Cameco Resources
Smith Ranch/Reynolds Ranch and Highland Combined Operations
2014-2015 Surety Estimate

Total Restoration and Reclamation Cost Estimate			
I.	**Groundwater Restoration (GWR-WF and GWR-SITE Sheets)**		**$127,790,932**
II.	**Well & Drill Hole Abandonment (WA Sheet)**		**$28,966,103**
III.	**Wellfield Buildings & Equipment Removal & Disposal (WF BLDGS Sheet)**		**$8,971,576**
IV.	**Wellfield and Satellite Surface Relclamation (WF REC Sheet)**		**$1,631,059**
V.	**Equipment Removal & Disposal (EQUIP Sheet)**		**$1,691,953**
VI.	**Building Removal & Disposal (BLDGS Sheet)**		**$7,385,771**
VII.	**Miscellaneous Reclamation (MISC REC Sheet)**		**$8,130,337**
	Subtotal Restoration and Reclamation Cost Estimate		**$184,567,730**
	Contractor Profit & Overhead (10%)[1]	**See Master Costs**	
	Contingency (15%)[2]	**15%**	**$27,685,160**
		TOTAL[3]	**$212,252,900**

[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.

Cameco Resources
Smith Ranch/Reynolds Ranch Operations
2014-2015 Surety Estimate

Total Restoration and Reclamation Cost Estimate			
I.	**Groundwater Restoration (GWR-WF and GWR-SITE Sheets)**		**$75,113,046**
II.	**Well & Drill Hole Abandonment (WA Sheet)**		**$19,554,815**
III.	**Wellfield Buildings & Equipment Removal & Disposal (WF BLDGS Sheet)**		**$4,395,707**
IV.	**Wellfield and Satellite Surface Relclamation (WF REC Sheet)**		**$1,091,965**
V.	**Equipment Removal & Disposal (EQUIP Sheet)**		**$1,025,363**
VI.	**Building Removal & Disposal (BLDGS Sheet)**		**$4,193,817**
VII.	**Miscellaneous Reclamation (MISC REC Sheet)**		**$950,075**
	Subtotal Restoration and Reclamation Cost Estimate		**$106,324,787**
	Contractor Profit & Overhead (10%)[1]	**See Master Costs**	
	Contingency (15%)[2]	**15%**	**$15,948,718**
		TOTAL[3]	**$122,273,500**

[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.

