ Trend	Misc. Regional	Sub Total
Number of Wells	1064	24	315	1403	2094	327	137	2558
Average Depth	250	250	250		410	410	410	
Average Diameter	4.5	4.5	4.5		4.5	4.5	4.5	
Materials								
Bentonite Chips Required (Ft ³ /Well)	11.6	11.6	11.6		11.6	11.6	11.6	
Bags of Chips Required/Well	15.0	15.0	15.0		15.0	15.0	15.0	
Cost Per Bag (\$)	\$4.50	\$4.50	\$4.50		\$4.50	\$4.50	\$4.50	
Cost/Well Bentonite Chips (\$)	\$67.50	\$67.50	\$67.50		\$67.50	\$67.50	\$67.50	
Gravel Fill Required (Ft ³ /Well)	15.7	15.7	15.7		33.6	33.6	33.6	
Gravel Fill Required (Yd ³ /Well)	0.6	0.6	0.6		1.2	1.2	1.2	
Cost of Gravel/Yd ³ (\$)	\$17.53	\$17.53	\$17.53		\$17.53	\$17.53	\$17.53	
Cost/Well Gravel Fill (\$)	\$10.19	\$10.19	\$10.19		\$21.82	\$21.82	\$21.82	
Cement Cones/Markers Req'd/Well	1.0	1.0	1.0		1.0	1.0	1.0	
Cost of Cement Cones/Markers (\$)	\$4.00	\$4.00	\$4.00		\$4.00	\$4.00	\$4.00	
Total Materials Cost per Well	\$81.69	\$81.69	\$81.69		\$93.32	\$93.32	\$93.32	
Labor								
Hours Required per Well	1.0	1.0	1.0		1.0	1.0	1.0	
Labor Cost per Hour	\$70.00	\$70.00	\$70.00		\$70.00	\$70.00	\$70.00	
Total Labor Cost per Well (\$)	\$70.00	\$70.00	\$70.00		\$70.00	\$70.00	\$70.00	
Equipment Rental								
Hours Required per Well	1.0	1.0	1.0		1.0	1.0	1.0	
Backhoe w/Operator Cost/Hr (\$)	\$35.00	\$35.00	\$35.00		\$35.00	\$35.00	\$35.00	
Total Equipment Cost per Well (\$)	\$35.00	\$35.00	\$35.00		\$35.00	\$35.00	\$35.00	
Total Cost per Well (\$)	\$186.69	\$186.69	\$186.69		\$198.32	\$198.32	\$198.32	
TOTAL WELL ABANDONMENT COST (\$)	\$198,642	\$4,481	\$58,808	\$261,931	\$415,272	\$84,849	\$27,169	\$507,290
GRAND TOTAL IRIGARAY AND CHRISTENSEN								\$769,221

WELLFIELD EQUIPMENT REMOVAL & DISPOSAL

	Irigaray Mine Unit(s) #1 Thru #9	Christensen Mine Units #2 Thru #4	Christensen Mine Unit #5	Christensen Mine Unit #6	Christensen Mine Unit #7	Christensen Mine Unit #8	Total Christensen & Irigaray
I Wellfield Piping							
A. Removal							
Length/Well (Ft)	100	300	300	300			
Total Number of Wells	1064	1021	494	446			
Total Quantity (Ft)	106400	306300	148200	133800			
Cost of Removal (\$/Ft)	\$0.193	\$0.193	\$0.193	\$0.193			
Cost of Removal (\$)	\$20,535	\$59,116	\$28,603	\$25,823			\$134,077
Average OD (Inches)	3.0	3.0	3.0	3.0			
Chipped Volume Reduction (Ft³/Ft)	0.016	0.016	0.016	0.016			
Chipped Volume (Ft³)	1,702	4,901	2,371	2,141			
Quantity Per Truck Load (Ft³)	540	540	540	540			
Total Number of Truck Loads	3.2	9.1	4.4	4.0			
B. Survey & Decontamination							
Percent Requiring Decontamination	0%	0%	0%	0%			
Loads for Decontamination	0.0	0.0	0.0	0.0			
Cost for Decontamination (\$/Load)	\$550.00	\$550.00	\$550.00	\$550.00			
Cost for Decontamination (\$)	\$0	\$0	\$0	\$0			\$0
C. Transport & Disposal							
1.) Landfill							
a. Transportation							
Percent To Be Shipped	0.0%	0.0%	0.0%	0.0%			
Loads To Be Shipped	0.0	0.0	0.0	0.0			
Distance (Miles)	48	48	48	48			
Transportation Cost (\$/mile)	\$2.58	\$2.58	\$2.58	\$2.58			
Transportation Cost (\$)	\$0	\$0	\$0	\$0			\$0
b. Disposal							
Disposal Fee Per Yd³	\$12.00	\$12.00	\$12.00	\$12.00			
Yds³ Per Load	20	20	20	20			
Disposal Cost (\$)	\$0	\$0	\$0	\$0			
Total Cost - Landfill	\$0	\$0	\$0	\$0			\$0
2.) Licensed Site							
a. Transportation							
Percent To Be Shipped	100.0%	100.0%	100.0%	100.0%			
Loads To Be Shipped	3.2	9.1	4.4	4.0			
