

Cameco Resources
 Smith Ranch Highland Uranium Project
 2017-2018 Surety Estimate Update

Total Restoration and Reclamation Cost Estimate			
I.	Groundwater Restoration (GWR-WF and GWR-SITE Sheets)		\$143,402,366
II.	Well & Drill Hole Abandonment (WA Sheet)		\$23,115,468
III.	Wellfield Buildings & Equipment Removal & Disposal (WF BLDGS Sheet)		\$8,760,518
IV.	Wellfield and Satellite Surface Reclamation (WF REC Sheet)		\$996,377
V.	Equipment Removal & Disposal (EQUIP Sheet)		\$1,615,084
VI.	Building Removal & Disposal (BLDGS Sheet)		\$5,529,629
VII.	Miscellaneous Reclamation (MISC REC Sheet)		\$7,611,465
	Subtotal Restoration and Reclamation Cost Estimate		\$191,030,907
	Contractor Profit & Overhead (10%)¹	See Master Costs	
	Contingency (15%)²	15%	\$28,654,636
		TOTAL³	\$219,685,500
¹ , Per WDEQ/LQD Guideline No. 12, Section 12(b)			
² , Per WDEQ/LQD Guideline No. 12, Section 12(a) and (c-h), Section 13 and NRC License Condition 9.5 (SUA-1548)			
³ , Costs reflect both WDEQ & NRC requirements. No salvage value assumed.			

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Ground Water Restoration - Site Wide											
I.	Building Utility Costs	CPP	Main Office	Maint Shop	Pumphouse	Sat SR-1	Sat SR-2	Sat Reynolds	Satellite No.2	Selenium Plant	Satellite No.3
	Electricity Unit Cost (\$/yr)	\$32,213	\$27,103	\$6,095	\$10,685	\$43,738	\$43,738	\$43,738	\$30,192	\$43,316	\$30,192
	Propane (\$/yr)	\$0	\$0	\$0	\$0	\$0	\$26,555	\$26,555	\$0	\$0	\$26,550
	Natural Gas (\$/yr)	\$34,535	\$0	\$0	\$0	\$4,878	\$0	\$0	\$9,423	\$9,423	\$0
	Number of Years	27	27	27	27	20	27	0	12	27	18
	Subtotal Utility Cost per Building	\$1,802,196	\$731,778	\$164,566	\$288,483	\$972,308	\$1,897,888	\$0	\$475,380	\$1,423,952	\$1,021,368
	*Yrs for Satellite SR-1 assumes end of restoration for MU-7										
	Total Building Utility Costs	\$8,777,918									
II.	Deep Disposal Well Utility Costs	SR-1	SR-2	REY-1	SRHUP #6	SRHUP #7	SRHUP #10	Morton 1-20	Vollman 33-27	SRHUP #9	
	Electricity Unit Cost (\$/yr)	\$4,863	\$4,863	\$4,863	\$4,863	\$4,863	\$4,863	\$4,863	\$4,863	\$4,863	\$4,863
	Propane (\$/yr)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Natural Gas (\$/yr)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Number of Years	27	27	27	27	27	27	27	27	27	27
	Subtotal Utility Cost per Building	\$131,296	\$131,296	\$131,296	\$131,296	\$131,296	\$131,296	\$131,296	\$131,296	\$131,296	
	Total Deep Disposal Well Utility Costs	\$1,181,666									
III.	Booster Pump Operation Costs	SRH									
	Restoration Period (yrs)	27									
	Booster Pump Operating Cost (\$/yr)	\$219,487.52									
	Total Booster Pump Operating Cost	\$5,926,163									
IV.	Infrastructure, Equipment Maintenance, Replacement and Repair Costs	SRH									
	Annual Maintenance Cost	\$195,718	Based on planned expenditures in 2013 (\$184640) plus 2013-2016 Escalator.								
	Restoration Period (yrs)	27									
	Total Cost	\$5,284,397									
V.	Deep Disposal Well MIT Costs	SRH									
	Five-year MIT Costs for Disposal Wells	\$17,420.44									
	Number of DDWs	8									
	Number of MITs per DDW	5.5									
	Total DDW MIT Cost	\$766,499									
VI.	Capital Costs	SRH									
	*Estimates based on planned expenditures (2017)	\$0									
	Total Capital Costs	\$0									
VII.	Vehicle Operation Costs	SRH									
	Number of Pickup Trucks (Gas)	20									
	Truck Cost (\$/hr)	\$21.37									
	Average Operating Time (hrs/yr)	1000									
	Restoration and Stability Period (yrs)	28									
	Total Vehicle Operation Cost	\$11,965,016									
VIII.	Labor Costs	SRH									

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Assumptions:																			
	Number of Environmental Managers/RSOs	1																	
	\$/hr	\$68.42																	
	Number of Restoration Managers	1																	
	\$/hr	\$59.49																	
	Number of Environmental Techs/HPTs	4																	
	\$/hr	\$44.62																	
	Number of Operators/Laborers	14																	
	\$/hr	\$38.67																	
	Number of Maintenance Technicians	4																	
	\$/hr	\$34.21																	
	Hrs/yr	2080																	
	Restoration and Stability Period (yrs)	28																	
	Total Labor Cost	\$57,342,432																	
IX.	Irrigation Maintenance and Monitoring		Irrigator No. 1A	Irrigator No. 2															
	A. Harvesting Costs																		
	Irrigation Area (acres)	55		106															
	Harvesting Costs (\$/acre)	\$76		\$76															
	Restoration Period (yrs)	21																	
	Subtotal Harvesting Costs per Irrigator	\$88,219		\$170,022															
	B. Irrigation Monitoring																		
	# of Irrigation Fluid Samples/Year	6		6															
	\$/sample	\$105		\$105															
	# of Vegetation Samples/Year	5		5															
	\$/sample	\$270		\$270															
	# of Soil Samples/Year	30		34															
	\$/sample	\$335		\$335															
	# of Soil Water Samples/Year	12		2															
	\$/sample	\$150		\$150															
	Restoration Period (yrs)	27																	
	Subtotal Monitoring Costs per Irrigator	\$373,410		\$369,090															
	Subtotal Monitoring and Harvesting Costs per Irrigator	\$461,629		\$539,112															
	Total Maintenance and Monitoring Costs	\$1,000,741																	
X.	Selenium Plant Operation Costs		SRH																
	Restoration Period (yrs)	27																	
	<u>Selenium Plant Operating Cost (\$/yr)</u>	\$153,974																	
	Total Selenium Plant Operating Cost	\$4,157,298																	
	TOTAL SITE-WIDE RESTORATION COSTS	\$96,402,130																	

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Well and Drill Hole Abandonment	Mine Unit 1	Mine Unit 2	Mine Unit 3 / 3 Ext	Mine Unit 4/4A	Mine Unit 15	Mine Unit 15A	Mine Unit K	K-North	Mine Unit 9	Mine Unit 10	Mine Unit 10-Ext	Mine Unit 27	Mine Unit 21	Mine Unit 7	Mine Unit 8	A-Wellfield	B-Wellfield	C-Wellfield	C-22 Pattern	C abandoned UG workings	D-Wellfield	D-Extension	E-Wellfield	F-Wellfield	H-Wellfield	I-Wellfield	J-Wellfield	Other
I. Well Abandonment (Wellfields)																												
A. Sealing Costs						Inc in MU-15														Inc in MU-C	Inc in MU-C							
Total # of Wells per Wellfield	292	472	557	666	1414	0	486	327	731	584	333	88	0	445	128	8	392	452	0	0	286	0	403	1394	520	379	411	24
Production, Injection and Perimeter Well Average Depth (ft)	500	850	750	850	450	450	950	864	950	900	930	800	600	825	668	500	450	550	550	550	600	550	650	500	650	540	900	
Well Abandonment (Sealing) Costs (\$/ft)	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75
Subtotal Sealing Costs per Wellfield	\$401,500	\$1,103,300	\$1,148,813	\$1,556,775	\$1,749,825	\$0	\$1,269,675	\$776,952	\$1,909,738	\$1,445,400	\$851,648	\$193,600	\$0	\$1,009,594	\$235,136	\$11,000	\$485,100	\$683,650	\$0	\$0	\$471,900	\$0	\$609,538	\$2,491,775	\$715,000	\$677,463	\$610,335	\$59,400
B. Casing Removal and Disposal Costs																												
Total # of Wells per Wellfield (In Service)	292	472	557	666	1414	0	486	327	731	584	333	88	0	445	128	8	392	452	0	0	286	0	403	1394	520	379	411	24
# of Previously Abandoned Wells Pending Release	124	101	93	94	136	0	143	12	92	7	0	19	0	0	0	54	118	189	0	0	89	0	275	345	53	54	33	0
Total # of Wells for Casing Removal and Disposal	416	573	650	760	1550	0	630	339	823	591	333	107	0	445	128	62	510	641	0	0	375	0	678	1739	573	433	444	24
Remove and Dispose Casing (\$/well)	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33
Subtotal Casing Removal and Disposal Costs per Wellfield	\$13,728	\$18,909	\$21,450	\$25,080	\$51,150	\$0	\$20,790	\$11,187	\$27,159	\$19,503	\$10,989	\$3,531	\$0	\$14,685	\$4,224	\$2,046	\$16,830	\$21,153	\$0	\$0	\$12,375	\$0	\$22,374	\$57,387	\$18,909	\$14,289	\$14,652	\$792
Subtotal Well Abandonment Costs per Wellfield	\$415,228	\$1,122,209	\$1,170,263	\$1,581,855	\$1,800,975	\$0	\$1,290,465	\$788,139	\$1,936,897	\$1,464,903	\$862,637	\$197,131	\$0	\$1,024,279	\$239,360	\$13,046	\$501,930	\$704,803	\$0	\$0	\$484,275	\$0	\$631,912	\$2,549,162	\$733,909	\$691,752	\$624,987	\$60,192
Total Well Abandonment Costs	\$20,890,307																											
II. Removal of Contaminated Soil Around Wells																												
# of Production and Injection Wells	245	419	514	574	1286	0	435	273	655	534	266	0	0	381	0	1	327	331	0	0	231	0	351	1220	436	345	349	
Removal of Contaminated Soil Around Wells (\$/well)	\$86.54	\$86.54	\$86.54	\$86.54	\$86.54	\$86.54	\$86.54	\$86.54	\$86.54	\$86.54	\$86.54	\$86.54	\$86.54	\$86.54	\$86.54	\$86.54	\$86.54	\$86.54	\$86.54	\$86.54	\$86.54	\$86.54	\$86.54	\$86.54	\$86.54	\$86.54	\$86.54	\$86.54
Subtotal Contaminated Soil Removal/Disposal Costs per Wellfield	\$21,201	\$36,259	\$44,479	\$49,672	\$111,285	\$0	\$37,643	\$23,624	\$56,681	\$46,210	\$23,019	\$0	\$0	\$32,970	\$0	\$87	\$28,297	\$28,643	\$0	\$0	\$19,990	\$0	\$30,374	\$105,574	\$37,730	\$29,855	\$30,201	
Total Contaminated Soil Removal/Disposal Costs	\$793,795																											
III. Delineation Hole Abandonment																												
A. Subsurface Retained Abandonment Cost																												
# of Drill Holes Pending Bond Release																												
2012-13	689																											
2013-14	1022																											
2014-2015	776																											
2015-2016	375																											
2016-2017	8																											
Total # of Drill Holes	2870																											
Mobilization Fee	\$1,100.00																											
Reclamation Cost per hole (grading/seeding, cap, site location)	\$77.00																											
40% of Reclamation Costs (GL 12 Appendix L, footnote 6)	\$30.80																											
Subtotal Subsurface Retained Abandonment Cost	\$89,496.00																											
B. Drill Hole Plug and Abandonment																												
# of Projected Drill Holes																												
2016-2017	0																											
Hole Abandonment (\$/ft)	\$3.30																											
Projected Drill Hole Abandonment, ave depth 860ft	\$0																											
C. Incidental Costs																												
Total # of Drill Holes	0																											
Mobilization Fee	\$0.00																											
Site Location (\$/hole)	\$11																											
Capping (\$/hole)	\$11																											
Small Site Grading and Seeding (\$/site)	\$55																											
Subtotal Incidental Costs	\$0																											
Total Delineation Hole Abandonment	\$89,496																											
IV. Waste Disposal Well Abandonment																												
A. Well Sealing																												
Total Depth of Well	10,097	9,996	9,600	9,900	9,550	9,950	9,206	14,412	9,500																			
Sealing Cost Per Foot	\$13.92	\$13.92	\$13.92	\$13.92	\$13.92	\$13.92	\$13.62	\$13.62	\$13.62																			
*Sealing costs per foot includes surface reclamation costs																												
Subtotal Plugging Costs per Well	\$140,501	\$139,095	\$133,585	\$137,759	\$132,889	\$138,455	\$125,386	\$196,291	\$129,390																			
B. Pump Dismantling and Decontamination																												
Number of Pumps	2	2	2	2	2	2	2	2	2																			
Pump Dismantling and Disposal Cost	\$2,852	\$2,852	\$2,852	\$2,852	\$2,852	\$2,852	\$2,810	\$2,810	\$2,810																			
Subtotal Dismantling and Decon Costs per Well	\$5,704.56	\$5,704.56	\$5,704.56	\$5,704.56	\$5,704.56	\$5,704.56	\$5,619.34	\$5,619.34	\$5,619.34																			
C. Tubing String Disposal (NRC-Licensed Facility)																												
Length of Tubing String (ft)	8,271	8,257	8,910	9,100	8,800	8,217	8,498	8,869	8,820																			
Diameter of Tubing String (inches)	2.875	2.875	2.875	2.875	2.875	2.875	2.875	2.875	2.875																			
Volume of Tubing String (ft ³)	193	192	207	212	205	191	383	400	397																			
Transportation and Disposal Unit Cost (\$/ft ³)	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32																			
Subtotal Tubing String Disposal Costs per Well	\$1,410	\$1,408	\$1,519	\$1,552	\$1,501	\$1,401	\$2,804	\$2,927	\$2,911																			
Subtotal Cost per Well	\$147,615	\$146,208	\$140,809	\$145,016	\$140,095	\$145,561	\$133,809	\$204,838	\$137,920																			
Total Waste Disposal Well Abandonment Costs	\$1,341,870																											
TOTAL WELL AND DRILL HOLE ABANDONMENT COSTS	\$23,115,468																											