Ground Water Restoration -Wellfield	Mine Unit 1	Mine Unit 2	Mine Unit 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
I. Ground Water Sweep Costs														
Estimated PV's	0	1	1	0.6	1	1	1	1	1	1	1	1	0	1
Total kgals for GWS	0	110,785	152,825	71,530	137,426	52,669	84,209	78,562	136,376	190,435	99,498	54,232	0	104,736
Bleed to Deep Disposal Well (%)	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Groundwater Sweep Unit Cost ($/kgal)	$2.04	$2.04	$2.04	$2.04	$2.04	$2.04	$2.04	$2.04	$2.04	$2.04	$2.04	$2.04	$2.04	$2.04
Subtotal Ground Water Sweep Costs per Wellfield	$0.00	$226,554.74	$312,526.31	$146,277.65	$281,035.44	$107,707.83	$172,206.96	$160,658.87	$278,888.20	$389,438.56	$203,472.88	$110,904.15	$0.00	$214,184.56
Total Ground Water Sweep Costs	$2,603,856													
II. Reverse Osmosis Costs														
Estimated PV's	0	4.5	4.5	3.3	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	0	4.5
Total Kgals for RO	0	498,533	687,713	393,413	618,417	237,011	378,941	353,529	613,692	856,958	447,741	244,044	0	471,312
Wellfield Pumping Cost	$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	$0.20
Reverse Osmosis Unit Cost ($/kgal)	$0.62	$0.62	$0.62	$0.62	$0.62	$0.62	$0.62	$0.62	$0.62	$0.62	$0.62	$0.62	$0.62	$0.62
Bleed to Deep Disposal Well (%)	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
Brine Volume for Disposal	0	99,707	137,543	78,683	123,683	47,402	75,788	70,706	122,738	171,392	89,548	48,809	0	94,262
DDW Disposal Cost($/kgal)	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13
Permeate Volume for Re-Use	0	398,826	550,170	314,730	494,734	189,608	303,152	282,823	490,954	685,566	358,193	195,235	0	377,050
Satellite Pumping Cost	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72
Subtotal Reverse Osmosis & Disposal Costs per Wellfield	$0.00	$805,140.40	$1,110,670.05	$635,369.89	$998,756.37	$382,776.91	$611,996.82	$570,956.72	$991,125.40	$1,384,004.26	$723,111.07	$394,136.16	$0.00	$761,178.72
Total Reverse Osmosis Costs	$9,369,223													
III. Reverse Osmosis with Chemical Reductant Costs														
Estimated PV's	0.5	3.5	3.5	3.3	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	0.0	3.5
Total kgals for RO	31,419	387,748	534,888	393,413	480,991	184,342	294,732	274,967	477,316	666,523	348,243	189,812	0	366,576
Wellfield Pumping Cost	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Reverse Osmosis with Chemical Reductant Unit Cost ($/kgal)	$0.71	$0.71	$0.71	$0.71	$0.71	$0.71	$0.71	$0.71	$0.71	$0.71	$0.71	$0.71	$0.71	$0.71
Bleed to Deep Disposal Well (%)	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
Brine Volume for Disposal (kgal)	6,284	77,550	106,978	78,683	96,198	36,868	58,946	54,993	95,463	133,305	69,649	37,962	0	73,315
DDW Disposal Cost($/kgal)	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13
Permeate Volume for Re-Use	$25,135	$310,198	$427,910	$314,730	$384,793	$147,473	$235,785	$219,974	$381,853	$533,218	$278,594	$151,850	$0	$293,261
Satellite Pumping Cost ($/kgal)	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72
Subtotal RO with Chemical Reductant per Wellfield	$53,689.85	$662,606.54	$914,048.33	$672,287.75	$821,946.71	$315,013.98	$503,655.13	$469,880.35	$815,666.64	$1,138,994.23	$595,098.84	$324,362.30	$0.00	$626,427.39
Total Reverse Osmosis Costs	$7,913,678													
IV. Mechanical Integrity Testing (MIT) Costs														
Pre-Restoration, Restoration and Stability Period (yrs)	1	7	10	6	13	14	22	22	19	20	19	12	0	15
Number of Injection Wells	160	233	280	371	835	0	280	175	398	380	200	380	0	250
Number of MITs required per Well	0.2	1.4	2.0	1.2	2.6	2.8	4.4	4.4	3.8	4.0	3.8	2.4	0.0	3.0
MIT Cost per Injection Well	$133.34	$133.34	$133.34	$133.34	$133.34	$133.34	$133.34	$133.34	$133.34	$133.34	$133.34	$133.34	$133.34	$133.34
Subtotal MIT Mine Unit	$4,266.90	$43,495.69	$74,670.71	$59,363.22	$289,482.35	$0.00	$164,275.57	$102,672.23	$201,664.26	$202,677.65	$101,338.82	$121,606.59	$0.00	$100,005.42
Total MIT Costs	$1,465,519													
V. Wellfield Refurbishment Costs														
Well Replacement (#)	0	10	50	10	50	0	0	0	0	0	0	0	0	0
Replacement ($/well)	$14,763	$14,763	$14,763	$14,763	$14,763	$14,763	$14,763	$14,763	$14,763	$14,763	$14,763	$14,763	$14,763	$14,763
Bellhole Refurbishment (#)	0	7	11	14	0	0	0	0	0	0	0	0	0	0
Refurbishment ($/bellhole)	$5,530	$5,530	$5,530	$5,530	$5,530	$5,530	$5,530	$5,530	$5,530	$5,530	$5,530	$5,530	$5,530	$5,530
Header House Refurbishment (#)	0	5	5	5	12	0	0	0	0	0	0	0	0	0
Refurbishment ($/header house)	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000
Subtotal Refurbishment Cost per Wellfield	$0	$236,340	$848,980	$275,050	$858,150	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Wellfield Refurbishment Cost	$2,218,520													
VI. Monitoring and Sampling Costs														
A. Pre-Restoration Monitoring														
1 Excursion Monitoring (M, MO and MU wells, twice per month)														
# of Wells	49	50	40	90	83	42	51	53	69	59	35	85	0	49
Total # samples	0	0	3840	0	5976	9072	12240	13992	18216	18408	12600	8160	0	10584
UCL Parameters ($/sample)	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00
Subtotal Pre-Restoration Monitoring Costs per Mine Unit	$0.00	$0.00	$115,200.00	$0.00	$179,280.00	$272,160.00	$367,200.00	$419,760.00	$546,480.00	$552,240.00	$378,000.00	$244,800.00	$0.00	$317,520.00
Total Pre-Restoration Monitoring Costs	$3,392,640													
B. Restoration Monitoring														
1. Sampling Prior to Start-up (MP Wells)														