Distance (Miles)	150	150	150	150			
Cost Per Mile (\$/mile)	\$2.58	\$2.58	\$2.58	\$2.58			
Transportation Cost (\$)	\$1,238	\$3,522	\$1,703	\$1,548			\$8,011
b. Disposal							
Disposal Cost Per Ft³	\$11.00	\$11.00	\$11.00	\$11.00			
Disposal Fee Per Yd³	\$297.00	\$297.00	\$297.00	\$297.00			
Quantity Per Truck Load (Yds³)	20	20	20	20			
Disposal Cost (\$)	\$19,008	\$54,054	\$26,136	\$23,760			\$122,958
Total Cost - Licensed Site	\$20,246	\$57,576	\$27,839	\$25,308			\$130,969
Total Cost - Transport & Disposal	\$20,246	\$57,576	\$27,839	\$25,308			\$130,969
Total Cost - WF Piping Removal & Disposal	\$40,782	\$116,692	\$56,441	\$51,131	\$0	\$0	\$265,046

WELLFIELD EQUIPMENT REMOVAL & DISPOSAL							
	Irigaray Mine Unit(s) #1 Thru #9	Christensen Mine Units #2 Thru #4	Christensen Mine Unit #5	Christensen Mine Unit #6	Christensen Mine Unit #7	Christensen Mine Unit #8	Total Christensen & Irigaray
II Production Well Pumps							
A. Pump and Tubing Removal							
Number of Production Wells	424	443	217	202			
Cost of Removal (\$/well)	\$21.44	\$21.44	\$21.44	\$21.44			
Cost of Removal (\$)	\$9,091	\$9,498	\$4,652	\$4,331			\$27,572
Number of Pumps Per Truck Load	180	180	180	180			
Number of Truck Loads (Pumps)	2.4	2.5	1.2	1.1			
B. Survey & Decontamination (Pumps)							
Percent Requiring Decontamination	50.0%	50.0%	50.0%	50.0%			
Loads for Decontamination	1.2	1.3	0.6	0.8			
Cost for Decontamination (\$/Load)	\$550.00	\$550.00	\$550.00	\$550.00			
Cost for Decontamination (\$)	\$660	\$715	\$330	\$330			\$2,035
C. Tubing Volume Reduction & Loading							
Length per Well (Ft)	100	300	300	450			
Total Quantity (Ft)	42,400	132,900	65,100	90,900			
Cost of Removal (\$/Ft)	\$0.024	\$0.024	\$0.024	\$0.024			
Cost of Removal (\$)	\$1,018	\$3,190	\$1,562	\$2,182			\$7,951
Average OD (Inches)	3.0	3.0	3.0	3.0			
Chipped Volume Reduction (Ft³/Ft)	0.016	0.016	0.016	0.016			
Chipped Volume (Ft³)	678	2,126	1,042	1,454			
Quantity per Truckload (Ft³)	540	540	540	540			
Number of Truck Loads	1.3	3.9	1.9	2.7			
D. Transport & Disposal							
1.) Landfill							
a. Transportation							
Percent To Be Shipped (Pumps)	50.0%	50.0%	50.0%	50.0%			
Loads To Be Shipped	1.2	1.3	0.6	0.6			
Distance (Miles)	48	48	48	48			
Cost Per Mile (\$/mile)	\$2.58	\$2.58	\$2.58	\$2.58			
Transportation Cost (\$)	\$149	\$161	\$74	\$74			\$458
b. Disposal							
Disposal Fee Per Yd³	\$12.00	\$12.00	\$12.00	\$12.00			
Yds³ Per Load	20	20	20	20			
Disposal Cost (\$)	\$288	\$312	\$144	\$144			\$888
Total Cost - Landfill	\$437	\$473	\$218	\$218			\$1,346
2.) Licensed Site							
a. Transportation							
Percent To Be Shipped (Pumps)	50.0%	50.0%	50.0%	50.0%			
Percent To Be Shipped (Tubing)	100.0%	100.0%	100.0%	100.0%			
Loads To Be Shipped	2.5	5.2	2.5	3.2			
Distance (Miles)	150	150	150	150			
Cost Per Mile (\$/mile)	\$2.58	\$2.58	\$2.58	\$2.58			
Transportation Cost (\$)	\$951	\$2,008	\$979	\$1,255			\$5,192
b. Disposal							
Disposal Cost Per Ft³	\$11.00	\$11.00	\$11.00	\$11.00			
Disposal Fee Per Yd³	\$297.00	\$297.00	\$297.00	\$297.00			
Quantity Per Truck Load (Yds³)	20	20	20	20			
Disposal Cost (\$)	\$14,590	\$30,815	\$15,022	\$19,265			\$79,693
Total Cost - Licensed Site	\$15,541	\$32,823	\$16,000	\$20,521			\$84,885
Total Cost - Transport & Disposal	\$15,978	\$33,296	\$16,219	\$20,739			\$86,231