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Wellfield Buildings and Equipment Removal and Disposal		Mine Unit 1	Mine Unit 2	Mine Unit 3/3 Ext	Mine Unit 4/4A	Mine Unit 15	Mine Unit 15A	Mine Unit K	K-North	Mine Unit 9	Mine Unit 10	Mine Unit 10-Ext	Mine Unit 27	Mine Unit 21	Mine Unit 7	A-Wellfield	B-Wellfield	C-Wellfield	C-22 Pattern	C abandoned UG workings	D-Wellfield	D-Extension	E-Wellfield	F-Wellfield	H-Wellfield	I-Wellfield	J-Wellfield	
I. Wellfield Piping																				Inc in MU-C	Inc in MU-C							
Number of Header Houses per Wellfield		6	5	10	11	18	5	9	7	13	9	3	0	0	7	5	18	20	0	0	4	3	15	43	10	6	9	
Length of Piping per Header House (ft)		13800	13800	13800	13800	13800	13800	13800	13800	13800	13800	13800	13800	13800	13800	13800	13800	13800	13800	13800	13800	13800	13800	13800	13800	13800	13800	
*Based on 46 wells per header house with 300 ft pipeline per well																												
Approximate Total Length of Piping (ft)		82800	69000	138000	151800	248400	69000	124200	96600	179400	124200	41400	0	0	96600	69000	248400	276000	0	0	55200	41400	207000	593400	138000	82800	124200	
A. Removal and Loading																												
Wellfield Piping Removal Unit Cost (\$/ft of pipe)		\$1.60	\$1.60	\$1.60	\$1.60	\$1.60	\$1.60	\$1.60	\$1.60	\$1.60	\$1.60	\$1.60	\$1.60	\$1.60	\$1.60	\$1.60	\$1.60	\$1.60	\$1.60	\$1.60	\$1.60	\$1.60	\$1.60	\$1.60	\$1.60	\$1.60	\$1.60	
Subtotal Wellfield Piping Removal and Loading Costs		\$132,339	\$110,282	\$220,565	\$242,621	\$397,016	\$110,282	\$198,508	\$154,395	\$286,734	\$198,508	\$66,169	\$0	\$0	\$154,395	\$110,282	\$397,016	\$441,129	\$0	\$0	\$88,226	\$66,169	\$330,847	\$948,428	\$220,565	\$132,339	\$198,508	
B. Transport and Disposal Costs (NRC-Licensed Facility)																												
Average Diameter of Piping (inches)		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Chipped Volume Reduction (ft ³ /ft)		0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011		
Chipped Volume per Wellfield (ft ³)		888	740	1480	1628	2663	740	1332	1036	1923	1332	444	0	0	1036	740	2663	2959	0	0	592	444	2219	6362	1480	888	1332	
Volume for Disposal Assuming 10% Void Space (ft ³)		977	814	1628	1790	2930	814	1465	1139	2116	1465	488	0	0	1139	814	2930	3255	0	0	651	488	2441	6998	1628	977	1465	
Transportation and Disposal Unit Cost (\$/ft ³)		\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	
Subtotal Wellfield Piping Transport and Disposal Costs		\$5,637	\$4,697	\$9,393	\$10,328	\$16,905	\$4,697	\$8,453	\$6,572	\$12,209	\$8,453	\$2,816	\$0	\$0	\$6,572	\$4,697	\$16,905	\$18,781	\$0	\$0	\$3,756	\$2,816	\$14,084	\$40,377	\$9,393	\$5,637	\$8,453	
Subtotal Wellfield Piping Costs per Wellfield		\$137,976	\$114,979	\$229,958	\$252,949	\$413,921	\$114,979	\$206,961	\$160,967	\$298,943	\$206,961	\$68,985	\$0	\$0	\$160,967	\$114,979	\$413,921	\$459,910	\$0	\$0	\$91,982	\$68,985	\$344,931	\$988,805	\$229,958	\$137,976	\$206,961	
Total Wellfield Piping Costs		\$5,426,954																										
II. Well Pumps and Tubing																												
*Pump and tubing removal costs included under ground water restoration labor																												
*60% of production/injection wells contain pumps and/or tubing																												
A. Pump and Tubing Transportation and Disposal																				Inc in MU-C	Inc in MU-C		Inc in MU-D					
Number of Production Wells		83	137	229	189	432	0	163	99	258	196	113	0	0	134	0	133	103	0	0	91	0	120	487	128	113	110	
Number of Injection Wells		162	283	285	386	854	0	272	174	397	338	153	0	0	247	1	194	229	0	0	140	0	232	733	309	233	239	
Number of Monitor Wells		47	50	40	90	125	0	51	53	69	49	66	85	0	62	7	64	101	0	0	50	0	52	119	82	34	59	
1. Pump Volume																												
Number of Production Wells with Pumps		50	82	137	113	259	0	98	59	155	118	68	0	0	80	0	133	103	0	0	91	0	120	487	128	113	110	
Pump Volume (ft ³)		0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	
Pump Volume per Wellfield (ft ³)		21.6	35.5	59.5	49.0	112.3	0.0	42.4	25.7	67.1	50.9	29.4	0.0	0.0	34.8	0.0	57.6	44.4	0.0	0.0	39.4	0.0	51.8	211.0	55.2	48.7	47.6	
2. Tubing Volume																												
Average Tubing Length per Well (ft)		475	825	725	825	425	475	925	839	925	875	905	775	575	800	475	425	525	525	525	575	575	525	625	475	625	515	
*Based on average well depth minus 25 ft																												
Tubing Length per Wellfield (ft)		138,700	386,925	401,650	547,800	599,675	0	449,550	273,514	669,700	510,125	300,460	65,875	0	354,400	3,800	166,175	226,800	0	0	161,575	0	211,575	836,875	246,050	236,875	210,120	
Diameter of Production Well Fiberglass Tubing (inches)		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Diameter of Injection Well HDPE Tubing (inches)		1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	
Chipped Volume Reduction (ft ³ /ft)		0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011		
Chipped Volume per Wellfield (ft ³)		1487	4148	4306	5873	6429	0	4820	2932	7180	5469	3221	706	0	3800	41	1782	2432	0	0	1732	0	2268	8972	2638	2540	2253	
Volume of Pump and Tubing (ft ³)		1509	4183	4366	5922	6541	0	4862	2958	7247	5520	706	0	0	3835	41	1840	2476	0	0	1771	0	2320	9183	2693	2589	2301	
Volume for Disposal Assuming Void Space (ft ³)		1659	4602	4802	6514	7195	0	5349	3254	7972	6072	3575	777	0	4218	45	2024	2724	0	0	1949	0	2552	10101	2963	2848	2531	
Transportation and Disposal Unit Cost (\$/ft ³)		\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	
Subtotal Pump and Tubing Transport and Disposal Costs Per Wellfield		\$9,572	\$26,552	\$27,706	\$37,584	\$41,513	\$0	\$30,862	\$18,775	\$45,997	\$35,034	\$20,627	\$4,483	\$0	\$24,337	\$260	\$11,678	\$15,717	\$0	\$0	\$11,245	\$0	\$14,724	\$58,280	\$17,096	\$16,432	\$14,603	
Total Pump and Tubing Disposal Costs		\$483,077																										
III. Buried Trunkline (Includes S for fiber optic cable removal)																												
Assumptions:																												
Length of Trunkline Trench (ft)		5075	7600	4790	12565	19085	7500	12000	17198	11565	9050	2095	0	0	5400	6500	0	5900	0	0	12000	5500	0	11700	13200	10750	2500	
A. Removal and Loading																												
Main Pipeline Removal Unit Cost (\$/ft of trench)		\$3.20	\$3.20	\$3.20	\$3.20	\$3.20	\$3.20	\$3.20	\$3.20	\$3.20	\$3.20	\$3.20	\$3.20	\$3.20	\$3.20	\$3.20	\$3.20	\$3.20	\$3.20	\$3.20	\$3.20	\$3.20	\$3.20	\$3.20	\$3.20	\$3.20	\$3.20	
Subtotal Trunkline Removal and Loading Costs		\$16,223	\$24,294	\$15,312	\$40,165	\$61,007	\$23,974	\$38,359	\$54,975	\$36,969	\$28,929	\$6,697	\$0	\$0	\$17,262	\$20,778	\$0	\$18,860	\$0	\$0	\$38,359	\$17,581	\$0	\$37,400	\$42,195	\$34,363	\$7,991	
B. Transport and Disposal Costs (NRC-Licensed Facility)																												
1. 3" HDPE Trunkline																												
Piping Length (ft)		5075	7600	4790	12565	0	0	0	0	0	0	0	0	0	0	6500	0	5900	0	0	12000	5500	0	11700	13200	10750	0	
Chipped Volume per foot of pipe (ft ³ /ft)		0.0233	0.0233	0.0233	0.0233	0.0233	0.0233	0.0233	0.0233	0.0233	0.0233	0.0233	0.0233	0.0233	0.0233	0.0233	0.0233	0.0233	0.0233	0.0233	0.0233	0.0233	0.0233	0.0233	0.0233	0.0233	0.0233	
Chipped Volume (ft ³)		118	177	112	293	0	0	0	0	0	0	0	0	0	151	0	137	0	0	0	279	128	0	272	307	250	0	
2. 6" HDPE Trunkline																												
Piping Length (ft)		2410	10000	4820	7320	28170	2320	2288	3466	4800	6850	3500	0	0	0	0	0	0	0	0	0	0	11000	0	0	0	3000	0
Chipped Volume per foot of pipe (ft ³ /ft)		0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	
Chipped Volume (ft ³)		201	834	402	610	2349	193	191	289	400	571	292	0	0	0	0	0	0	0	0	0	917	0	0	0	250	0	
3. 8" HDPE Trunkline																												
Piping Length (ft)		4100	0																									