Ground Water Restoration -Wellfield	Mine Unit 1	Mine Unit 2	Mine Unit 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
# of Wells	19	13	24	12	22	10	13	11	14	20	9	15	0	18
Modified Guideline 8 ($/sample)	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00
2 Restoration Progress Monitoring (MP Wells, every 2 months)														
# of Wells	19	13	24	12	22	10	13	11	14	20	9	15	0	18
Total # samples	0	468	720	360	1188	240	858	660	588	720	162	630	0	540
Restoration Progress Parameters ($/sample)	$50.00	$50.00	$50.00	$50.00	$50.00	$50.00	$50.00	$50.00	$50.00	$50.00	$50.00	$50.00	$50.00	$50.00
3. Excursion Monitoring (M, MO and MU wells, every 2 months)														
# of Wells	49	50	40	90	83	42	51	53	69	59	35	85	0	49
Total # samples	0	1800	1200	2700	4482	1008	3366	3180	2898	2124	630	3570	0	1470
UCL Parameters ($/sample)	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00
Subtotal Restoration Monitoring Costs per Mine Unit	$4,731.00	$80,637.00	$77,976.00	$101,988.00	$199,338.00	$44,730.00	$147,117.00	$131,139.00	$119,826.00	$104,700.00	$29,241.00	$142,335.00	$0.00	$75,582.00
Total Restoration Monitoring Costs	$1,259,340.00													
C. Stability Monitoring														
1. Beginning of stability (MP wells)														
# of Wells	19	13	24	12	22	10	13	11	14	20	9	15	0	18
Modified Guideline 8 ($/sample)	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00
2 Quarterly sampling (MP wells)														
# of Wells	19	13	24	12	22	10	13	11	14	20	9	15	0	18
Total # samples	76	52	96	48	88	40	52	44	56	80	36	60	0	72
Modified Guideline 8 ($/sample)	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00
3. Monitor Well Sampling (M wells, every 2 months)														
# of Wells	25	24	24	57	39	18	28	28	43	49	20	40	0	20
Total # samples	150	144	144	342	234	108	168	168	258	294	120	240	0	120
UCL Parameters ($/sample)	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00
Subtotal Stability Monitoring Costs per Mine Unit	$28,155.00	$20,505.00	$34,200.00	$25,200.00	$34,410.00	$15,690.00	$21,225.00	$18,735.00	$25,170.00	$33,720.00	$14,805.00	$25,875.00	$0.00	$26,010.00
Total Stability Monitoring Costs	$323,700.00													
D. Other Laboratory Costs														
Radon Sampling	$13,200.00	$92,400.00	$132,000.00	$79,200.00	$171,600.00	$184,800.00	$290,400.00	$290,400.00	$250,800.00	$264,000.00	$250,800.00	$158,400.00	$0.00	$198,000.00
Subtotal Monitoring and Sampling Costs per Mine Unit	$46,086.00	$193,542.00	$359,376.00	$206,388.00	$584,628.00	$517,380.00	$825,942.00	$860,034.00	$942,276.00	$954,660.00	$672,846.00	$571,410.00	$0.00	$617,112.00
Total Monitoring and Sampling Costs	**$7,351,680**													
VII. Header House Heating Costs														
Number of Header Houses per Unit(s)	6	5	10	11	18	5	9	7	13	9	5	4	0	7
Pre-Restoration and Restoration Period (yrs)	0	6	9	5	12	13	21	21	18	19	18	11	0	14
Electrical Heating Costs ($/yr)	$1,050	$1,050	$1,050	$1,050	$1,050	$1,050	$1,050	$1,050	$1,050	$1,050	$1,050	$1,050	$1,050	$1,050
Subtotal Header House Heating Cost per Wellfield	$0	$31,493	$94,478	$57,737	$226,748	$68,234	$198,405	$154,315	$245,644	$179,509	$94,478	$46,189	$0	$102,876
Total Header House Heating Costs	**$1,500,107**													
TOTAL RESTORATION COST PER WELLFIELD	$104,043	$2,199,172	$3,714,750	$2,052,473	$4,060,747	$1,391,113	$2,476,481	$2,318,517	$3,475,264	$4,249,284	$2,390,346	$1,568,609	$0	$2,421,785
TOTAL WELLFIELD RESTORATION COSTS	**$32,422,583**													