Total Cost - Pump Removal & Disposal	\$26,746	\$46,699	\$22,763	\$27,581	\$0	\$0	\$123,789

WELLFIELD EQUIPMENT REMOVAL & DISPOSAL	Irigaray Mine Unit(s) #1 Thru #9	Christensen Mine Units #2 Thru #4	Christensen Mine Unit #5	Christensen Mine Unit #6	Christensen Mine Unit #7	Christensen Mine Unit #8	Total Christensen & Irigaray
III Surface Trunkline Piping							
A. Removal							
Total Quantity (Ft)	44700	0	0	0	0	0	
Cost of Removal (\$/Ft)	\$0.143	\$0.143	\$0.143	\$0.143	\$0.143	\$0.143	
Cost of Removal (\$)	\$6,392	\$0	\$0	\$0	\$0	\$0	\$6,392
Average OD (Inches)	8.750	8.750	0.000	0.000	0.000	0.000	
Chipped Volume Reduction (Ft³/Ft)	0.088	0.088	0.088	0.088	0.088	0.088	
Chipped Volume (Ft³)	3934	0	0	0	0	0	
Quantity Per Truck Load (Ft³)	540	540	540	540	0	0	
Total Number of Truck Loads	7.3	0.0	0.0	0.0	0.0	0.0	
B. Survey & Decontamination							
Percent Requiring Decontamination	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Loads for Decontamination	0.0	0.0	0.0	0.0	0.0	0.0	
Cost for Decontamination (\$/Load)	\$550.00	\$550.00	\$550.00	\$550.00	\$0.00	\$0.00	
Cost for Decontamination (\$)	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C. Transport & Disposal							
1.) Landfill							
a. Transportation							
Percent To Be Shipped	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Loads To Be Shipped	0.0	0.0	0.0	0.0	0.0	0.0	
Distance (Miles)	48	48	48	48	0	0	
Cost Per Mile (\$/mile)	\$2.58	\$2.58	\$2.58	\$2.58	\$0.00	\$0.00	
Transportation Cost (\$)	\$0	\$0	\$0	\$0	\$0	\$0	\$0
b. Disposal							
Disposal Fee Per Yd³	\$12.00	\$12.00	\$12.00	\$12.00	\$0.00	\$0.00	
Yds³ Per Load	20	20	20	20	0	0	
Disposal Cost (\$)	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Cost - Landfill	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.) Licensed Site							
a. Transportation							
Percent To Be Shipped	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
Loads To Be Shipped	7.3	0.0	0.0	0.0	0.0	0.0	
Distance (Miles)	150	150	150	150	0	0	
Cost Per Mile (\$/mile)	\$2.58	\$2.58	\$2.58	\$2.58	\$0.00	\$0.00	
Transportation Cost (\$)	\$2,819	\$0	\$0	\$0	\$0	\$0	\$2,819
b. Disposal							
Disposal Cost Per Ft³	\$11.00	\$11.00	\$11.00	\$11.00	\$0.00	\$0.00	
Disposal Fee Per Yd³	\$297.00	\$297.00	\$297.00	\$297.00	\$0.00	\$0.00	
Quantity Per Truck Load (Yds³)	20	20	20	20	0	0	
Disposal Cost (\$)	\$43,270	\$0	\$0	\$0	\$0	\$0	\$43,270
Total Cost - Licensed Site	\$46,089	\$0	\$0	\$0	\$0	\$0	\$46,089
Total Cost - Transport & Disposal	\$46,089	\$0	\$0	\$0	\$0	\$0	\$46,089
Total Cost - Surface Trunkline Removal & Disposal	\$52,481	\$0	\$0	\$0	\$0	\$0	\$52,481

WELLFIELD EQUIPMENT REMOVAL & DISPOSAL	Irigaray Mine Unit(s) #1 Thru #9	Christensen Mine Units #2 Thru #4	Christensen Mine Unit #5	Christensen Mine Unit #6	Christensen Mine Unit #7	Christensen Mine Unit #8	Total Christensen & Irigaray
IV Buried Trunkline							
A. Removal							
Total Quantity (Ft)	7300	11565	24500	47000	0	0	
Cost of Removal (\$/Ft)	\$2.80	\$2.80	\$2.80	\$2.80	\$2.80	\$2.80	
Cost of Removal (\$)	\$20,440	\$32,382	\$68,600	\$131,600	\$0	\$0	\$253,022
Average OD (Inches)	8.750	8.750	8.750	12.000	12.000	12.000	
Chipped Volume Reduction (Ft³/Ft)	0.088	0.088	0.088	0.130	0.130	0.130	
Chipped Volume (Ft³)	642	1018	2156	6110	0	0	
Quantity Per Truck Load (Ft³)	540	540	540	540	0	0	