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Wellfield Buildings and Equipment Removal and Disposal		Mine Unit 1	Mine Unit 2	Mine Unit 3/3 Ext	Mine Unit 4/4A	Mine Unit 15	Mine Unit 15A	Mine Unit K	K-North	Mine Unit 9	Mine Unit 10	Mine Unit 10-Ext	Mine Unit 27	Mine Unit 21	Mine Unit 7	A-Wellfield	B-Wellfield	C-Wellfield	C-22 Pattern	C abandoned UG workings	D-Wellfield	D-Extension	E-Wellfield	F-Wellfield	H-Wellfield	I-Wellfield	J-Wellfield
Total Chipped Volume (ft ³)		2325	2153	1472	5918	19108	4028	2608	14057	10617	5748	2773	0	0	2494	3006	0	3781	0	0	7691	1045	0	20366	22977	7964	1057
Volume for Disposal Assuming Void Space (ft ³)		2558	2368	1620	6509	21019	4431	2869	15463	11678	6323	3050	0	0	2743	3306	0	4159	0	0	8460	1150	0	22403	25275	8761	1162
Transportation and Disposal Unit Cost (\$/ft ³)		\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77
Subtotal Trunkline Transport and Disposal Costs		\$14,759	\$13,663	\$9,347	\$37,555	\$121,275	\$25,566	\$16,553	\$89,218	\$67,379	\$36,482	\$17,598	\$0	\$0	\$15,826	\$19,075	\$0	\$23,996	\$0	\$0	\$48,812	\$6,635	\$0	\$129,260	\$145,831	\$50,549	\$6,704
Trunkline Decommissioning Costs per Wellfield		\$30,982	\$37,957	\$24,659	\$77,720	\$182,282	\$49,540	\$54,912	\$144,193	\$104,348	\$65,411	\$24,295	\$0	\$0	\$33,088	\$39,853	\$0	\$42,856	\$0	\$0	\$87,171	\$24,216	\$0	\$166,660	\$188,026	\$84,912	\$14,695
Total Trunkline Decommissioning Costs		\$1,477,776																									
IV. Wellhead Cover Removal		Mine Unit 1	Mine Unit 2	Mine Unit 3/3 Ext	Mine Unit 4/4A	Mine Unit 15	Mine Unit 15A	Mine Unit K	K-North	Mine Unit 9	Mine Unit 10	Mine Unit 10-Ext	Mine Unit 27	Mine Unit 21	Mine Unit 7	A-Wellfield	B-Wellfield	C-Wellfield	C-22 Pattern	C Haul Drifts	D-Wellfield	D-Extension	E-Wellfield	F-Wellfield	H-Wellfield	I-Wellfield	J-Wellfield
Number of Wells		245	419	514	574	1286	0	435	273	655	534	266	0	0	381	1	327	331	0	0	231	0	351	1220	436	345	349
Well Head Removal, Decontamination, and Disposal Cost		\$12.80	\$12.80	\$12.80	\$12.80	\$12.80	\$12.80	\$12.80	\$12.80	\$12.80	\$12.80	\$12.80	\$12.80	\$12.80	\$12.80	\$12.80	\$12.80	\$12.80	\$12.80	\$12.80	\$12.80	\$12.80	\$12.80	\$12.80	\$12.80	\$12.80	\$12.80
Subtotal Wellhead Removal Costs		\$3,136	\$5,364	\$6,580	\$7,348	\$16,462	\$0	\$5,568	\$3,495	\$8,385	\$6,836	\$3,405	\$0	\$0	\$4,877	\$13	\$4,186	\$4,237	\$0	\$0	\$2,957	\$0	\$4,493	\$15,617	\$5,581	\$4,416	\$4,468
Total Well Head Removal and Disposal Costs		\$117,424																									
V. Header Houses (Includes Booster Stations)		Mine Unit 1	Mine Unit 2	Mine Unit 3/3 Ext	Mine Unit 4/4A	Mine Unit 15	Mine Unit 15A	Mine Unit K	K-North	Mine Unit 9	Mine Unit 10	Mine Unit 10-Ext	Mine Unit 27	Mine Unit 21	Mine Unit 7	A-Wellfield	B-Wellfield	C-Wellfield	C-22 Pattern	C Haul Drifts	D-Wellfield	D-Extension	E-Wellfield	F-Wellfield	H-Wellfield	I-Wellfield	J-Wellfield
Booster Houses		0	0	1	1	6	0	3	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0
Total Quantity		6	5	11	12	24	5	12	7	14	9	4	0	0	7	5	18	21	0	0	4	3	15	43	11	6	9
Average Header House Volume (ft ³)		1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
A. Removal																											
Total Volume (ft ³)		9600	8000	17600	19200	38400	8000	19200	11200	22400	14400	6400	0	0	11200	8000	28800	33600	0	0	6400	4800	24000	68800	17600	9600	14400
Demolition Cost		\$0.328	\$0.328	\$0.328	\$0.328	\$0.328	\$0.328	\$0.328	\$0.328	\$0.328	\$0.328	\$0.328	\$0.328	\$0.328	\$0.328	\$0.328	\$0.328	\$0.328	\$0.328	\$0.328	\$0.328	\$0.328	\$0.328	\$0.328	\$0.328	\$0.328	\$0.328
Subtotal Building Demolition Costs		\$3,147	\$2,622	\$5,769	\$6,294	\$12,588	\$2,622	\$6,294	\$3,671	\$7,343	\$4,720	\$2,098	\$0	\$0	\$3,671	\$2,622	\$9,441	\$11,014	\$0	\$0	\$2,098	\$1,573	\$7,867	\$22,553	\$5,769	\$3,147	\$4,720
B. Survey and Decontamination																											
Cost per Header House		\$667	\$667	\$667	\$667	\$667	\$667	\$667	\$667	\$667	\$667	\$667	\$667	\$667	\$667	\$667	\$667	\$667	\$667	\$667	\$667	\$667	\$667	\$667	\$667	\$667	\$667
Subtotal Survey and Decontamination Costs		\$4,000	\$3,333	\$7,332	\$7,999	\$15,998	\$3,333	\$7,999	\$4,666	\$9,332	\$5,999	\$2,666	\$0	\$0	\$4,666	\$3,333	\$11,999	\$13,998	\$0	\$0	\$2,666	\$2,000	\$9,999	\$28,663	\$7,332	\$4,000	\$5,999
C. Disposal																											
Total Volume for Disposal - Incl. 33% Factor (cy)		117	98	215	235	469	98	235	137	274	176	78	0	0	137	98	352	411	0	0	78	59	293	841	215	117	176
Volume for Disposal Assuming Void Space (cy)		129	108	237	258	516	108	258	151	301	194	86	0	0	151	108	387	452	0	0	86	65	323	925	237	129	194
Disposal Cost, Landfill (cy)		\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17
Subtotal Off-Site County Landfill Disposal Costs		\$5,440	\$4,554	\$9,994	\$10,879	\$21,758	\$4,554	\$10,879	\$6,367	\$12,692	\$8,180	\$3,626	\$0	\$0	\$6,367	\$4,554	\$16,319	\$19,059	\$0	\$0	\$3,626	\$2,741	\$13,620	\$39,004	\$9,994	\$5,440	\$8,180
Headerhouse Soil Removal Volume (assumes 10'Wx20'Lx2.5'D)		500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500
11e.(2) Disposal Cost (ft ³)		\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80
Subtotal 11e.(2) Disposal Costs		\$17,414	\$14,512	\$31,926	\$34,829	\$69,658	\$14,512	\$34,829	\$20,317	\$40,634	\$26,122	\$11,610	\$0	\$0	\$20,317	\$14,512	\$52,243	\$60,951	\$0	\$0	\$11,610	\$8,707	\$43,536	\$124,804	\$31,926	\$17,414	\$26,122
Subtotal Header House Removal and Disposal Costs per Wellfield		\$30,001	\$25,021	\$55,021	\$60,001	\$120,002	\$25,021	\$60,001	\$35,021	\$70,001	\$45,021	\$20,000	\$0	\$0	\$35,021	\$25,021	\$90,002	\$105,022	\$0	\$0	\$20,000	\$15,021	\$75,022	\$215,024	\$55,021	\$30,001	\$45,021
Total Header House Removal and Disposal Costs		\$1,255,287																									
TOTAL REMOVAL AND DISPOSAL COSTS PER WELLFIELD		\$211,667	\$209,873	\$343,924	\$435,602	\$774,180	\$189,540	\$358,304	\$362,451	\$527,674	\$359,263	\$137,312	\$4,483	\$0	\$258,290	\$180,126	\$519,787	\$627,742	\$0	\$0	\$213,355	\$108,222	\$439,170	\$1,444,386	\$495,682	\$273,737	\$285,748
TOTAL WELLFIELD BUILDINGS AND EQUIPMENT REMOVAL		\$8,760,518																									

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Wellfield and Satellite Surface Reclamation		Mine Unit 1	Mine Unit 2	Mine Unit 3/ 3 Ext	Mine Unit 4/4A	Mine Unit 15	Mine Unit 15A	Mine Unit K	K-North	Mine Unit 9	Mine Unit 10	Mine Unit 10- Ext	Mine Unit 27	Mine Unit 21	Mine Unit 7	Mine Unit-A/B	Mine Unit-C	Mine Unit-D	Mine Unit-E	Mine Unit-F	Mine Unit-H	D-Extension	Mine Unit-I	Mine Unit-J
I. Wellfield Pattern Area, and Road Reclamation																								
	Area (acres)	50.9	104.3	99.8	125.1	117.3	44.5	83.3	65.4	88.7	99.5	23.5	0.0	0.0	68.4	37.9	63.9	14.9	44.6	157.6	56.1	9.3	52.7	52.7
	*Assume wellfield pattern area X 2																							
	Discing/Seeding Unit Cost (\$/acre)	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330
	Subtotal Pattern Area and Road Reclamation Costs	\$16,790	\$34,412	\$32,947	\$41,290	\$38,702	\$14,698	\$27,482	\$21,589	\$29,264	\$32,842	\$7,762	\$0	\$0	\$22,579	\$12,500	\$21,094	\$4,924	\$14,725	\$52,001	\$18,526	\$3,056	\$17,378	\$17,404
	Total Wellfield Area Reclamation Costs	\$481,965																						
II. Wellfield Road Reclamation																								
	Road Construction																							
	Length of Wellfield Roads (1000 ft)	6.2	10.1	11.2	92.4	19.8	13.6	9.6	2.8	12.7	16.2	2.9	0	0	16.2	12.8	11.3	2.4	13.3	18	15.7	5	5	5
	Wellfield Road Reclamation Unit Cost (\$/1000 ft)	\$981	\$981	\$981	\$981	\$981	\$981	\$981	\$981	\$981	\$981	\$981	\$981	\$981	\$981	\$981	\$981	\$981	\$981	\$981	\$981	\$981	\$981	\$981
	Subtotal Wellfield Road Reclamation Costs	\$6,083	\$9,909	\$10,988	\$90,652	\$19,425	\$13,343	\$9,418	\$2,747	\$12,460	\$15,893	\$2,845	\$0	\$0	\$15,893	\$12,558	\$11,086	\$2,355	\$13,048	\$17,659	\$15,403	\$4,905	\$4,905	\$4,905
	Total Wellfield Road Reclamation Costs	\$296,480																						
III. Laydown area reclamation																								
	Area of Disturbance (acres)	1	1	2	2	1	1	2	2	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1
	Average Depth of Stripped Topsoil (ft)	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
	Surface Grade: Level Ground																							
	Average Length of Topsoil Haul (ft)	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500
	A. Ripping Overburden with Dozer																							
	Ripping Cost (per acre)	\$903	\$903	\$903	\$903	\$903	\$903	\$903	\$903	\$903	\$903	\$903	\$903	\$903	\$903	\$903	\$903	\$903	\$903	\$903	\$903	\$903	\$903	\$903
	Subtotal Ripping Costs	\$903	\$903	\$1,807	\$1,807	\$903	\$903	\$1,355	\$1,355	\$903	\$903	\$903	\$0	\$0	\$903	\$903	\$903	\$903	\$903	\$903	\$903	\$903	\$903	\$903
	B. Topsoil Application with Scraper																							
	Volume of Topsoil Removed (cy)	1,081	1,081	2,162	2,162	1,081	1,081	1,621	1,621	1,081	1,081	1,081	0	0	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081
	Moving Materials (0% Grade)	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85
	Subtotal Topsoil Application Costs	\$920	\$920	\$1,841	\$1,841	\$920	\$920	\$1,380	\$1,380	\$920	\$920	\$920	\$0	\$0	\$920	\$920	\$920	\$920	\$920	\$920	\$920	\$920	\$920	\$920
	C. Discing and Seeding																							
	Discing/Seeding Unit Cost (\$/acre)	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330
	Subtotal Discing/Seeding Costs	\$330	\$330	\$660	\$660	\$330	\$330	\$495	\$495	\$330	\$330	\$330	\$0	\$0	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330
	Subtotal Surface Reclamation Costs per WF laydown area	\$2,153	\$2,153	\$4,308	\$4,308	\$2,153	\$2,153	\$3,230	\$3,230	\$2,153	\$2,153	\$2,153	\$0	\$0	\$2,153	\$2,153	\$2,153	\$2,153	\$2,153	\$2,153	\$2,153	\$2,153	\$2,153	\$2,153
	Total Wellfield Laydown Area Reclamation Costs	\$51,677														\$19,377								
	SUBTOTAL SURFACE RECLAMATION COSTS PER WELLFIELD	\$25,026	\$46,474	\$48,243	\$136,250	\$60,280	\$30,194	\$40,130	\$27,566	\$43,877	\$50,888	\$12,760	\$0	\$0	\$40,625	\$27,211	\$34,333	\$9,432	\$29,926	\$71,813	\$36,082	\$10,114	\$24,436	\$24,462
	TOTAL WELLFIELD SURFACE RECLAMATION COSTS	\$830,122																						
IV. Fence Removal																								
	Length of Fencing (ft)	16,487	11,580	7,388	26,009	7,074	0	23,271	23,271	21,887	21,595	9,661	19,732	0	8,674	13,720	18,694	14,060	18,426	29,540	9,680	0	9,977	10,000
	Fence Removal Costs	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34
	Subtotal Fence Removal Costs per Wellfield	\$5,622	\$3,949	\$2,519	\$8,869	\$2,412	\$0	\$7,935	\$7,935	\$7,463	\$7,364	\$3,294	\$6,729	\$0	\$2,958	\$4,679	\$6,375	\$4,794	\$6,283	\$10,073	\$3,301	\$0	\$3,402	\$3,410
	Total Fence Removal Costs	\$109,368																						
V. Satellite Area Reclamation																								
	Assumptions:																							
	Area of Disturbance (acres)	2.70	5.00	5.00	1.00	3.00	2.50	2.00																
	Average Depth of Stripped Topsoil (ft)	1	1	1	1	0.67	0.67	0.67																
	Surface Grade: Level Ground																							
	Average Length of Topsoil Haul (ft)	1000	500	500	1000	500	500	500																
	A. Ripping Overburden with Dozer																							
	Ripping Cost (per acre)	\$903.39	\$903.39	\$903.39	\$903.39	\$903.39	\$903.39	\$903.39	\$903.39	\$903.39	\$903.39	\$903.39	\$903.39	\$903.39	\$903.39	\$903.39	\$903.39	\$903.39	\$903.39	\$903.39	\$903.39	\$903.39	\$903.39	\$903.39
	Subtotal Ripping Costs	\$2,439	\$4,517	\$4,517	\$903	\$2,710	\$2,258	\$1,807																
	B. Topsoil Application with Scraper																							
	Volume of Topsoil Removed (cy)	4356	8067	8067	1613	3243	2702	2162																
	Moving Materials (0% Grade)	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02																
	Subtotal Topsoil Application Costs	\$4,432	\$8,208	\$8,208	\$1,642	\$3,300	\$2,750	\$2,200																
	C. Discing and Seeding																							
	Discing/Seeding Unit Cost (\$/acre)	\$330	\$330	\$330	\$330	\$330	\$330	\$330																
	Subtotal Discing/Seeding Costs	\$891	\$1,650	\$1,650	\$330	\$990	\$825	\$660																
	Subtotal Surface Reclamation Costs per Location	\$7,762	\$14,375	\$14,375	\$2,875	\$7,000	\$5,833	\$4,667																
	Total Satellite Building Area Reclamation Costs	\$56,887																						
	TOTAL WELLFIELD AND SATELLITE SURFACE RECLAMATION COSTS	\$996,377																						