Ground Water Restoration - Site Wide										
I.	**Building Utility Costs**	**CPP**	**Main Office**	**Maint Shop**	**Pumphouse**	**Sat SR-1**	**Sat SR-2**	**Sat Reynolds**		
	Electricity Unit Cost ($/yr)	$30,384	$25,564	$5,749	$10,078	$41,255	$41,255	$41,255		
	Propane ($/yr)	$0	$0	$0	$0	$0	$47,203	$47,203		
	Natural Gas ($/yr)	$33,817	$0	$0	$0	$4,180	$0	$0		
	Number of Years	21	21	21	21	16	21	6		
	Subtotal Utility Cost per Building	$1,348,219	$536,851	$120,730	$211,638	$726,955	$1,857,610	$530,746		
	*Yrs for Satellite SR-1 assumes end of restoration for MU-7									
	*Yrs for Satellite Reynolds assumes end of restoration for MU-27									
	Total Building Utility Costs	**$5,332,749**								
II.	**Deep Disposal Well Utility Costs**	**SR-1**	**SR-2**	**REY-1**	**REY-2**	**REY-3**	**SRHUP #6**	**SRHUP #7**	**SRHUP #8**	**SRHUP #10**
	Electricity Unit Cost ($/yr)	$4,587	$4,587	$4,587	$4,587	$4,587	$4,587	$4,587	$4,587	$4,587
	Propane ($/yr)	$0	$0	$0	$0	$0	$0	$0	$0	$0
	Natural Gas ($/yr)	$0	$0	$0	$0	$0	$0	$0	$0	$0
	Number of Years	21	21	21	0	0	21	21	0	21
	Subtotal Utility Cost per Building	$96,322	$96,322	$96,322	$0	$0	$96,322	$96,322	$0	$96,322
	Total Deep Disposal Well Utility Costs	**$577,933**								
III.	**Booster Pump Operation Costs**									
	Restoration Period (yrs)	21								
	Booster Pump Operating Cost ($/yr)	$169,386.16								
	Total Booster Pump Operating Cost	**$3,557,109**								
IV.	**Infrastructure, Equipment Maintenance, Replacement and Repair Costs**									
	Annual Maintenance Cost	$92,320		*Based on planned expenditures (2013)						
	Restoration Period (yrs)	21								
	Total Cost	**$1,938,720**								
V.	**Deep Disposal Well MIT Costs**									
	Five-year MIT Costs for Disposal Wells	$31,625.00								
	Number of DDWs	7								
	Number of MITs per DDW	3								
	Total DDW MIT Cost	**$664,125**								
VI.	**Capital Costs**									
	*Estimates based on planned expenditures (2013)									
	Deep Disposal Well SRHUP #8	$3,400,000								
	RO Installation (Satellite SR-2)	$600,000								
	RO Installation (Reynolds Satellite)	$600,000								
	Satellite SR-2 to Mine Unit 15 Pipeline	$266,376								
	SR-HUP Connecting Pipeline	$209,872								
	Total Capital Costs	**$5,076,248**								

VII.	**Vehicle Operation Costs**			
		Number of Pickup Trucks (Gas)	10	
		Truck Cost ($/hr)	$20.67	
		Average Operating Time (hrs/yr)	1000	
		Restoration and Stability Period (yrs)	22	
	Total Vehicle Operation Cost		**$4,547,180**	
VII.	**Labor Costs**			
	Assumptions:			
		Number of Environmental Managers/RSOs	0.5	*Management positions split between Smith Ranch and Highland
		$/hr	$65.75	
		Number of Restoration Managers	0.5	*Management positions split between Smith Ranch and Highland
		$/hr	$57.18	
		Number of Environmental Techs/HPTs	2	
		$/hr	$35.74	
		Number of Operators/Laborers	7	
		$/hr	$37.16	
		Number of Maintenance Technicians	2	
		$/hr	$32.88	
		Hrs/yr	2080	
		Restoration and Stability Period (yrs)	22	
	Total Labor Cost		**$20,996,399**	
TOTAL SITE-WIDE RESTORATION COSTS			**$42,690,463**	