Number of Truck Loads	1.2	1.9	4.0	11.3	0.0	0.0	
B. Survey & Decontamination							
Percent Requiring Decontamination	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Loads for Decontamination	0.0	0.0	0.0	0.0	0.0	0.0	
Cost for Decontamination. (\$/Load)	\$550.00	\$550.00	\$550.00	\$550.00	\$0.00	\$0.00	
Cost for Decontamination. (\$)	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C. Transport & Disposal							
1.) Landfill							
a. Transportation							
Percent To Be Shipped	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Loads To Be Shipped	0.0	0.0	0.0	0.0	0.0	0.0	
Distance (Miles)	48	48	48	48	0	0	
Cost Per Mile (\$/mile)	\$2.58	\$2.58	\$2.58	\$2.58	\$0.00	\$0.00	
Transportation Cost (\$)	\$0	\$0	\$0	\$0	\$0	\$0	\$0
b. Disposal							
Disposal Fee Per Yd³	\$12.00	\$12.00	\$12.00	\$12.00	\$0.00	\$0.00	
Yds³ Per Load	20	20	20	20	0	0	
Disposal Cost (\$)	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Cost - Landfill	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.) Licensed Site							
a. Transportation							
Percent To Be Shipped	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
Loads To Be Shipped	1.2	1.9	4.0	11.3	0.0	0.0	
Distance (Miles)	150	150	150	150	0	0	
Cost Per Mile (\$/mile)	\$2.58	\$2.58	\$2.58	\$2.58	\$0.00	\$0.00	
Transportation Cost (\$)	\$464	\$735	\$1,548	\$4,373	\$0	\$0	\$7,121
b. Disposal							
Disposal Cost Per Ft³	\$11.00	\$11.00	\$11.00	\$11.00	\$0.00	\$0.00	
Disposal Fee Per Yd³	\$297.00	\$297.00	\$297.00	\$297.00	\$0.00	\$0.00	
Quantity Per Truck Load (Yds³)	20	20	20	20	0	0	
Disposal Cost (\$)	\$7,128	\$11,286	\$23,760	\$67,122	\$0	\$0	\$109,296
Total Cost - Licensed Site	\$7,592	\$12,021	\$25,308	\$71,495	\$0	\$0	\$116,417
Total Cost - Transport & Disposal	\$7,592	\$12,021	\$25,308	\$71,495	\$0	\$0	\$116,417
Total Cost - Buried Trunkline Removal & Disposal	\$28,032	\$44,403	\$93,908	\$203,095	\$0	\$0	\$369,439

WELLFIELD EQUIPMENT REMOVAL & DISPOSAL	Irigaray Mine Unit(s) #1 Thru #9	Christensen Mine Units #2 Thru #4	Christensen Mine Unit #5	Christensen Mine Unit #6	Christensen Mine Unit #7	Christensen Mine Unit #8	Total Christensen & Irigaray
V Manholes							
A. Removal							
Total Quantity	5	8	5	11	0	0	
Cost of Removal (\$ Each)	\$130.00	\$130.00	\$130.00	\$130.00	\$130.00	\$130.00	
Cost of Removal (\$)	\$650	\$1,040	\$650	\$1,430	\$0	\$0	\$3,770
Quantity Per Truck Load	10	10	10	10	10	10	
Number of Truck Loads	0.5	0.8	0.5	1.1	0.0	0.0	
B. Survey & Decontamination							
Percent Requiring Decontamination	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Loads for Decontamination	0.0	0.0	0.0	0.0	0.0	0.0	
Cost for Decontamination (\$/Load)	\$550.00	\$550.00	\$550.00	\$550.00	\$0.00	\$0.00	
Cost for Decontamination (\$)	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C. Transport & Disposal							
1.) Landfill							
a. Transportation							
Percent To Be Shipped	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Loads To Be Shipped	0.0	0.0	0.0	0.0	0.0	0.0	
Distance (Miles)	48	48	48	48	0	0	
Cost Per Mile (\$/mile)	\$2.58	\$2.58	\$2.58	\$2.58	\$0.00	\$0.00	
Transportation Cost (\$)	\$0	\$0	\$0	\$0	\$0	\$0	\$0
b. Disposal							
Disposal Fee Per Yd³ (\$)	\$12.00	\$12.00	\$12.00	\$12.00	\$0.00	\$0.00	
Yds³ Per Load	20	20	20	20	0	0	