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Wellfield and Satellite Surface Reclamation		Mine Unit 1	Mine Unit 2	Mine Unit 3/ 3 Ext	Mine Unit 4/4A	Mine Unit 15	Mine Unit 15A	Mine Unit K	K-North	Mine Unit 9	Mine Unit 10	Mine Unit 10- Ext	Mine Unit 27	Mine Unit 21	Mine Unit 7	Mine Unit-A/B	Mine Unit-C	Mine Unit-D	Mine Unit-E	Mine Unit-F	Mine Unit-H	D-Extension	Mine Unit-I	Mine Unit-J
I. Wellfield Pattern Area, and Road Reclamation																								
	Area (acres)	50.9	104.3	99.8	125.1	117.3	44.5	83.3	65.4	88.7	99.5	23.5	0.0	0.0	68.4	37.9	63.9	14.9	44.6	157.6	56.1	9.3	52.7	52.7
	*Assume wellfield pattern area X 2																							
	Discing/Seeding Unit Cost (\$/acre)	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330
	Subtotal Pattern Area and Road Reclamation Costs	\$16,790	\$34,412	\$32,947	\$41,290	\$38,702	\$14,698	\$27,482	\$21,589	\$29,264	\$32,842	\$7,762	\$0	\$0	\$22,579	\$12,500	\$21,094	\$4,924	\$14,725	\$52,001	\$18,526	\$3,056	\$17,378	\$17,404
	Total Wellfield Area Reclamation Costs	\$481,965																						
II. Wellfield Road Reclamation																								
	Road Construction																							
	Length of Wellfield Roads (1000 ft)	6.2	10.1	11.2	92.4	19.8	13.6	9.6	2.8	12.7	16.2	2.9	0	0	16.2	12.8	11.3	2.4	13.3	18	15.7	5	5	5
	Wellfield Road Reclamation Unit Cost (\$/1000 ft)	\$981	\$981	\$981	\$981	\$981	\$981	\$981	\$981	\$981	\$981	\$981	\$981	\$981	\$981	\$981	\$981	\$981	\$981	\$981	\$981	\$981	\$981	\$981
	Subtotal Wellfield Road Reclamation Costs	\$6,083	\$9,909	\$10,988	\$90,652	\$19,425	\$13,343	\$9,418	\$2,747	\$12,460	\$15,893	\$2,845	\$0	\$0	\$15,893	\$12,558	\$11,086	\$2,355	\$13,048	\$17,659	\$15,403	\$4,905	\$4,905	\$4,905
	Total Wellfield Road Reclamation Costs	\$296,480																						
III. Laydown area reclamation																								
	Area of Disturbance (acres)	1	1	2	2	1	1	2	2	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1
	Average Depth of Stripped Topsoil (ft)	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
	Surface Grade: Level Ground																							
	Average Length of Topsoil Haul (ft)	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500
	A. Ripping Overburden with Dozer																							
	Ripping Cost (per acre)	\$903	\$903	\$903	\$903	\$903	\$903	\$903	\$903	\$903	\$903	\$903	\$903	\$903	\$903	\$903	\$903	\$903	\$903	\$903	\$903	\$903	\$903	\$903
	Subtotal Ripping Costs	\$903	\$903	\$1,807	\$1,807	\$903	\$903	\$1,355	\$1,355	\$903	\$903	\$903	\$0	\$0	\$903	\$903	\$903	\$903	\$903	\$903	\$903	\$903	\$903	\$903
	B. Topsoil Application with Scraper																							
	Volume of Topsoil Removed (cy)	1,081	1,081	2,162	2,162	1,081	1,081	1,621	1,621	1,081	1,081	1,081	0	0	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081
	Moving Materials (0% Grade)	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85
	Subtotal Topsoil Application Costs	\$920	\$920	\$1,841	\$1,841	\$920	\$920	\$1,380	\$1,380	\$920	\$920	\$920	\$0	\$0	\$920	\$920	\$920	\$920	\$920	\$920	\$920	\$920	\$920	\$920
	C. Discing and Seeding																							
	Discing/Seeding Unit Cost (\$/acre)	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330
	Subtotal Discing/Seeding Costs	\$330	\$330	\$660	\$660	\$330	\$330	\$495	\$495	\$330	\$330	\$330	\$0	\$0	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330
	Subtotal Surface Reclamation Costs per WF laydown area	\$2,153	\$2,153	\$4,308	\$4,308	\$2,153	\$2,153	\$3,230	\$3,230	\$2,153	\$2,153	\$2,153	\$0	\$0	\$2,153	\$2,153	\$2,153	\$2,153	\$2,153	\$2,153	\$2,153	\$2,153	\$2,153	\$2,153
	Total Wellfield Laydown Area Reclamation Costs	\$51,677														\$19,377								
	SUBTOTAL SURFACE RECLAMATION COSTS PER WELLFIELD	\$25,026	\$46,474	\$48,243	\$136,250	\$60,280	\$30,194	\$40,130	\$27,566	\$43,877	\$50,888	\$12,760	\$0	\$0	\$40,625	\$27,211	\$34,333	\$9,432	\$29,926	\$71,813	\$36,082	\$10,114	\$24,436	\$24,462
	TOTAL WELLFIELD SURFACE RECLAMATION COSTS	\$830,122																						
IV. Fence Removal																								
	Length of Fencing (ft)	16,487	11,580	7,388	26,009	7,074	0	23,271	23,271	21,887	21,595	9,661	19,732	0	8,674	13,720	18,694	14,060	18,426	29,540	9,680	0	9,977	10,000
	Fence Removal Costs	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34	\$0.34
	Subtotal Fence Removal Costs per Wellfield	\$5,622	\$3,949	\$2,519	\$8,869	\$2,412	\$0	\$7,935	\$7,935	\$7,463	\$7,364	\$3,294	\$6,729	\$0	\$2,958	\$4,679	\$6,375	\$4,794	\$6,283	\$10,073	\$3,301	\$0	\$3,402	\$3,410
	Total Fence Removal Costs	\$109,368																						
V. Satellite Area Reclamation		SR-1	SR-2	REY	Satellite No.1	Satellite No.2	Satellite No.3	Se Plant																
	Assumptions:																							
	Area of Disturbance (acres)	2.70	5.00	5.00	1.00	3.00	2.50	2.00																
	Average Depth of Stripped Topsoil (ft)	1	1	1	1	0.67	0.67	0.67																
	Surface Grade: Level Ground																							
	Average Length of Topsoil Haul (ft)	1000	500	500	1000	500	500	500																
	A. Ripping Overburden with Dozer																							
	Ripping Cost (per acre)	\$903.39	\$903.39	\$903.39	\$903.39	\$903.39	\$903.39	\$903.39																
	Subtotal Ripping Costs	\$2,439	\$4,517	\$4,517	\$903	\$2,710	\$2,258	\$1,807																
	B. Topsoil Application with Scraper																							
	Volume of Topsoil Removed (cy)	4356	8067	8067	1613	3243	2702	2162																
	Moving Materials (0% Grade)	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02																
	Subtotal Topsoil Application Costs	\$4,432	\$8,208	\$8,208	\$1,642	\$3,300	\$2,750	\$2,200																
	C. Discing and Seeding																							
	Discing/Seeding Unit Cost (\$/acre)	\$330	\$330	\$330	\$330	\$330	\$330	\$330																
	Subtotal Discing/Seeding Costs	\$891	\$1,650	\$1,650	\$330	\$990	\$825	\$660																
	Subtotal Surface Reclamation Costs per Location	\$7,762	\$14,375	\$14,375	\$2,875	\$7,000	\$5,833	\$4,667																
	Total Satellite Building Area Reclamation Costs	\$56,887																						
	TOTAL WELLFIELD AND SATELLITE SURFACE RECLAMATION COSTS	\$996,377																						

Cameco Resources
Smith Ranch Highland Uranium Project
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		CPP IX Plant	Central Plant	Dryer Building	Satellite SR-1	Pilot ISL	Pumphouse	Bone Yard	Satellite SR-2	Satellite Reynolds	CPP Lab Addition	CPP Control Room / Change Rooms	CPP Lab	CPP Maintenance Shop Addition	Sodium Hydroxide Addition	HUP Plant	Satellite No. 1	Satellite No. 2	Satellite No. 3	Selenium Plant
I. Equipment Removal and Loading																				
I. Removal and Loading Costs																				
A. Tankage																				
	Number of Tanks	23	36	2	23	15	3	3	10	0	0	0	0	0	1	39	8	14	18	9
	Volume of Tank Construction Material (ft ³)	900	1340	300	920	260	164	164	397	0	0	0	0	0	32.5	1629	162	290	397	290
	Tank Removal Cost	\$128.47	\$128.47	\$128.47	\$128.47	\$128.47	\$128.47	\$128.47	\$128.47	\$128.47	\$128.47	\$128.47	\$128.47	\$128.47	\$128.47	\$128.47	\$128.47	\$128.47	\$128.47	\$128.47
	Subtotal Tankage Removal and Loading Costs	\$115,621	\$172,147	\$38,540	\$118,191	\$33,402	\$21,069	\$21,069	\$50,938	\$0	\$0	\$0	\$0	\$0	\$4,175	\$209,275	\$20,812	\$37,256	\$51,002	\$37,256
B. PVC/Steel Pipe																				
	PVC Pipe Footage	4800	6000	350	7000	1500	0	0	4000	0	100	50	100	0	0	12996	1000	4000	4000	4000
	Average PVC Pipe Diameter (inches)	3	3	2	3	3	3	0	3	3	2	2	2	0	0	3	3	3	3	3
	Shredded PVC Pipe Volume Reduction (ft ³ /ft)	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023
	Volume of Shredded PVC Pipe (ft ³)	112	140	8	163	35	0	0	93	0	2	1	2	0	0	303	23	93	93	93
	Steel Pipe Footage	1100	1,000	300	250	0	80	0	0	0	25	50	25	15	25	645	0	0	0	0
	Average Steel Pipe Diameter (inches)	6	0	0	6	0	8	0	0	0	0.5	0.5	0.5	0.5	0.5	2	0	0	0	0
	Volume (ft ³)	216	0	0	49	0	30	0	0	0	1	1	1	1	1	15	0	0	0	0
	Pipe Removal Cost	\$8.34	\$8.34	\$8.34	\$8.34	\$8.34	\$8.34	\$8.34	\$8.34	\$8.34	\$8.34	\$8.34	\$8.34	\$8.34	\$8.34	\$8.34	\$8.34	\$8.34	\$8.34	\$8.34
	Subtotal PVC/Steel Pipe Removal and Loading Costs	\$49,209	\$58,384	\$5,421	\$60,469	\$12,511	\$667	\$0	\$33,362	\$0	\$1,043	\$834	\$1,043	\$125	\$209	\$113,773	\$8,341	\$33,362	\$33,362	\$33,362
C. Pumps																				
	Number of Pumps	23	67	6	23	12	2	0	13	0	0	0	0	0	2	52	10	14	13	14
	Average Volume (ft ³ /pump)	4.93	4.93	0	4.93	4.93	4.93	4.93	4.93	4.93	4.93	4.93	4.93	4.93	4.93	4.93	4.93	4.93	4.93	4.93
	Volume of Pumps (ft ³)	113	330	0	113	59	10	0	64	0	0	0	0	0	10	256.36	49.3	69.02	64.09	69.02
	Pump Removal Cost	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100
	Subtotal Pump Removal and Loading Costs	\$11,258.44	\$32,878.63	\$0.00	\$11,258.44	\$5,878.30	\$996.32	\$0.00	\$6,376.46	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$996.32	\$25,541.72	\$4,911.87	\$6,876.62	\$6,385.43	\$6,876.62
D. Dryer																				
	Dryer Volume (ft ³)	0	0	1,000	0	0	0	0	0	0	0	0	0	0	0	885	0	0	0	0
	Dryer Removal Costs	\$14.67	\$14.67	\$14.67	\$14.67	\$14.67	\$14.67	\$14.67	\$14.67	\$14.67	\$14.67	\$14.67	\$14.67	\$14.67	\$14.67	\$14.67	\$14.67	\$14.67	\$14.67	\$14.67
	Subtotal Dryer Dismantling and Loading Cost	\$0	\$0	\$14,671	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$12,984	\$0	\$0	\$0	\$0
E. RO Units																				
	Number of RO Units (500 gpm)																			
	Current	1	0	0	1	0	0	0	0.25	0	0	0	0	0	0	0	0	2.5	0	0
	Planned	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0
	Number of Degasser Units																			
	Current	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	Planned	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	RO/Degasser Average Volume (ft ³ /Unit)	250	250	250	250	250	250	250	250	0	250	250	250	250	250	250	250	250	250	250
	RO and Degasser Removal Cost	\$4.86	\$4.86	\$4.86	\$4.86	\$4.86	\$4.86	\$4.86	\$4.86	\$4.86	\$4.86	\$4.86	\$4.86	\$4.86	\$4.86	\$4.86	\$4.86	\$4.86	\$4.86	\$4.86
	Subtotal RO Unit Removal and Loading Costs	\$1,215.19	\$0.00	\$0.00	\$2,430.38	\$0.00	\$0.00	\$0.00	\$303.80	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$3,037.98	\$607.60	\$1,215.19
	Subtotal Equipment Removal and Loading Costs per Facility	\$177,304	\$263,410	\$58,633	\$192,348	\$51,791	\$22,732	\$21,069	\$90,980	\$0	\$1,043	\$834	\$1,043	\$125	\$5,380	\$361,574	\$34,064	\$80,532	\$91,357	\$78,710
Total Equipment Removal and Loading Costs		\$1,532,929																		
II. Transportation and Disposal Costs (NRC-Licensed Facility)																				
A. Tankage																				
	Volume of Tank Construction Material (ft ³)	900	1340	300	920	260	164	164	397	0	0	0	0	0	33	0	162	290	397	290
	Volume for Disposal Assuming Void Space (ft ³)	990	1474	330	1012	286	180	180	436	0	0	0	0	0	36	0	178	319	437	319
	Transportation and Disposal Unit Cost (\$/ft ³)	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32
	Subtotal Tankage Transportation and Disposal Costs	\$7,250	\$10,795	\$2,417	\$7,411	\$2,095	\$1,318	\$1,318	\$3,193	\$0	\$0	\$0	\$0	\$0	\$264	\$0	\$1,304	\$2,336	\$3,200	\$2,336
B. PVC / Steel Pipe																				
	Volume of Shredded PVC Pipe (ft ³)	111.8	139.7	8.2	163.0	34.9	0.0	0.0	93.1	0.0	2.3	1.2	2.3	0.0	0.0	0	23	93	93	93
	Volume for Disposal Assuming Void Space (ft ³)	123	154	9	179	38	0	0	102	0	3	1	3	0	0	0	25	102	102	102
	Volume of Steel Pipe (ft ³)	216	0	0	49.075	0	30	0	0	0	1	1	1	1	1	0	0	0	0	0
	Volume for Disposal Assuming Void Space (ft ³)	238	0	0	54	0	33	0	0	0	1	1	1	1	1	0	0	0	0	0
	Transportation and Disposal Unit Cost (\$/ft ³)	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77	\$5.77
	Subtotal PVC Pipe Transportation and Disposal Costs	\$2,083	\$889	\$52	\$1,344	\$219	\$190	\$0	\$589	\$0	\$23	\$12	\$23	\$6	\$6	\$0	\$144	\$589	\$589	\$589
C. Pumps																				
	Volume of Pumps (ft ³)	113	330	0	113	59	10	0	64	0	0	0	0	0	10	0	49	69	64	69
	Volume for Disposal Assuming Void Space (ft ³)	124	363	0	124	65	11	0	70	0	0	0	0	0	11	0	54	76	70	76
	Transportation and Disposal Unit Cost (\$/ft ³)	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32
	Subtotal Pump Transportation and Disposal Costs	\$908	\$2,658	\$0	\$908	\$476	\$81	\$0	\$513	\$0	\$0	\$0	\$0	\$0	\$81	\$0	\$395	\$557	\$513	\$557
D. Dryer																				
	Dryer Volume (ft ³)	0	0	1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Volume for Disposal Assuming Dryer Remains Intact (ft ³)	0	0	1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Transportation and Disposal Unit Cost (\$/ft ³)	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32
	Total Dryer Transportation and Disposal Costs	\$0	\$0	\$7,323	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
E. RO/Degasser Units																				
	Volume of RO Units (ft ³)	250	0	0	500	0	0	0	62.5	0	0	0	0	0	0	0	0	625	125	250
	Volume for Disposal Assuming Volume Reduction (ft ³)	275	0	0	550	0	0	0	68.75	0	0	0	0	0	0	0	0	687.5	137.5	275
	Transportation and Disposal Unit Costs	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32	\$7.32
	Subtotal RO Unit Transportation and Disposal Costs	\$2,014	\$0	\$0	\$4,028	\$0	\$0	\$0	\$503	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,035	\$1,007	\$2,014
	Subtotal Equipment Transportation and Disposal Costs per Facility	\$12,255	\$14,342	\$9,792	\$13,691	\$2,790	\$1,589	\$1,318	\$4,798	\$0	\$23	\$12	\$23	\$6	\$351	\$0	\$1,843	\$8,517	\$5,309	\$5,496
Total Equipment Transportation and Disposal Costs		\$82,155																		
III. Health and Safety Costs																				
Radiation Safety costs Accounted for on GWR-SITE																				
Total Health and Safety Costs																				
SUBTOTAL EQUIPMENT REMOVAL AND DISPOSAL COSTS PER FACILITY		\$189,559	\$277,752	\$68,425	\$206,039	\$54,581	\$24,321	\$22,387	\$95,778	\$0	\$1,066	\$846	\$1,066	\$131	\$5,731	\$361,574	\$35,907	\$89,049	\$96,666	\$84,206
TOTAL EQUIPMENT REMOVAL AND DISPOSAL COSTS		\$1,615,084																		