Cameco Resources
Smith Ranch Uranium Project
2013-14 Surety Estimate Update

Well and Drill Hole Abandonment	Mine Unit 1	Mine Unit 2	Mine Unit 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	Other
I. Well Abandonment (Wellfields)															
A. Sealing Costs						Inc in MU-15									
Total # of Wells per Wellfield	305	429	580	700	1387	42	502	328	734	640	335	658	0	436	21
Production, Injection and Perimeter Well Average Depth (ft)	500	850	750	850	450	500	950	864	950	900	900	800	600	825	950
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
Subtotal Sealing Costs per Wellfield	$419,375	$1,002,788	$1,196,250	$1,636,250	$1,716,413	$57,750	$1,311,475	$779,328	$1,917,575	$1,584,000	$829,125	$1 447,600	$0	$989,175	$54,863
B Casing Removal and Diposal Costs															
Total # of Wells per Wellfield (In Service)	305	429	580	700	1387	42	502	328	734	640	335	658	0	436	21
# of Previously Abandoned Wells Pending Release	124	100	70	88	121	0	128	11	89	4	0	19	0	0	0
Total # of Wells for Casing Removal and Disposal	429	529	650	788	1508	42	630	339	823	644	335	677	0	436	21
Remove and Dispose Casing ($/well)	$33	$33	$33	$33	$33	$33	$33	$33	$33	$33	$33	$33	$33	$33	$33
Subtotal Casing Removal and Diposal Costs per Wellfield	$14,157	$17,457	$21,450	$26,004	$49,764	$1,386	$20,790	$11,187	$27,159	$21,252	$11,055	$22,341	$0	$14,388	$693
Subtotal Well Abandonment Costs per Wellfield	$433,532	$1,020,245	$1,217,700	$1,662,254	$1,766,177	$59,136	$1,332,265	$790,515	$1,944,734	$1,605,252	$840 180	$1,469,941	$0	$1,003,563	$55,556
Total Well Abandonment Costs	**$15,201,049**														
II. Removal of Contaminated Soil Around Wells															
# of Production and Injection Wells	255	377	537	610	1301	0	451	274	658	590	300	570	0	385	
Removal of Contaminated Soil Around Wells ($/well)	$83 69	$83 69	$83 69	$83 69	$83 69	$83 69	$83 69	$83 69	$83 69	$83 69	$83 69	$83 69	$83 69	$83 69	
Subtotal Contaminated Soil Removal/Disposal Costs per Wellfield	$21,340	$31,550	$44,940	$51,049	$108,876	$0	$37,743	$22,930	$55,066	$49,375	$25,106	$47,701	$0	$32,219	
Total Contaminated Soil Removal/Disposal Costs	**$527,896**														
III. Delineation Hole Abandonment															
A Drill Hole Plug and Abandonment															
# of Drill Holes Pending Bond Release															
2007-08	56														
2008-09	55														
2009-10	638														
2010-11	821														
2011-12	0														
2012-13	594														
2013-14	591														
Total # of Drill Holes	2755														
# of Projected Drill Holes															
2014-15	900														
Total # of Drill Holes	3655														
% of 2755 Drill Holes Requiring Bentonite Top 100 ft	20%														
Total Footage Requiring Abandonment (ft)	55,100														
Hole Abandonment ($/ft)	$3 30														
Subtotal Plug and Abandonment Costs	$181,830														
Projected Drill Hole Abandonment ave depth 800ft	$2,376,000														
B Incidental Costs															
Total # of Drill Holes	3655														
Site Location ($/hole)	$11														
Capping ($/hole)	$11														
Small Site Grading and Seeding ($/site)	$55														
Subtotal Incidental Costs	$281,435														
Total Delineation Hole Abandonment	**$2,839,265**														
IV. Waste Disposal Well Abandonment	**SR-1**	**SR-2**	**SRHUP #6**	**SRHUP #7**	**SRHUP #8**	**SRHUP #10**	**REY-1**	**REY-2**	**REY-3**						
A. Well Sealing															
Total Depth of Well	10,097	9,996	9,600	9,900	9,700	9,550	9,950	0	0						
Sealing Cost Per Foot	$13 62	$13 62	$13 62	$13 62	$13 62	$13 62	$13 62	$13 62	$13 62						
*Sealing costs per foot includes surface reclamation costs															
Subtotal Plugging Costs per Well	$137,521	$136,146	$130,752	$134,838	$132,114	$130,071	$135,519	$0	$0						
B. Pump Dismantling and Decontamination															
Number of Pumps	2	2	2	2	2	2	2	0	0						
Pump Dismantling and Disposal Cost	$2,810	$2,810	$2,810	$2,810	$2,810	$2,810	$2,810	$2,810	$2,810						
Subtotal Dismantling and Decon Costs per Well	$5,619 34	$5,619 34	$5,619 34	$5,619 34	$5,619 34	$5,619 34	$5,619 34	$0 00	$0 00						
C. Tubing String Disposal (NRC-Licensed Facility)															
Length of Tubing String (ft)	8,271	8,257	8,910	9 100	8,910	8,800	8 217	0	0						
Diameter of Tubing String (inches)	2 875	2 875	2 875	2 875	2 875	2 875	2 875	0	0						
Volume of Tubing String (ft^3)	193	192	207	212	207	205	191	0	0						
Transportation and Disposal Unit Cost ($/ft3)	$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	$1,519	$1,501	$1,401	$0	$0						
Subtotal Cost per Well	$144,550	$143,173	$137,890	$142,009	$139,252	$137,191	$142,539	$0	$0						
Total Waste Disposal Well Abandonment Costs	**$986,606**														
TOTAL WELL AND DRILL HOLE ABANDONMENT COSTS	**$19,554,815**														