Disposal Cost (\$)	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Cost - Landfill	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.) Licensed Site							
a. Transportation							
Percent To Be Shipped	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
Loads To Be Shipped	0.5	0.8	0.5	1.1	0.0	0.0	
Distance (Miles)	150	150	150	150	0	0	
Cost Per Mile (\$/mile)	\$2.58	\$2.58	\$2.58	\$2.58	\$0.00	\$0.00	
Transportation Cost (\$)	\$194	\$310	\$194	\$426	\$0	\$0	\$1,122
b. Disposal							
Disposal Cost Per Ft³	\$11.00	\$11.00	\$11.00	\$11.00	\$0.00	\$0.00	
Disposal Fee Per Yd³	\$297.00	\$297.00	\$297.00	\$297.00	\$0.00	\$0.00	
Quantity Per Truck Load (Yds³)	20	20	20	20	0	0	
Disposal Cost (\$)	\$2,970	\$4,752	\$2,970	\$6,534	\$0	\$0	\$17,226
Total Cost - Licensed Site	\$3,164	\$5,062	\$3,164	\$6,960	\$0	\$0	\$18,348
Total Cost - Transport & Disposal	\$3,164	\$5,062	\$3,164	\$6,960	\$0	\$0	\$18,348
Total Cost Manhole Removal & Disposal	\$3,814	\$8,102	\$3,814	\$8,390	\$0	\$0	\$22,118
TOTAL COST - WELLFIELD EQUIP REMOVAL & DISP	\$151,854	\$213,895	\$176,926	\$290,198	\$0	\$0	\$832,873

TOPSOIL REPLACEMENT & REVEGETATION

	Irigaray Mine Unit(s) #1 Thru #9	Christensen Mine Units #2 Thru #4	Christensen Mine Unit #5	Christensen Mine Unit #6	Christensen Mine Unit #7	Christensen Mine Unit #8	Total Christensen & Irigaray
I Process Plant and Office Building							
A. Topsoil Handling & Grading							
Affected Area (Acres)	5.0	2.5	0.0	0.0	0.0	0.0	
Average Affected Thickness (Ins)	12.0	12.0	0.0	0.0	0.0	0.0	
Topsoil Volume (Yds³)	8067	4033	0	0	0	0	
Unit Cost - Haul/Place (\$/Yd³)	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	
Topsoil Handling Cost (\$)	\$8,067	\$4,033	\$0	\$0	\$0	\$0	
Unit Cost - Grading (\$/Ac)	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00	
Grading Cost (\$)	\$250	\$125	\$0	\$0	\$0	\$0	
Sub Total - Topsoil	\$8,317	\$4,158	\$0	\$0	\$0	\$0	\$12,475
B. Radiation Survey & Soil Analysis							
Unit Cost (\$/Ac)	\$580.00	\$580.00	\$580.00	\$580.00	\$580.00	\$580.00	
Sub Total - Survey & Analysis	\$2,900	\$1,450	\$0	\$0	\$0	\$0	\$4,350
C. Revegetation							
Fertilizer (\$/Ac)	\$46.49	\$46.49	\$46.49	\$46.49	\$46.49	\$46.49	
Seeding Prep & Seeding (\$/Ac)	\$168.68	\$168.68	\$168.68	\$168.68	\$168.68	\$168.68	
Mulching & Crimping (\$/Ac)	\$276.54	\$276.54	\$276.54	\$276.54	\$276.54	\$276.54	
Sub Total Cost/Acre	\$491.71	\$491.71	\$491.71	\$491.71	\$491.71	\$491.71	
Sub Total - Revegation	\$2,459	\$1,229	\$0	\$0	\$0	\$0	\$3,688
Sub Total - Process Plant and Office Bldg.	\$13,675	\$6,838	\$0	\$0	\$0	\$0	\$20,513
II Ponds							
A. Topsoil Handling & Grading							
Affected Area (Acres)	20.0	12.0	0.0	0.0	0.0	0.0	
Average Affected Thickness (Ins)	12	12	0	0	0	0	
Topsoil Volume (Yds³)	32267	19360	0	0	0	0	
Unit Cost - Haul/Place (\$/Yd³)	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	
Topsoil Handling Cost (\$)	\$32,267	\$19,360	\$0	\$0	\$0	\$0	
Unit Cost - Grading (\$/Ac)	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00	
Grading Cost (\$)	\$1,000	\$600	\$0	\$0	\$0	\$0	
Sub Total - Topsoil	\$33,267	\$19,960	\$0	\$0	\$0	\$0	\$53,227
B. Radiation Survey & Soil Analysis							
Unit Cost (\$/Ac)	\$580.00	\$580.00	\$580.00	\$580.00	\$580.00	\$580.00	
Sub Total - Survey & Analysis	\$11,600	\$6,960	\$0	\$0	\$0	\$0	\$18,560
C. Revegation							
Fertilizer (\$/Ac)	\$46.49	\$46.49	\$46.49	\$46.49	\$46.49	\$46.49	