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	Satellite No. 1	Satellite No. 2	Satellite No. 3	Sat. No. 3 Fab Shop	Yellowcake Warehouse	South Warehouse	Suspended Walkway	Changehouse and Lab	Maintenance Building	min Office	Process/Fire Water	Potable Water Building	Potable Water Tank Slab	Central Plant Tank Slabs	Selenium Plant	Exxon R&D RO Building	Exxon R&D Process Building	SRHUP #9 DDW	Vollman 33-27 DDW	Morton 1-20 DDW
Building Demolition and Disposal																				
I. Decontamination Costs																				
A. Wall Decontamination																				
Area to be Decontaminated (ft ²)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4,000	0	0	0	0	0
HCl Acid Wash, including labor (\$/ft ²)	\$0.91	\$0.91	\$0.91	\$0.91	\$0.91	\$0.91	\$0.91	\$0.91	\$0.91	\$0.91	\$0.91	\$0.91	\$0.91	\$0.91	\$0.91	\$0.91	\$0.91	\$0.91	\$0.91	\$0.91
Subtotal Wall Decontamination Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,646	\$0	\$0	\$0	\$0	\$0
B. Concrete Floor Decontamination																				
Area to be Decontaminated (ft ²)	6000	9600	9600	0	0	0	0	0	0	0	0	0	0	0	9600	1260	1260	1260	1260	1260
HCl Acid Wash, including labor (\$/ft ²)	\$0.56	\$0.56	\$0.56	\$0.56	\$0.56	\$0.56	\$0.56	\$0.56	\$0.56	\$0.56	\$0.56	\$0.56	\$0.56	\$0.56	\$0.56	\$0.56	\$0.56	\$0.56	\$0.56	\$0.56
Subtotal Concrete Floor Decontamination Costs	\$3,333	\$5,332	\$5,332	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,332	\$700	\$700	\$700	\$700	\$700
C. Deep Well Injection Costs																				
Total kgals for Injection (1 gal used per ft ²)	6	9.6	9.6	0	0	0	0	0	0	0	0	0	0	0	13.6	1.26	1.26	1.26	1.26	1.26
Deep Well Injection Unit Cost (\$/kgals)	\$1.20	\$1.20	\$1.20	\$1.20	\$1.20	\$1.20	\$1.20	\$1.20	\$1.20	\$1.20	\$1.20	\$1.20	\$1.20	\$1.20	\$1.20	\$1.20	\$1.20	\$1.20	\$1.20	\$1.20
Subtotal Deep Well Injection Costs	\$7	\$11	\$11	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$16	\$2	\$2	\$2	\$2	\$2
Subtotal Decontamination Costs per Building	\$3,340	\$5,343	\$5,343	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$8,994	\$2	\$2	\$2	\$2	\$2
Total Decontamination Costs																				
II. Demolition Costs																				
A. Building																				
Height of Building (ft)	24	25	25	25	14	19	0	14	13	12	21	35	0	0	25	12	12	12	12	12
Volume of Building (ft ³)	192,000	320,000	320,000	37,560	91,000	333,000	5,600	73,000	27,000	72,000	16,500	6,300	0	0	320,000	15,120	15,120	15,120	15,120	15,120
Demolition Cost	\$0.33	\$0.33	\$0.33	\$0.33	\$0.33	\$0.33	\$0.33	\$0.33	\$0.33	\$0.33	\$0.33	\$0.33	\$0.33	\$0.33	\$0.33	\$0.33	\$0.33	\$0.33	\$0.33	\$0.33
Subtotal Building Demolition Costs	\$62,938	\$104,896	\$104,896	\$12,312	\$29,830	\$109,157	\$1,836	\$23,929	\$8,851	\$23,602	\$5,409	\$2,065	\$0	\$0	\$104,896	\$4,956	\$4,956	\$4,956	\$4,956	\$4,956
B. Concrete Floor																				
Area of Concrete Floor (ft ²)	8,000	12,800	12,800	0	6,500	18,000	0	5,400	2,100	6,000	800	180	1,256	7,854	12,800	12,801	12,802	1,260	1,260	1,260
Demolition Cost	\$0.86	\$0.86	\$0.86	\$0.86	\$0.86	\$0.86	\$0.86	\$0.86	\$0.86	\$0.86	\$0.86	\$0.86	\$0.86	\$0.86	\$0.86	\$0.86	\$0.86	\$0.86	\$0.86	\$0.86
Subtotal Concrete Floor Demolition Costs	\$6,855	\$10,968	\$10,968	\$0	\$5,570	\$15,424	\$0	\$4,627	\$1,799	\$5,141	\$686	\$154	\$1,076	\$6,730	\$10,968	\$10,969	\$10,970	\$1,080	\$1,080	\$1,080
C. Concrete Footing																				
Length of Concrete Footing (ft)	358	453	453	0	322	537	0	294	183	310	113	54	0	0	453	453	453	142	142	142
Demolition Cost	\$17.57	\$17.57	\$17.57	\$17.57	\$17.57	\$17.57	\$17.57	\$17.57	\$17.57	\$17.57	\$17.57	\$17.57	\$17.57	\$17.57	\$17.57	\$17.57	\$17.57	\$17.57	\$17.57	\$17.57
Subtotal Concrete Footing Demolition Costs	\$6,285	\$7,950	\$7,950	\$0	\$5,665	\$9,427	\$0	\$5,164	\$3,220	\$5,443	\$1,987	\$943	\$0	\$0	\$7,950	\$7,951	\$7,951	\$2,494	\$2,494	\$2,494
Subtotal Demolition Costs per Building	\$76,078	\$123,814	\$123,814	\$12,312	\$41,065	\$134,008	\$1,836	\$33,720	\$0	\$0	\$8,082	\$3,162	\$1,076	\$6,730	\$123,814	\$0	\$0	\$8,530	\$8,530	\$8,530
Total Demolition Costs																				
III. Disposal Costs																				
A. Building																				
Volume of Building (cy)	7,111	11,852	11,852	1,391	3,370	12,333	207	2,704	1,000	2,667	611	233	0	0	11,852	560	560	560	560	560
Off-site County Facility																				
Percentage (%)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Total Volume for Disposal - Incl. 33% Factor (cy)																				
Volume for Disposal (cubic yards)	2347	3911	3911	459	1112	4070	68	892	330	880	202	77	0	0	3911	185	185	185	185	185
Disposal Unit Cost (\$/cy)	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17
Subtotal county facility off-Site Disposal Costs	\$98,951	\$164,919	\$164,919	\$19,357	\$46,899	\$171,618	\$2,886	\$37,622	\$13,915	\$37,107	\$8,504	\$3,247	\$0	\$0	\$164,919	\$7,792	\$7,792	\$7,792	\$7,792	\$7,792
B. Concrete Floor																				
Area of Concrete Floor (ft ²)	8,000	12,800	12,800	0	6,500	18,000	0	5,400	2,100	6,000	800	180	1,256	7,854	12,800	12,801	12,802	1,260	1,260	1,260
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	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)	6000	9600	9600	0	4875	13500	0	4050	1575	4500	600	135	942	5890.5	9600	9600.75	9601.5	945	945	945
Volume of Concrete Floor (cy)	222	356	356	0	181	500	0	150	58	167	22	5	35	218	356	356	356	35	35	35
1. Off-site County disposal																				
Percentage (%)	75%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Volume for Disposal (cy)	167	356	356	0	181	500	0	150	58	167	22	5	35	218	356	356	356	35	35	35
Disposal Unit Cost (\$/cy)	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17
Subtotal county facility off-Site Disposal Costs	\$7,028	\$14,993	\$14,993	\$0	\$7,613	\$21,083	\$0	\$6,325	\$2,460	\$7,028	\$937	\$211	\$1,471	\$9,199	\$14,993	\$14,994	\$14,995	\$1,476	\$1,476	\$1,476
2. NRC-licensed Facility																				
Percentage (%)	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Volume for Disposal (ft ³)	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Transportation and Disposal Unit Cost (\$/ft ³)	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80
Subtotal NRC-Licensed Facility Disposal Costs	\$87	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Subtotal Concrete Floor Disposal Costs	\$7,115	\$14,993	\$14,993	\$0	\$7,613	\$21,083	\$0	\$6,325	\$2,460	\$7,028	\$937	\$211	\$1,471	\$9,199	\$14,993	\$14,994	\$14,995	\$1,476	\$1,476	\$1,476
C. Concrete Footing																				
Length of Concrete Footing (ft)	358	453	453	0	322	537	0	294	183	310	113	54	0	0	453	453	453	142	142	142
Average Depth of Concrete Footing (ft)	4	4	4	4	4	4	4	4	4	4	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	1	1	1	1	1	1	1	1	1	1
Volume of Concrete Footing (ft ³)	1431	1810	1810	0	1290	2147	0	1176	733	1239	453	215	0	0	1810	1810	1810	568	568	568
Volume of Concrete Footing (cy)	53	67	67	0	48	80	0	44	27	46	17	8	0	0	67	67	67	21	21	21
Disposal Unit Cost (\$/cy)	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17	\$42.17
Subtotal Concrete Footing Disposal Costs	\$2,235	\$2,827	\$2,827	\$0	\$2,015	\$3,352	\$0	\$1,836	\$1,145	\$1,936	\$707	\$335	\$0	\$0	\$2,827	\$2,827	\$2,827	\$887	\$887	\$887
Subtotal Disposal Costs per Building	\$108,301	\$182,739	\$182,739	\$19,357	\$56,527	\$196,053	\$2,886	\$45,783	\$0	\$0	\$10,148	\$3,793	\$1,471	\$9,199	\$182,739	\$0	\$0	\$10,155	\$10,155	\$10,155
Total Disposal Costs																				
IV. Health and Safety Costs																				
SUBTOTAL BUILDING DEMOLITION AND DISPOSAL COSTS	\$187,719	\$311,896	\$311,896	\$31,669	\$97,592	\$330,061	\$4,722	\$79,503	\$0	\$0	\$18,230	\$6,955	\$2,547	\$15,929	\$315,547	\$0	\$0	\$19,387	\$19,387	\$19,361
TOTAL BUILDING DEMOLITION AND DISPOSAL COSTS																				