Wellfield Buildings and Equipment Removal and Disposal	Mine Unit 1	Mine Unit 2	Mine Unit 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
I. Wellfield Piping														
Number of Header Houses per Wellfield	6	5	10	11	18	5	9	7	13	9	5	4	0	7
Length of Piping per Header House (ft)	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	69000	55200	0	96600
A Removal and Loading														
Wellfield Piping Removal Unit Cost ($/ft of pipe)	$1.54	$1.54	$1.54	$1.54	$1.54	$1.54	$1.54	$1.54	$1.54	$1.54	$1.54	$1.54	$1.54	$1.54
Subtotal Wellfield Piping Removal and Loading Costs	$127,711	$106,426	$212,851	$234,136	$383,132	$106,426	$191,566	$148,996	$276,707	$191,566	$106,426	$85,140	$0	$148,996
B Transport and Disposal Costs (NRC-Licensed Facility)														
Average Diameter of Piping (inches)	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Chipped Volume Reduction (ft3/ft)	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011
Chipped Volume per Wellfield (ft^3)	888	740	1480	1628	2663	740	1332	1036	1923	1332	740	592	0	1036
Volume for Disposal Assuming 10% Void Space (ft^3)	977	814	1628	1790	2930	814	1465	1139	2116	1465	814	651	0	1139
Transportation and Disposal Unit Cost ($/ft3)	$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	$4,697	$3,756	$0	$6,572
Subtotal Wellfield Piping Costs per Wellfield	$133,348	$111,123	$222,244	$244,464	$400,037	$111,123	$200,019	$155,568	$288,916	$200,019	$111,123	$88,896	$0	$155,568
Total Wellfield Piping Costs	**$2,422,448**													
II. Well Pumps and Tubing														
*Pump and tubing removal costs included under ground water restoration labor														
*60% of production/injection wells contain pumps and/or tubing														
A Pump and Tubing Transportation and Disposal						Inc in MU-15								
Number of Production Wells	95	139	232	234	441	0	171	99	260	210	100	190	0	135
Number of Injection Wells	160	238	305	376	860	0	280	175	398	380	200	380	0	250
Number of Monitor Wells	49	50	40	90	83	42	51	53	69	49	35	85	0	49
1 Pump Volume														
Number of Production Wells with Pumps	57	83	139	140	265	0	103	59	156	126	60	114	0	81
Pump Volume (ft3)	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43
Pump Volume per Wellfield (ft^3)	24.7	36.0	60.2	60.6	114.8	0.0	44.6	25.6	67.6	54.6	26.0	49.4	0.0	35.1
2 Tubing Volume														
Average Tubing Length per Well (ft)	475	825	725	825	425	475	925	839	925	875	875	775	575	800
*Based on average well depth minus 25 ft														
Tubing Length per Wellfield (ft)	144,400	352,275	418,325	577,500	588,200	19,950	464,350	274,353	672,475	559,125	293,125	507,625	0	347,200
Diameter of Production Well Fiberglass Tubing (inches)	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Diameter of Injection Well HDPE Tubing (inches)	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
Chipped Volume Reduction (ft3/ft)	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011
Chipped Volume per Wellfield (ft^3)	1548	3777	4485	6192	6306	214	4978	2941	7210	5995	3143	5442	0	3722
Volume of Pump and Tubing (ft^3)	1573	3813	4545	6253	6421	214	5023	2967	7278	6050	3169	5491	0	3757
Volume for Disposal Assuming Void Space (ft^3)	1730	4194	5000	6878	7063	235	5525	3263	8005	6655	3486	6041	0	4133
Transportation and Disposal Unit Cost ($/ft3)	$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	$9,982	$24,198	$28,849	$39,684	$40,752	$1,356	$31,878	$18,827	$46,187	$38,398	$20,113	$34,855	$0	$23,846
Total Pump and Tubing Disposal Costs	**$358,925**													
III. Buried Trunkline (Includes $ for fiber optic cable removal)														
Assumptions														
Length of Trunkline Trench (ft)	5075	7600	4790	12565	19085	7500	12000	17198	11565	9050	5000	20000	0	5400
A Removal and Loading														
Main Pipeline Removal Unit Cost ($/ft of trench)	$3.08	$3.08	$3.08	$3.08	$3.08	$3.08	$3.08	$3.08	$3.08	$3.08	$3.08	$3.08	$3.08	$3.08
Subtotal Trunkline Removal and Loading Costs	$15,655	$23,444	$14,776	$38,761	$58,873	$23,136	$37,018	$53,052	$35,676	$27,917	$15,424	$61,696	$0	$16,658
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
Chipped Volume per foot of pipe (ft3/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
Chipped Volume (ft^3)	118	177	112	293	0	0	0	0	0	0	0	0	0	0
2 6" HDPE Trunkline														
Piping Length (ft)	2410	10000	4820	7320	28170	2320	2288	3466	4800	6850	3500	6500	0	0
Chipped Volume per foot of pipe (ft3/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
Chipped Volume (ft^3)	201	834	402	610	2349	193	191	289	400	571	292	542	0	0
3 8" HDPE Trunkline														
Piping Length (ft)	4100	0	1100	4240	4000	6266	1104	948	15980	5000	2500	0	0	4000
Chipped Volume per foot of pipe (ft3/ft)	0.1413	0.1413	0.1413	0.1413	0.1413	0.1413	0.1413	0.1413	0.1413	0.1413	0.1413	0.1413	0.1413	0.1413
Chipped Volume (ft^3)	579	0	155	599	565	885	156	134	2258	707	353	0	0	565
4 10" HDPE Trunkline														
Piping Length (ft)	0	5200	3660	4680	6000	1400	0	1028	2800	2000	1000	800	0	2000
Chipped Volume per foot of pipe (ft3/ft)	0.2196	0.2196	0.2196	0.2196	0.2196	0.2196	0.2196	0.2196	0.2196	0.2196	0.2196	0.2196	0.2196	0.2196
Chipped Volume (ft^3)	0	1142	804	1028	1317	307	0	226	615	439	220	176	0	439