Seeding Prep & Seeding (\$/Ac)	\$168.68	\$168.68	\$168.68	\$168.68	\$168.68	\$168.68	
Mulching & Crimping (\$/Ac)	\$276.54	\$276.54	\$276.54	\$276.54	\$276.54	\$276.54	
Sub Total Cost/Acre	\$491.71	\$491.71	\$491.71	\$491.71	\$491.71	\$491.71	
Sub Total - Revegation	\$9,834	\$5,901	\$0	\$0	\$0	\$0	\$15,735
Sub Total - Ponds	\$54,701	\$32,821	\$0	\$0	\$0	\$0	\$71,362

TOPSOIL REPLACEMENT & REVEGETATION	Irigaray Mine Unit(s) #1 Thru #9	Christensen Mine Units #2 Thru #4	Christensen Mine Unit #5	Christensen Mine Unit #6	Christensen Mine Unit #7	Christensen Mine Unit #8	Total Christensen & Irigaray
III Wellfields							
A. Topsoil Handling & Grading							
Affected Area (Acres)	40.0	55.0	30.0	50.0	35.0	40.0	
Average Affected Thickness (Ins)	3.5	0.0	0.0	0.0	0.0	0.0	
Topsoil Volume (Yds³)	18822	0	0	0	0	0	
Unit Cost - Haul/Place (\$/Yd³)	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	
Topsoil Handling Cost (\$)	\$18,822	\$0	\$0	\$0	\$0	\$0	
Unit Cost - Grading (\$/Ac)	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00	\$0.00	
Grading Cost (\$)	\$2,000	\$2,750	\$1,500	\$2,500	\$1,750	\$0	
Sub Total - Topsoil	\$20,822	\$2,750	\$1,500	\$2,500	\$1,750	\$0	\$29,322
B. Radiation Survey & Soil Analysis							
Unit Cost (\$/Ac)	\$580.00	\$580.00	\$580.00	\$580.00	\$0.00	\$0.00	
Sub Total - Survey & Analysis	\$23,200	\$31,900	\$17,400	\$29,000	\$0	\$0	\$101,500
C. Spill Cleanup							
Affected Area (Acres)	0.054	0.038	0	0	0	0	
Affected Area (ft²)	2,352	1,568	0	0	0	0	
Average Affected Thickness (ft)	0.25	0.25	0	0	0	0	
Affected Volume (ft³)	588	392	0	0	0	0	
Quantity per Truckload (ft³)	540	540	540	540	540	540	
Quantity to be Shipped (Loads)	1.1	0.7	0.0	0.0	0.0	0.0	
Distance (Miles)	150	150	150	150	150	150	
Cost per Mile (\$)	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58	
Transportation Cost (\$)	\$421	\$281	\$0	\$0	\$0	\$0	
Handling Cost (\$200/Load)	\$259	\$173	\$0	\$0	\$0	\$0	
Disposal Fee per Cubic Foot (\$)	\$3.70	\$3.70	\$3.70	\$3.70	\$3.70	\$3.70	
Disposal Cost (\$)	\$2,176	\$1,450	\$0	\$0	\$0	\$0	
Sub Total - Spill Cleanup	\$2,597	\$1,731	\$0	\$0	\$0	\$0	\$4,328
D. Revegetation							
Fertilizer (\$/Ac)	\$46.49	\$46.49	\$46.49	\$46.49	\$46.49	\$46.49	
Seeding Prep & Seeding (\$/Ac)	\$168.68	\$168.68	\$168.68	\$168.68	\$168.68	\$168.68	
Mulching & Crimping (\$/Ac)	\$276.54	\$276.54	\$276.54	\$276.54	\$276.54	\$276.54	
Sub Total Cost/Acre	\$491.71	\$491.71	\$491.71	\$491.71	\$491.71	\$491.71	
Sub Total - Revegetation	\$19,668	\$27,044	\$14,751	\$24,586	\$17,210	\$19,668	\$122,928
Sub Total - Wellfields (\$)	\$66,288	\$63,425	\$33,651	\$56,086	\$18,960	\$19,668	\$258,078
IV Roads							
A. Topsoil Handling & Grading							
Affected Area (Acres)	25.0	20.0	15.0	21.0	0.0	0.0	
Average Affected Thickness (Ins)	12	12	12	12	12	12	
Topsoil Volume (Yds³)	40333	32267	24200	33880	0	0	
Unit Cost - Haul/Place (\$/Yd³)	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	
Topsoil Handling Cost (\$)	\$40,333	\$32,267	\$24,200	\$33,880	\$0	\$0	
Unit Cost - Grading (\$/Ac)	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00	
Grading Cost (\$)	\$1,250	\$1,000	\$750	\$1,050	\$0	\$0	
Sub Total - Topsoil	\$41,583	\$33,267	\$24,950	\$34,930	\$0	\$0	\$134,730
B. Radiation Survey & Soil Analysis							