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Miscellaneous Reclamation																			
I. CPP/Office Area/Pilot Plant/Maint. Shop/Chem. Storage/Yard Reclamation																			
Concrete Pad= 0.3 acres																			
Total Area = 10.57 acres																			
A.	Concrete Pad																		
	Area of Concrete Pad (ft ²)	13068																	
	Demolition Cost	\$0.86																	
	Average Thickness of Concrete Floor (ft)	0.50																	
	Volume of Concrete Floor (ft ³)	6,534																	
	Volume of Concrete Floor (cy)	242																	
	Concrete Disposal On Site (\$/cy)	\$9.68																	
	Subtotal Concrete Pad Demolition and Disposal Costs	\$13,541																	
B.	Gravel Road Base Removal																		
	Average haul distance (ft)	1000																	
	Gravel Road Base Area (acres)	8.0																	
	Average Road Base Depth (ft)	0.5																	
	Volume of Road Base (cy)	6453																	
	Moving Materials	\$1.02																	
	Subtotal Gravel Road Base Removal Costs	\$6,566																	
C.	Ripping Overburden with Dozer																		
	Overburden Surface Area (acres)	10.6																	
	Ripping Cost (per acre)	\$903.39																	
	Subtotal Ripping Overburden Costs	\$9,549																	
D.	Topsoil Application																		
	Area of surface disturbance (ft ²)	460426																	
	Average thickness of topsoil (ft)	0.5																	
	Average haul distance (ft)	2000																	
	Surface grade (%)																		
	Volume of Topsoil (cy)	8,526																	
	Moving Materials	\$1.02																	
	Subtotal Topsoil Application Costs	\$8,676																	
E.	Discing/Seeding																		
	Surface Area (acres)	10.57																	
	Discing/Seeding Unit Cost (\$/acre)	\$330																	
	Subtotal Discing/Seeding Costs	\$3,488																	
	Total CPP/Office/Yard Area Reclamation	\$41,820																	
II. CPP/Office Area Reclamation (Highland)																			
Concrete Pad= 0.3 acres																			
Total Area = 10 acres																			
A.	Asphalt																		
	Area of Asphalt (acres)	3.4																	
	Ripping Cost (per acre)	\$692.48																	
	Average Thickness (ft)	0.50																	
	Moving Materials (0% Grade)	\$0.851																	
	Volume of Asphalt (cy)	2,743																	
	Disposal Cost	\$42.17																	
	Subtotal Asphalt Ripping and Disposal Costs	\$129,583																	
B.	Ripping Overburden with Dozer																		
	Overburden Surface Area (acres)	10.6																	
	Ripping Cost (per acre)	\$903.39																	
	Subtotal Ripping Overburden Costs	\$9,549																	
C.	Topsoil Application																		
	Area of surface disturbance (ft ²)	130680																	
	Average thickness of topsoil (ft)	0.5																	
	Average haul distance (ft)	2000																	
	Surface grade (%)	0%																	
	Volume of Topsoil (cy)	2,420																	
	Moving Materials (0% Grade)	\$1.32																	
	Subtotal Topsoil Application Costs	\$3,189																	
D.	Discing/Seeding																		
	Surface Area (acres)	13																	
	Discing/Seeding Unit Cost (\$/acre)	\$330																	
	Subtotal Discing/Seeding Costs	\$4,290																	
	Total Access Road Reclamation	\$146,611																	
III. Access Road Reclamation (includes culverts)																			
		SR CPP Access Rd.	CPP to SAT 3	Access to WF	MU-15 Access	SR2 Access	Reynolds Access	Access SRHUP 7	Access SRHUP 10 from MU-4	Highland CPP/Office Area	Sat No. 1	Sat No. 3	Connecting Road	Sat No. 2 to Rancher Rd					
A.	Assumptions																		
	Surface grade	1%	5%	5%	0%	5%	0%	0%	0%	5%	0%	0%	0%	0%	0%				
	Length of Road (ft)	5,173	15,827	15,557	10,560	8,500	2,500	1,500	2,500	13,200	15,840	5,280	10,560	2,640					
	Width of Road (ft)	40	30	14	30	30	30	20	20	25	30	30	30	10					
	Area of road (acres)	4.8	10.9	5.0	7.3	5.9	1.7	0.7	1.1	7.6	10.9	3.6	7.3	0.6					
B.	Ripping and Hauling Asphalt																		
	Assumptions																		
	Average Haul Distance (feet)	500	500	500	500	500	500	500	500	5500	0	0	0	0					
	Average Thickness of Asphalt (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5					
	Ripping Cost (per acre)	\$692.48	\$692.48	\$692.48	\$692.48	\$692.48	\$692.48	\$692.48	\$692.48	\$692.48	\$692.48	\$692.48	\$692.48	\$692.48					
	Volume of Asphalt (cy)	3832	8793	4033	5867	4722	1389	556	926	6111	8800	2933	5867	489					
	Moving Materials	\$1.32	\$1.32	\$1.32	\$1.32	\$1.32	\$1.32	\$1.32	\$1.32	\$1.32	\$1.32	\$1.32	\$1.32	\$1.32					
	Subtotal Ripping and Hauling Asphalt	\$8,339	\$19,135	\$8,777	\$12,767	\$10,277	\$3,023	\$1,209	\$2,015	\$13,299	\$19,151	\$6,384	\$12,767	\$1,064					
B.	Gravel Road Base Removal																		
	Average haul distance (ft)	1000	1000	1000	1000	1000	1000	1000	1000	0	1000	1000	1000	0					
	Gravel Road Base Width (ft)	30	20	10	20	20	20	20	20	0	14	14	14	0					
	Gravel Road Base Area (acres)	3.56	7.27	3.57	4.85	3.90	1.15	0.69	1.15	0.00	5.09	1.70	3.39	0.00					
	Average Road Base Depth (ft)	0.75	0.5	0.5	0.5	0.5	0	0	0	0	0	0	0	0					
	Volume of Road Base (cy)	4311	5862	2881	3911	3148	0	0	0	0	0	0	0	0					
	Moving Materials	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02					
	Subtotal Gravel Road Base Removal Costs	\$4,386	\$5,964	\$2,931	\$3,980	\$3,203	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0					
C.	Ripping Overburden with Dozer																		
	Overburden Surface Area (acres)	4.8	10.9	5.0	7.3	5.9	1.7	0.7	1.1	0	10.9	3.6	7.3	0.6					
	Ripping Cost (per Acre)	\$903.39	\$903.39	\$903.39	\$903.39	\$903.39	\$903.39	\$903.39	\$903.39	\$903.39	\$903.39	\$903.39	\$903.39	\$903.39					
	Subtotal Ripping Overburden Costs	\$4,290	\$9,847	\$4,517	\$6,570	\$5,288	\$1,555	\$622	\$1,037	\$0	\$9,855	\$3,285	\$6,570	\$548					
D.	Topsoil Application																		
	Average haul distance (ft)	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500					
	Topsoil Surface Area (ft ²)	206920	474810	217798	316800	255000	75000	30000	50000	330000	475200	158400	316800	26400					
	Depth of Topsoil (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5					
	Volume of Topsoil (cy)	3832	8793	4033	5867	4722	1389	556	926	6111	8800	2933	5867	489					
	Moving Materials	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02	\$1.02					
	Subtotal Topsoil Application Costs	\$3,899	\$8,947	\$4,104	\$5,969	\$4,805	\$1,413	\$565	\$942	\$6,218	\$8,954	\$2,985	\$5,969	\$497					
E.	Discing/Seeding																		
	Surface Area (acres)	4.8	10.9	5.0	7.3	5.9	1.7	0.7	1.1	7.6	10.9	3.6	7.3	0.6					
	Discing/Seeding Unit Cost (\$/acre)	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330					
	Subtotal Discing/Seeding Costs	\$1,584	\$3,597	\$1,650	\$2,400	\$1,952	\$568	\$227	\$379	\$2,500	\$3,600	\$1,200	\$2,400	\$200					
	Multiplier for Projected Additions	0	0	1	0	0	0	0	0	0	0	0	0	0					
	Subtotal Reclamation Costs per Access Road	\$22,483	\$47,490	\$43,959	\$31,686	\$25,505	\$6,559	\$2,623	\$4,373	\$22,017	\$41,560	\$13,854	\$27,706	\$2,309					
	Total Access Road Reclamation Costs	\$292,124																	
IV. Trunk Lines																			
		Trunk Line #1 (CPP)	Trunk Line #2 (CPP)	Trunk Line #3 (MU-15 Included in MU 15)	Trunk Line #4 (O-)	Trunk Line (SR-)	WF 4 to CPP -	Waste Transfer SR2	Waste Transfer SR1	SR-1 to Sat 2	SAT2 to SAT1 / Mort	SAT3 to SAT2 PSR	H-WF Rest. Bypass	Vollman WW Pipeline	SRHUP 9 WW Pipeline	SAT3 to SAT2	Pipeline to Irrigator 1	SAT2 to PSR2	SRHUP 7 to Rey R. DDW
A.	Removal and Loading																		
	Length of Trench (ft)	7750	8500	0	5500	2500	10000	12000	7000	39268	24000	22000	2200	13000	4000	10950	24000	5600	21570

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Miscellaneous Reclamation			
Subtotal Soil Sampling and Monitoring Costs	\$3,350	\$3,350	
B. Leachate Collection System Removal Costs	\$5,000	\$0	
C. Topsoil/Subsoil Application			
Assumptions:			
Average haul distance (ft)	1000	150	
Surface grade (%)	0	0	
Volume of Topsoil/Subsoil (cy)	83000	74000	
Topsoil/Subsoil Unit Cost per WDEQ Guideline No.12, App.C (\$/cy)	\$1,018	\$0,000	
Topsoil/Subsoil Unit Cost per WDEQ Guideline No.12, App.E (\$/cy)	\$0,00	\$0,28	
Subtotal Topsoil/Subsoil Application Costs per Reservoir	\$84,453	\$20,431	
D. Discing/Seeding			
Surface Area (acres)	6	32	
Discing/Seeding Unit Cost (\$/acre)	\$330	\$330	
Subtotal Discing/Seeding Costs	\$1,980	\$10,560	
E. Well Abandonment			
Number of Wells	5	27	18 existing plus 9 planned
Average Depth (ft)	60	100	
Abandonment Cost	\$2,75	\$2,75	
Small Site Grading and Seeding (~1000 sq. feet)	\$55	\$55	
Remove and Dispose Casing (top few feet)	\$33	\$33	
Monitoring Well Concrete Pedestal Disposal	\$110	\$110	
Subtotal Well Abandonment Cost	\$1,815	\$12,771	
Subtotal Reclamation Costs per Reservoir	\$96,598	\$47,112	
Total Purge Storage Reservoir Reclamation Costs	\$143,710		
VI. Irrigation Area Reclamation	Irrigator No. 1A	Irrigator No. 2	
A. Irrigation Equipment Removal Costs	\$2,000	\$2,000	
B. Plowing			
Assumptions:			
Plowing Unit Cost (\$/acre)	\$100	\$100	
Irrigation Area (acres)	55	106	
Number of Cultivations	2	2	
Subtotal Plowing Costs	\$11,000	\$21,200	
C. Discing/Seeding			
Discing/Seeding Unit Cost (\$/acre)	\$330	\$330	
Subtotal Discing/Seeding Costs	\$18,150	\$34,980	
Subtotal Reclamation Costs per Irrigation Area	\$31,150	\$58,180	
Total Irrigation Area Reclamation Costs	\$89,330		
VII. Potential Subsoil Mitigation for Purge Storage Reservoirs	PSR-1	PSR-2	
A. Subsoil Removal and Loading			
Surface Area (acres)	6	32	
Depth (inches)	6	6	
Volume for Removal (cy)	4,840	25,813	
Liner and Subsoil Removal Cost	\$4,16	\$4,02	
Subtotal Removal and Loading	\$20,134	\$103,723	
B. Subsoil Transportation and Disposal to 11e(2) Facility			
Disposal Cost	\$156,73	\$156,73	
Subtotal Disposal Cost	\$758,573	\$4,045,724	
Subtotal Reclamation Costs per Reservoir	\$778,707	\$4,149,447	
Total Purge Storage Reservoir Mitigation Costs	\$4,928,154		
VIII. Revegetation of Excon Reclaimed Lands			
Surface Area (acres)	217		
Assumptions:			
10% Reseeding potential areas of erosion (\$/acre) 0.10 x 330	\$33		
Total Excon Reclaimed Lands Revegetation Costs	\$716		
IX. Potential Ground Water Mitigation for Casing Leak Investigation and PSR-2			
A. PSR-2 Investigation Costs (analytical and possible new well installation)	\$200,000	*\$200/sample x 6 wells, quarterly over 35 yrs, plus 9 shallow well installations @ \$3500/well.	
B. Ground Water Pump and Treat Costs			
Area (ft2)	1,000,000	*PSR-2 recovery at 3 wells.	
Sand Thickness (ft)	20		
Porosity (%)	20%		
Affected ground water (kgal)	29,920		
Wellfield Pumping Cost	\$0,21		
Reverse Osmosis Unit Cost (\$/kgal)	\$0,64		
Bleed to Deep Disposal Well (%)	25%		
Brine Volume for Disposal	7,480		
DDW Disposal Cost (\$/kgal)	\$1,20		
Permeate Volume for Re-Use	22,440		
Satellite Pumping Cost (\$/kgal)	\$0,76		
Subtotal Ground Water Pump and Treat Costs	\$51,598		
C. Well Abandonment (CLI Shallow Wells)			
# of Monitoring Wells (Current)	142		
Average Well Depth (ft)	156		
# of Monitoring Wells (Planned)	0		
Average Well Depth (ft)	250		
Total Well Depth (ft)	22,152		
Well Abandonment (\$/ft)	\$2,75		
Small Site Grading and Seeding (\$/site)	\$55,00		
Remove and Dispose Casing (\$/well)	\$33,00		
Concrete Pedestal Disposal (\$/each)	\$110,00		
Subtotal Well Abandonment Costs	\$89,034		
Total CLI and PSR-2 Ground Water Mitigation Costs	\$340,632		
X. Subsurface Release of Solutions Decommissioning Costs			
Number of trunkline failures	18		
Average cubic yards of contaminated soil estimated per event	8		
Removal cost of soil	\$160		
Subtotal of subsurface decommissioning costs	\$23,013.16		
XI. Surface releases of Solutions Decommissioning Costs			
Total surface acreage impacted	26		
Estimated % of soil contaminated	20%		
Cubic yards of soil for removal assuming 3" depth	2063		
Removal cost of soil per cy	\$160		
Subtotal of surface decommissioning costs	\$329,767.89		
TOTAL MISCELLANEOUS RECLAMATION COSTS Highland	\$7,611,465		