Wellfield Buildings and Equipment Removal and Disposal	Mine Unit 1	Mine Unit 2	Mine Unit 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
5 12" HDPE Trunkline														
Piping Length (ft)	1460	0	0	5270	0	1080	0	2866	4110	0	0	2000	0	0
Chipped Volume per foot of pipe (ft3/ft)	0.3088	0.3088	0.3088	0.3088	0.3088	0.3088	0.3088	0.3088	0.3088	0.3088	0.3088	0.3088	0.3088	0.3088
Chipped Volume (ft^3)	451	0	0	1627	0	333	0	885	1269	0	0	618	0	0
6 14" HDPE Trunkline														
Piping Length (ft)	740	0	0	0	0	6200	0	0	1830	0	0	0	0	4000
Chipped Volume per foot of pipe (ft3/ft)	0.3723	0.3723	0.3723	0.3723	0.3723	0.3723	0.3723	0.3723	0.3723	0.3723	0.3723	0.3723	0.3723	0.3723
Chipped Volume (ft^3)	276	0	0	0	0	2308	0	0	681	0	0	0	0	1489
7 16" HDPE Trunkline														
Piping Length (ft)	1440	0	0	3620	0	0	2010	2210	1420	0	0	0	0	0
Chipped Volume per foot of pipe (ft3/ft)	0.4864	0.4864	0.4864	0.4864	0.4864	0.4864	0.4864	0.4864	0.4864	0.4864	0.4864	0.4864	0.4864	0.4864
Chipped Volume (ft^3)	700	0	0	1761	0	0	978	1075	691	0	0	0	0	0
8 18" HDPE Trunkline														
Piping Length (ft)	0	0	0	0	24170	0	2086	18600	7640	6550	3100	9091	0	0
Chipped Volume per foot of pipe (ft3/ft)	0.6155	0.6155	0.6155	0.6155	0.6155	0.6155	0.6155	0.6155	0.6155	0.6155	0.6155	0.6155	0.6155	0.6155
Chipped Volume (ft^3)	0	0	0	0	14877	0	1284	11448	4702	4032	1908	5596	0	0
Total Chipped Volume (ft^3)	2325	2153	1472	5918	19108	4028	2608	14057	10617	5748	2773	6931	0	2494
Volume for Disposal Assuming Void Space (ft^3)	2558	2368	1620	6509	21019	4431	2869	15463	11678	6323	3050	7624	0	2743
Transportation and Disposal Unit Cost ($/ft3)	$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	$43,989	$0	$15,826
Trunkline Decommissioning Costs per Wellfield	$30,414	$37,107	$24,123	$76,316	$180,148	$48,702	$53,571	$142,270	$103,055	$64,399	$33,022	$105,685	$0	$32,484
Total Trunkline Decommissioning Costs	**$931,296**													
IV. Wellhead Cover Removal														
Number of Wells	305	429	580	700	1387	42	502	328	734	640	335	658	0	436
Well Head Removal, Decontamination, and Disposal Cost	$11.89	$11.89	$11.89	$11.89	$11.89	$11.89	$11.89	$11.89	$11.89	$11.89	$11.89	$11.89	$11.89	$11.89
Subtotal Wellhead Removal Costs	$3,626	$5,100	$6,896	$8,322	$16,490	$499	$5,968	$3,900	$8,727	$7,609	$3,983	$7,823	$0	$5,184
Total Well Head Removal and Disposal Costs	**$84,127**													
V. Header Houses (Includes Booster Stations)														
Booster Houses	0	0	1	1	6	0	3	0	1	0	0	0	0	0
Total Quantity	6	5	11	12	24	5	12	7	14	9	5	4	0	7
Average Header House Volume (ft^3)	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	8000	6400	0	11200
Demolition Cost	$0.316	$0.316	$0.316	$0.316	$0.316	$0.316	$0.316	$0.316	$0.316	$0.316	$0.316	$0.316	$0.316	$0.316
Subtotal Building Demolition Costs	$3,031	$2,526	$5,556	$6,061	$12,123	$2,526	$6,061	$3,536	$7,072	$4,546	$2,526	$2,020	$0	$3,536
B Survey and Decontamination														
Cost per Header House	$634	$634	$634	$634	$634	$634	$634	$634	$634	$634	$634	$634	$634	$634
Subtotal Survey and Decontamination Costs	$3,806	$3,172	$6,978	$7,612	$15,224	$3,172	$7,612	$4,440	$8,881	$5,709	$3,172	$2,537	$0	$4,440
C Disposal														
Total Volume for Disposal - Incl. 33% Factor (cy)	117	98	215	235	469	98	235	137	274	176	98	78	0	137
Volume for Disposal Assuming Void Space (cy)	129	108	237	258	516	108	258	151	301	194	108	86	0	151
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
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	$4,554	$3,626	$0	$6,367
Headerhouse Soil Removal Volume (assumes 10'Wx20'Lx2.5'D)	500	500	500	500	500	500	500	500	500	500	500	500	500	500
11e.(2) Disposal Cost (ft3)	$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	$14,512	$11,610	$0	$20,317
Subtotal Header House Removal and Disposal Costs per Wellfield	$29,691	$24,764	$54,454	$59,381	$118,763	$24,764	$59,381	$34,660	$69,279	$44,557	$24,764	$19,793	$0	$34,660
Total Header House Removal and Disposal Costs	**$598,911**													
TOTAL REMOVAL AND DISPOSAL COSTS PER WELLFIELD	$207,061	$202,292	$336,566	$428,167	$756,190	$186,444	$350,817	$355,225	$516,164	$354,982	$193,005	$257,052	$0	$251,742
TOTAL WELLFIELD BUILDINGS AND EQUIPMENT REMOVAL	**$4,395,707**													