Unit Cost (\$/Ac)	\$580.00	\$580.00	\$580.00	\$580.00	\$0.00	\$0.00	
Sub Total - Survey & Analysis	\$14,500	\$11,600	\$8,700	\$12,180	\$0	\$0	\$46,980
C. Revegetation							
Fertilizer (\$/Ac)	\$46.49	\$46.49	\$46.49	\$46.49			
Seeding Prep & Seeding (\$/Ac)	\$168.68	\$168.68	\$168.68	\$168.68			
Mulching & Crimping (\$/Ac)	\$276.54	\$276.54	\$276.54	\$276.54			
Sub Total Cost/Acre	\$491.71	\$491.71	\$491.71	\$491.71			
Sub Total - Revegetation	\$12,293	\$9,834	\$7,376	\$10,326	\$0	\$0	\$39,829
Sub Total - Roads (\$)	\$68,376	\$54,701	\$41,026	\$57,436	\$0	\$0	\$221,539

	Irigaray Mine Unit(s) #1 Thru #9	Christensen Mine Units #2 Thru #4	Christensen Mine Unit #5	Christensen Mine Unit #6	Christensen Mine Unit #7	Christensen Mine Unit #8	Total Christensen & Irigaray
TOPSOIL REPLACEMENT & REVEGETATION							
V Other							
A. Topsoil Handling & Grading							
Affected Area (Acres)	41.0	19.0	5.0	5.0	0.0	0.0	
Average Affected Thickness (Ins)	0.0	0.0	0	0	0	0	
Topsoil Volume (Yds³)	0	0	0	0	0	0	
Unit Cost - Haul/Place (\$/Yd³)	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	
Topsoil Handling Cost (\$)	\$0	\$0	\$0	\$0	\$0	\$0	
Unit Cost - Grading (\$/Ac)	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00	\$0.00	
Grading Cost (\$)	\$2,050	\$950	\$250	\$250	\$0	\$0	
Sub Total - Topsoil	\$2,050	\$950	\$250	\$250	\$0	\$0	\$3,500
B. Radiation Survey & Soil Analysis							
Unit Cost (\$/Ac)	\$580.00	\$580.00	\$580.00	\$580.00	\$0.00	\$0.00	
Sub Total - Survey & Analysis	\$23,780	\$11,020	\$2,900	\$2,900	\$0	\$0	\$40,600
C. Revegation							
Fertilizer (\$/Ac)	\$46.49	\$46.49	\$46.49	\$46.49	\$0.00	\$0.00	
Seeding Prep & Seeding (\$/Ac)	\$168.68	\$168.68	\$168.68	\$168.68	\$0.00	\$0.00	
Mulching & Crimping (\$/Ac)	\$276.54	\$276.54	\$276.54	\$276.54	\$0.00	\$0.00	
Sub Total Cost/Acre	\$491.71	\$491.71	\$491.71	\$491.71	\$0.00	\$0.00	
Sub Total - Revegation	\$20,160	\$9,342	\$2,459	\$2,459	\$0	\$0	\$34,420
Sub Total - Other	\$45,990	\$21,312	\$5,609	\$5,609	\$0	\$0	\$78,520
VI Remedial Action							
A. Topsoil Handling & Grading							
Affected Area (Acres)	65.5	54.3	25.0	38.0	17.5	20.0	
Average Affected Thickness (Ins)	0.0	0.0	0.0	0.0	0.0	0.0	
Topsoil Volume (Yds³)	0	0	0	0	0	0	
Unit Cost - Haul/Place (\$/Yd³)	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	
Topsoil Handling Cost (\$)	\$0	\$0	\$0	\$0	\$0	\$0	
Unit Cost - Grading (\$/Ac)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
Grading Cost (\$)	\$0	\$0	\$0	\$0	\$0	\$0	
Sub Total - Topsoil	\$0	\$0	\$0	\$0	\$0	\$0	\$0
B. Radiation Survey & Soil Analysis							
Unit Cost (\$/Ac)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
Sub Total - Survey & Analysis	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C. Revegation							
Fertilizer (\$/Ac)	\$46.49	\$46.49	\$46.49	\$46.49	\$46.49	\$46.49	
Seeding Prep & Seeding (\$/Ac)	\$168.68	\$168.68	\$168.68	\$168.68	\$0.00	\$0.00	
Mulching & Crimping (\$/Ac)	\$276.54	\$276.54	\$276.54	\$276.54	\$0.00	\$0.00	
Sub Total Cost/Acre	\$491.71	\$491.71	\$491.71	\$491.71	\$46.49	\$46.49	
Sub Total - Revegation	\$32,207	\$26,675	\$12,293	\$18,685	\$814	\$930	\$91,603
Sub Total - Remedial Action	\$32,207	\$26,675	\$12,293	\$18,685	\$814	\$930	\$91,603
TOTAL COST - TOPSOIL & REVEGETATION	\$281,237	\$205,772	\$92,578	\$137,815	\$19,773	\$20,598	\$757,774

COGEMA Mining, Inc.