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	Mine Unit-1	Mine Unit-2	Mine Unit-3/ 3 Ext	Mine Unit- 4/4A	Mine Unit-15	Mine Unit-15A	Mine Unit K	Mine Unit K-North	Mine Unit 9	Mine Unit 10	10-Extension	Mine Unit 27	Mine Unit 21	Mine Unit 7	Mine Unit 8	A-Wellfield	B-Wellfield	C-Wellfield	C-22 Pattern	C abandoned UG workings	D-Wellfield	D-Extension	E-Wellfield	F-Wellfield	H-Wellfield	I-Wellfield	J-Wellfield
Pore Volume Calculations																											
Flare Factor	1.56	1.05	1.16	1.14	1.48	1.68	1.21	1.30	1.52	1.45	1.45	1.82	0	1.74	0	4.13	4.13	2.46	2	0	2.88	2.78	2.9	2.1	2.3	1.83	1.92
Wellfield Area (ft2)	1,108,034	2,271,426	2,174,453	2,725,270	2,554,278	970,206	1,813,644	1,424,902	1,931,533	2,167,666	512,063	641,495	0	1,490,217	0	148600	676550	1067056	325000	0	326750	201509	971941	3431990	1222583	1146959	1148680
Wellfield Area (acres)	25.44	52.14	49.92	62.56	58.64	22.27	41.64	32.71	44.34	49.76	11.76	0.00	0.00	34.21	0.00	3.41	15.53	24.5	7.46	0	7.5	4.63	22.31	78.79	28.07	26.33	26.37
Affected Ore Zone Area (ft2)	1,108,034	2,271,426	2,174,453	2,725,270	2,554,278	970,206	1,813,644	1,424,902	1,931,533	2,167,666	512,063	641,495	0	1,490,217	0	148600	676550	1067056	325000	0	326750	201509	971941	3431990	1222583	1146959	1148680
Avg. Completed Thickness	18.0	23.0	30.0	19.0	18.0	16.0	19.0	21.0	23.0	30.0	30.0	23.0	0.0	20.0	20.0	15	15	16	15	0	17	17	16	16	16	20	15
Porosity	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
Affected Volume (ft3)	31,113,595	54,854,938	75,670,964	59,029,348	68,045,966	26,079,137	41,695,676	38,899,825	67,526,394	94,293,471	22,274,741	26,852,981	0	51,859,552	0	9205770	41912273	41999324	9750000	0	15997680	9523315	45098062	1,15E+08	44991054	41978699	33081984
Kgallons per Pore Volume	62,837	110,785	152,825	119,216	137,426	52,669	84,209	78,562	136,376	190,435	44,986	54,232	0	104,736	0	18592	84646	84822	19691	0	32309	19233	91080	232890	90864	84780	66812
Restoration Schedule (Based on Annual Water Balance/Schedule Update)																											
Pre-Restoration Period (yrs)	0	0	17	0	2	15	5	5	2	18	19	0	0	9	0	0	0	0	0	0	0	0	0	11	0	0	0
Restoration Period (yrs)	0	13	7	9	14	5	10	9	17	9	5	0	0	5	0	0	0	11	0	0	10	9	12	7	6	3	5
Stability Period (yrs)	0	1	1	1	1	1	1	1	1	1	1	0	0	1	0	0	0	1	1	1	1	1	1	1	1	1	1
Total # of Years	0	14	25	10	17	21	16	15	20	28	25	0	0	15	0	0	0	12	1	1	11	10	13	19	7	4	6
End of Restoration (yrs)	27																										
End of Stability (yrs)	28																										
Number of Header Houses per Wellfield																											
Current	6	5	10	11	18	5	9	7	13	9	3	0	0	0	0	5	18	20	0	0	4	3	15	43	10	6	9
Planned	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Estimated	6	5	10	11	18	5	9	7	13	9	3	0	0	7	0	5	18	20	0	0	4	3	15	43	10	6	9
Average Header House Volume (ft3)	1600																										
Number of Wells (In Service) per Wellfield																											
Production Wells (P)																											
Current	83	134	204	186	407	0	163	99	258	196	113	0	0	134	15	0	133	100	0	0	91	0	117	417	125	110	101
Planned	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Estimated	83	134	204	186	407	0	163	99	258	196	113	0	0	134	15	0	133	100	0	0	91	0	117	417	125	110	101
Injection Wells (I)																											
Current	162	280	260	383	829	0	272	174	397	338	153	0	0	247	29	1	194	226	0	0	140	0	229	663	306	230	230
Planned	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Estimated	162	280	260	383	829	0	272	174	397	338	153	0	0	247	29	1	194	226	0	0	140	0	229	663	306	230	230
Restoration Wells (R)																											
Current	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	0	0	0	0	0	14	0	0	0
Planned	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Estimated	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	0	0	0	0	0	14	0	0	0
Monitor Wells (M, MO, MU, etc.)																											
Current	47	50	40	90	125	0	51	53	69	49	66	85	0	62	82	7	64	101	0	0	50	0	52	119	82	34	59
Planned	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Estimated	47	50	40	90	125	0	51	53	69	49	66	85	0	62	82	7	64	101	0	0	50	0	52	119	82	34	59
Other Wells (Pumping Wells, etc.)																											
Current	0	3	3	2	3	0	0	1	7	1	1	3	0	2	2	0	1	2	0	0	5	0	0	41	2	0	3
Planned	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Estimated	0	3	3	2	3	0	0	1	7	1	1	3	0	2	2	0	1	2	0	0	5	0	0	41	2	0	3
Wellfield Refurbishment (I or P)																											
Planned	0	5	50	5	50	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	5	140	5	5	18
Number of In Service Wells per Wellfield	292	472	557	666	1414	0	486	327	731	584	333	88	0	445	128	8	392	452	0	0	286	0	403	1394	520	379	411
Total Number of Wells	10,768																										
Well Completion Details																											
Average Well Depth (ft)	500	850	750	850	450	500	950	864	950	900	930	800	600	825	668	500	450	550	550	550	600	600	550	650	500	650	540
Average Diameter of Casing (inches)	5	5	5	5	4.5	4.5	4.5	4.5	5	5	5	0	0	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Wellfield Fencing																											
Length of Fencing (ft)	16,487	11580	7388	26009	7074	0	23271	23271	21887	21595	9661	19732	0	8674	0	0	13720	18694	0	0	14060	0	18426	29540	9680	9977	10000

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Labor Costs	2013 Rate	Esc Rate (\$)	Net Benefits*	Units	Source	CPI Escalators (CPI-U, U.S. City Average)	
Environmental Manager/RSO	\$46.00	\$48.87	\$68.42	hour	2013 MSEC rates plus CPI Half 2016	Denver CPI (2013 Annual)	230.8
Restoration Manager	\$40.00	\$42.49	\$59.49	hour	2013 MSEC rates plus CPI Half 2016	Denver CIP (HALF 2016)	245.2
Environmental Tech/HPT	\$30.00	\$31.87	\$44.62	hour	2013 MSEC rates plus CPI Half 2016	2016 Escalator Factor (2013 to 2016)	1.06
Operator/Laborer	\$26.00	\$27.62	\$38.67	hour	2013 MSEC rates plus CPI Half 2016	Denver CPI (2014 Annual)	237.2
Maintenance Tech	\$23.00	\$24.43	\$34.21	hour	2013 MSEC rates plus CPI Half 2016	Denver CPI (HALF 2016)	245.2
*Includes additional 40% net benefits based on InfoMine USA cost data for Surface Metal and Industrial Mineral Mines - Western U.S. (Table 5)						2016 Escalator Factor (2014 to 2016)	1.03
						Denver CPI (2015 Annual)	240.0
						Denver CPI (HALF 2016)	245.2
Utility Costs		Rate (\$)	Profit & Overhead	Units	Source	2016 Escalator Factor (2015 to 2016)	1.02
Electrical Costs		\$0.0687	included	kWhr	Actual Costs-2016		
Kilowatt to Horsepower		0.746	included	Kw/HP	N/A		
Efficiency - Downhole Pumps		80%	included	Percent	N/A		
Efficiency - Surface Pumps		90%	included	Percent	N/A		
Natural Gas - CPP/Main Office Area		\$34,535.40	included	year	Actual Costs-2016		
Natural Gas - Satellite SR-1		\$4,877.80	included	year	Actual Costs-2016		
Propane - CPP/Main Office Area		\$0.00	included	year	Actual Costs-2016		
Propane - Satellite SR-2		\$26,554.55	included	year	Actual Costs-2016		
Natural Gas - Satellite No. 2/Selenium Treatment Plant		\$18,845.31	included	year	Actual Costs-2016		
Propane - Satellite No. 2/Selenium Treatment Plant		\$0.00	included	year	Actual Costs-2016		
Propane - Satellite No. 3		\$26,550.34	included	year	Actual Costs-2016		
Chemical & Materials Costs		Rate (\$)	Profit & Overhead	Units	Source		
Antiscalant for RO (Hypersperse)		\$3.8400	included	pound	Actual Costs-2016		
Antiscalant for RO (ScaleTrol)		\$4.8400	included	pound	Actual Costs-2016		
Sodium Tripolyphosphate		\$1.0710	included	pound	Quote-2014 plus 2016 Escalator Factor		
EDTA Tetrasodium Dihydrate		\$1.7614	included	pound	Quote-2014 plus 2016 Escalator Factor		
Sodium Sulfide		\$0.5000	included	pound	Actual Costs-2016		
Hydrochloric Acid		\$0.1627	included	pound	Actual Costs-2016		
Barium Chloride		\$0.8600	included	pound	Actual Costs-2016		
Iron Aggregate		\$0.4635	included	pound	Actual Costs-2016		
Silica Sand		\$0.1392	included	pound	Actual Costs-2016		
Pea Gravel		\$0.0135	included	pound	Actual Costs-2016		
Analytical Costs		Rate (\$)	Profit & Overhead	Units	Source*		50
Guideline 8		\$372.00	included	analysis	Actual Costs-2016		
Excursion Parameters (UCL)		\$30.00	included	analysis	Fee Schedule-2015		1.25
Restoration Progress Parameters (UCL + U + Se)		\$50.00	included	analysis	Fee Schedule-2015		
Irrigator Fluid		\$105.00	included	analysis	Actual Costs-2016		
Irrigator Vegetation		\$270.00	included	analysis	Actual Costs-2016		
Irrigator Soil		\$335.00	included	analysis	Actual Costs-2016		
Irrigator Soil Water		\$150.00	included	analysis	Fee Schedule-2015		
Other Lab Costs (Radon, Bioassay, DDW, PWS, etc.)		\$1,500.00	\$1,650.00	analysis	Cost Estimate per month	* over life of mine plan	
*All quotes, fee schedules and actual costs based on Energy Laboratories, Inc., Casper, WY							
Equipment Costs	2014 Rate	Rate (\$)	Profit & Overhead*	Units	Source	date	
Bandit 1290XP Trailer Mounted Brush Chipper	\$34.33	\$35.49	\$39.04	hour	Equipment Watch** plus CPI 2014 to 2016		
Bobcat S250 Skid Steer Loader	\$22.72	\$23.49	\$25.83	hour	Equipment Watch** plus CPI 2014 to 2016		
Cat 320C L Trackhoe - 1.25 cu yd bucket	\$69.44	\$71.78	\$78.96	hour	Equipment Watch** plus CPI 2014 to 2016		
Cat 416E Backhoe	\$27.17	\$28.09	\$30.89	hour	Equipment Watch** plus CPI 2014 to 2016		
Cat 924H Loader - 2.4 cu yd bucket	\$42.89	\$44.34	\$48.77	hour	Equipment Watch** plus CPI 2014 to 2016		
Concrete Jaws Labounty - CP-60	2013 Rate \$18.51	\$19.66	\$21.63	hour	Equipment Watch + CPI Escalator 2013 to 2016		
GEHL DL-8 Rough Terrain Lift Truck	\$46.78	\$48.36	\$53.19	hour	Equipment Watch** plus CPI 2014 to 2016		
Manlift	2013 Rate \$39.13	\$40.45	\$44.49	hour	Equipment Watch** plus CPI 2014 to 2016		
MIT Unit	\$30.09	\$31.97	\$35.16	hour	Equipment Watch + CPI Escalator 2013 to 2016		
Pick-up Truck 3/4 ton 4X4	\$18.79	\$19.42	\$21.37	hour	Equipment Watch** plus CPI 2014 to 2016		
Pulling Unit***	2013 Rate \$35.32	\$37.52	\$41.27	hour	Equipment Watch + CPI Escalator 2013 to 2016		
*Includes additional 10% Profit & Overhead per WDEQ/LQD Guideline No. 12, Section 12(b)							
**Equipment Watch Rental Rate Blue Book: Volume 1							
***1 3/4 Ton 4x4 Truck with Hoist							