Restoration and Reclamation Costs
Wyoming Operations
WORKSHEET 8

MISCELLANEOUS RECLAMATION	Irigaray Mine Unit(s) #1 Thru #9	Christensen Mine Units #2 Thru #4	Christensen Mine Unit #5	Christensen Mine Unit #6	Christensen Mine Unit #7	Christensen Mine Unit #8	Total Christensen & Irigaray
I Fence Removal & Disposal							
Quantity (Feet)	15240	35260	20000	9000	0	0	
Cost of Removal/Disposal (\$/Ft)	\$0.68	\$0.68	\$0.68	\$0.68	\$0.68	\$0.68	
Cost of Removal/Disposal (\$)	\$10,363	\$23,977	\$13,600	\$6,120	\$0	\$0	\$54,060
II Powerline Removal & Disposal							
Quantity (Feet)	9450	10565	18000	18000	0	0	
Cost of Removal/Disposal (\$/Ft)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
Cost of Removal/Disposal (\$)	\$0	\$0	\$0	\$0	\$0	\$0	\$0
III Powerpole Removal & Disposal							
Quantity	25	30	60	60	0	0	
Cost of Removal/Disposal (\$/Each)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
Cost of Removal/Disposal (\$)	\$0	\$0	\$0	\$0	\$0	\$0	\$0
IV Transformer Removal & Disposal							
Quantity	3	1	0	18	0	0	
Cost of Removal/Disposal (\$/Each)	\$2,428	\$2,428	\$2,428	\$595	\$595	\$595	
Cost of Removal/Disposal (\$)	\$7,283	\$2,428	\$0	\$10,710	\$0	\$0	\$20,420
V Booster Pump Assembly Removal & Disposal							
Quantity	0	6	5	5	0	0	
Cost of Removal/Disposal (\$/Each)	\$298	\$298	\$298	\$298	\$298	\$298	
Cost of Removal/Disposal (\$)	\$0	\$1,785	\$1,488	\$1,488	\$0	\$0	\$4,760
VI Culvert Removal & Disposal							
Quantity (Feet)	150	1200	1000	1000	0	0	
Cost of Removal/Disposal (\$/Ft)	\$3.48	\$3.48	\$3.48	\$3.48	\$3.48	\$3.48	
Cost of Removal/Disposal (\$)	\$522	\$4,176	\$3,480	\$3,480	\$0	\$0	\$11,658
VII Guardrail Removal							
Quantity (Feet)	200	3000	0	0	0	0	
Cost of Removal/Disposal (\$/Ft)	\$6.19	\$6.19	\$6.19	\$6.19	\$6.19	\$6.19	
Cost of Removal/Disposal (\$)	\$1,238	\$18,570	\$0	\$0	\$0	\$0	\$19,808
VIII Low Water Stream Crossing							
Quantity	0	1	1	0	0	0	
Cost of Removal/Disposal (\$/Each)	\$8,330	\$8,330	\$8,330	\$8,330	\$8,330	\$8,330	
Cost of Removal/Disposal (\$)	\$0	\$8,330	\$8,330	\$0	\$0	\$0	\$16,660
IX Utilities Cost							
Quantity (Mos)	4	8	4	4	0	0	
Cost Per Month (\$/Month)	\$2,380	\$1,190	\$1,190	\$1,190	\$1,190	\$1,190	
Total Cost (\$)	\$9,520	\$9,520	\$4,760	\$4,760	\$0	\$0	\$28,560
TOTAL MISCELLANEOUS COST	\$28,926	\$68,785	\$31,658	\$26,558	\$0	\$0	\$155,926

Figure 1