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Quoted Costs		Rate (\$)	Profit & Overhead	Units	Source					
Deep Disposal Well - Plug & Abandonment Costs 2015 estimate	\$13.62	\$13.92	included	foot	2015 estimate plus 2015 to 2016 CPI Escalator					
Deep Disposal Well - MIT Costs 2015 average cost	\$17,051.00	\$17,420	included	well	Ave Actual Costs-2015 + CPI Esc. 2015 to 2016					
Well Replacements (Restoration) 2014 actual cost	\$15,600.00	\$16,126	included	well	Actual Costs-2014 plus CPI Escalator 2014 to 2016					
Bellhole Refurbishment 2014 estimate	\$5,500.00	\$5,685	included	bellhole	Estimate cost 2014 plus CPI Escalator 2014 to 2016					
Header House Refurbishment 2014 estimate	\$10,000.00	\$10,337	included	header house	Estimate cost 2014 plus CPI Escalator 2014 to 2016					
WDEQ/LQD Guideline No. 12 Costs	Appendix	Rate (\$)	Profit & Overhead*	Units	Source					
Moving Materials: One-Way Distance 500 feet, 0% grade	Appendix C	\$0.774	\$0.851	bcy	Guideline-2/2017					
Moving Materials: One-Way Distance 1,000 feet, 0% grade	Appendix C	\$0.925	\$1.018	bcy	Guideline-2/2017					
Moving Materials: One-Way Distance 2,000 feet, 0% grade	Appendix C	\$1.198	\$1.318	bcy	Guideline-2/2017					
Moving Materials: One-Way Distance 50 feet, 0% grade	Appendix E	\$0.114	\$0.125	lcy	Guideline-2/2017					
Moving Materials: One-Way Distance 100 feet, 0% grade	Appendix E	\$0.193	\$0.212	lcy	Guideline-2/2017					
Moving Materials: One-Way Distance 150 feet, 0% grade	Appendix E	\$0.251	\$0.276	lcy	Guideline-2/2017					
Grading Operating Costs	Appendix G	\$54.73	\$60.20	acre	Guideline-2/2017					
Fencing Removal	Appendix H	\$0.31	\$0.34	foot	Guideline-2/2017					
Ripping Operating Costs (Asphalt)	Appendix I	\$629.53	\$692.48	acre	Guideline-2/2017					
Ripping Operating Costs (Overburden)	Appendix I1	\$821.26	\$903.39	acre	Guideline-2/2017					
Building Demolition - Mixture of Types	Appendix K	\$0.298	\$0.33	ft3	Guideline-2/2017					
Building Demo Disposal (Average)	Appendix K	\$10.10	\$11.11	cy	Guideline-2/2017					
Concrete (Floor) Demolition - 6" Thick with Rebar	Appendix K	\$0.78	\$0.86	ft2	Guideline-2/2017					
Concrete (Footing) Demolition - 2' Thick, 3' Wide	Appendix K	\$15.97	\$17.57	linear foot	Guideline-2/2017					
Concrete Disposal On-Site	Appendix K	\$8.80	\$9.68	cy	Guideline-2/2017					
Drill Hole Abandonment: Wet Exploration Holes >25 holes	Appendix L	\$3.00	\$3.30	foot	Guideline-2/2017					
Well Abandonment: Monitor, Production, and Injection Wells	Appendix L	\$2.50	\$2.75	foot	Guideline-2/2017					
Incidental Costs: Small Site Grading and Seeding (<1000 sq. feet)	Appendix L	\$50	\$55	site	Guideline-2/2017					
Incidental Costs: Capping	Appendix L	\$10	\$11	each	Guideline-2/2017					
Incidental Costs: Site Location	Appendix L	\$10	\$11	hole	Guideline-2/2017					
Incidental Costs: Remove Pump, Wiring, and Drop Pipe	Appendix L	\$0.40	\$0.44	foot	Guideline-2/2017					
Incidental Costs: Remove and Dispose Casing (top few feet)	Appendix L	\$30	\$33	well	Guideline-2/2017					
Incidental Costs: Monitoring Well Concrete Pedestal Disposal	Appendix L	\$100	\$110	each	Guideline-2/2017					
Mobilization Fee	Appendix L	\$1,000	\$1,100	Project	Guideline-2/2017					
Scarification Costs	Appendix P	\$50.20	\$55.22	acre	Guideline-2/2017					
Revegetation Costs-Total	Guideline 12A,II.-I	\$300.00	\$330.00	acre	Guideline-2/2016					
*Includes additional 10% Profit & Overhead per WDEQ/LQD Guideline No. 12, Section 12(b)										
Construction & Demolition Debris Transportation & Disposal Costs										
Building Volume for Disposal	0.33									
Void Factor (for disposal)	1.1									
	Disposal (\$/ton)	C&D (cy/ton)	Transport (\$/load)	C&D (cy/load)	Total (\$/cy)	Total (\$/ft3)				
C&D Debris (county landfill)	\$62.00	2	\$335.00	30	\$42.17	\$1.56				
*Transportation and disposal costs based on actual costs (2013). Transportation and disposal costs include profit and overhead of service provider. Conversion factors of 2 cy/ton and 0.33 to account for air space in buildings based on FEMA - Debris Estimating Field Guide, FEMA 320, September 2010.										
11e.(2) Byproduct Material Transportation & Disposal										
Load Correction Factor: Soil, sand, etc.	1.1									
Load Correction Factor: Process materials, etc.	0.42									
White Mesa	Disposal (\$/ton)	Disposal (\$/cy)	Volume (cy)	Transport (\$/cy)	Total (\$/cy)	Total (\$/ft3)				
Type I: Soil, sand, gravel, rock, concrete rubble, etc.	\$138.97	\$152.87	13.0	\$247.95	\$400.82	\$14.85				
Type II: Process material, pumps, motors, etc.	\$160.08	\$67.23	24.7	\$130.50	\$197.73	\$7.32				
Type II: Chipped piping	\$160.08	\$67.23	36.4	\$88.55	\$155.78	\$5.77				
Pathfinder										
Type I: Soil, sand, rock, gravel, demolition masonry, concrete rubble	N/A	\$130.00	13.0	\$26.73	\$156.73	\$5.80				
Type II: Other process waste, process equipment, etc.	N/A	\$378.00	24.7	\$14.07	\$392.07	\$14.52				
Type II: Chipped piping	N/A	\$378.00	36.4	\$9.55	\$387.55	\$14.35				
*Transportation and disposal costs based on contract amounts as adjusted annually. Transportation and disposal costs include profit and overhead of service provider and include all unloading and decontamination fees, waste tax, fuel surcharges, etc. Transportation costs assume 1) one truck transports one 13-cy bin of Type I waste, 2) one truck transports one 24.7-cy bin of Type II process waste (including pumps, motors, etc.) and 3) one truck transports one 36.4-cy bin of Type II chipped piping waste.										

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Equipment				Equipment			
Cat 416 Backhoe Time	0.25	hours		Cat 416 Backhoe Time	0.03	hours	
Cat 416 Backhoe Cost	\$30.89	per hour		Cat 416 Backhoe Cost	\$29.89	per hour	
Labor				Labor			
Radiation Technician	0.25	hours		Radiation Technician	0.03	hours	
Radiation Technician Cost	\$44.62	per hour		Radiation Technician Cost	\$35.74	per hour	
Operator	0.25	hours		Operator	0.03	hours	
Operator Cost	\$38.67	per hour		Operator Cost	\$37.16	per hour	
Disposal				Disposal			
ByProduct Disposal	0.37	cubic yard		ByProduct Disposal	1	cubic yard	
Disposal Cost (incl. Transport)	\$156.73	per cubic yard		Disposal Cost (incl. Transport)	\$156.73	per cubic yard	
Removal of Contaminated Soil Cost	\$86.54	per well		Removal of Contaminated Soil Cost	\$159.81	per cubic yard	
DDW Pump Dismantling and Disposal							
Labor							
Number of Laborers	2	per day					
Number of Pumps Dismanteled	0.5	per day					
Hours Per Day	8	hours					
Laborers Cost	\$34.21						
Disposal							
Volume of DDW Pump	240	ft ³					
ByProduct Disposal	\$7.32	per ft ³					
DDW Pump Dismanteling and Disposal	\$2,852.28	per pump					
WELLFIELD RECLAMATION COSTS							
Wellfield Piping Removal							
Equipment							
Trackhoe	1	per day					
Trackhoe Cost	\$78.96	per hour					
Loader	1	per day					
Loader Cost	\$48.77	per hour					
Pickup Truck	1	per day					
Pickup Cost	\$21.37	per hour					
Chipper Cost	\$39.04	per hour					
Labor							
Backhoe Operator	\$38.67	per hour					
Loader Operator	\$38.67	per hour					
Laborer	\$34.21	per hour					
Hours Per Day	8	per day					
Productivity	1500	ft/day					
Piping Removal Cost	\$1.60	per foot of pipe					
Piping Reduction							
2" Pipe	0.0107						
3" Pipe	0.0233						
4" Pipe	0.0385						
6" Pipe	0.0834						
8" Pipe	0.1413						
10" Pipe	0.2196						
12" Pipe	0.3088						
14" Pipe	0.3723						
16" Pipe	0.4864						
18" Pipe	0.6155						
Production Pump Volume							
Length	66.0000	inches					
Diameter	3.8000	inches					
Cubic Inch to Cubic Foot Conversion	0.0006						
Production Pump Volume	0.43	cubic feet					
Trunk Line Removal							
Equipment							
Trackhoe	1	per day					

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 Smith Ranch Highland Uranium Project
 2017-2018 Surety Estimate Update

Discing/Seeding Costs	\$330								
Linear Feet for Unit Cost	1000	feet							
Wellfield Road Reclamation Cost	\$981.08	per 1000 feet							
EQUIPMENT COSTS									
Tank Removal									
Equipment									
Loader	\$48.77	per hour							
Trackhoe	\$78.96	per hour							
Manlift	\$44.49	per hour							
Pickup	\$21.37	per hour							
Lift Truck	\$53.19	per hour							
Labor									
Number of Operators	4								
Operator Cost	\$38.67	per hour							
Hours Per Day	8	per day							
Productivity	25	ft ³ /day							
Tank Removal Cost	\$128	per ft³							
Pipe Removal									
Equipment									
Manlift	\$44.49	per hour							
Pickup	\$21.37	per hour							
Lift Truck	\$53.19	per hour							
Chipper	\$39.04	per hour							
Labor									
Number of Operators	4								
Operator Cost	\$38.67	per hour							
Hours Per Day	8	per day							
Productivity	300	ft/day							
Pipe Removal Cost (Inside Buildings)	\$8.34	per ft							
Pump Removal									
Equipment									
Truck	\$21.37	per hour							
Skid Steer	\$25.83	per hour							
Labor									
Number of Operators	2								
Operator Cost	\$38.67	per hour							
Hours Per Day	8	per day							
Productivity	10	ft ³ /day							
Pump Removal	\$99.63	per ft³							
Dryer Removal									
Equipment									
Truck	\$21.37	per hour							
Lift Truck	\$53.19	per hour							
Labor									
Number of Operators	4								
Operator Cost	\$38.67	per hour							
Hours Per Day	8	per day							
Productivity	125	ft ³ /day							
Dryer Removal Cost	\$14.67	per ft³							
RO and Degasser Removal									
Equipment									
Truck	\$21.37	per hour							
Lift Truck	\$53.19	per hour							
Labor									
Number of Operators	2								
Operator Cost	\$38.67	per hour							
Hours Per Day	8	per day							
Productivity	250	ft ³ /day							
RO and Degasser Removal Cost	\$4.86	per ft³							
BUILDING COSTS									