Cameco Resources
Smith Ranch Uranium Project
2013-14 Surety Estimate Update

Wellfield and Satellite Surface Reclamation	Mine Unit 1	Mine Unit 2	Mine Unit 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
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	52.0	29.5	0.0	68.4
*Assume wellfield pattern area X 2														
Discing/Seeding Unit Cost ($/acre)	$548	$548	$548	$548	$548	$548	$548	$548	$548	$548	$548	$548	$548	$548
Subtotal Pattern Area and Road Reclamation Costs	$27,865	$57,111	$54,679	$68,524	$64,231	$24,393	$45,610	$35,828	$48,567	$54,504	$28,479	$16,134	$0	$37,471
Total Wellfield Area Reclamation Costs	$563,396													
II. Wellfield Road Reclamation														
Road Construction														
Length of Wellfield Roads (1000 ft)	6.2	10.1	11.2	92.4	19.8	13.6	9.6	2.8	12.7	16.2	8	16.2	0	16.2
Wellfield Road Reclamation Unit Cost ($/1000 ft)	$1,437	$1,437	$1,437	$1,437	$1,437	$1,437	$1,437	$1,437	$1,437	$1,437	$1,437	$1,437	$1,437	$1,437
Subtotal Wellfield Road Reclamation Costs	$8,907	$14,510	$16,090	$132,742	$28,445	$19,538	$13,791	$4,022	$18,245	$23,273	$11,493	$23,273	$0	$23,273
Total Wellfield Road Reclamation Costs	$337,602													
III. Laydown area reclamation														
Area of Disturbance (acres)	1	1	2	2	1	1	2	2	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
Surface Grade: Level Ground														
Average Length of Topsoil Haul (ft)	500	500	500	500	500	500	500	500	500	500	500	500	500	500
A. Ripping Overburden with Dozer														
Ripping Cost (per acre)	$1,381	$1,381	$1,381	$1,381	$1,381	$1,381	$1,381	$1,381	$1,381	$1,381	$1,381	$1,381	$1,381	$1,381
Subtotal Ripping Costs	$1,381	$1,381	$2,763	$2,763	$1,381	$1,381	$2,072	$2,072	$1,381	$1,381	$1,381	$1,381	$1,381	$1,381
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	1,081	1,081	1,081
Moving Materials (0% Grade)	$1.21	$1.21	$1.21	$1.21	$1.21	$1.21	$1.21	$1.21	$1.21	$1.21	$1.21	$1.21	$1.21	$1.21
Subtotal Topsoil Application Costs	$1,306	$1,306	$2,611	$2,611	$1,306	$1,306	$1,958	$1,958	$1,306	$1,306	$1,306	$1,306	$1,306	$1,306
C. Discing and Seeding														
Discing/Seeding Unit Cost ($/acre)	$548	$548	$548	$548	$548	$548	$548	$548	$548	$548	$548	$548	$548	$548
Subtotal Discing/Seeding Costs	$548	$548	$1,095	$1,095	$548	$548	$822	$822	$548	$548	$548	$548	$548	$548
Subtotal Surface Reclamation Costs per WF laydown area	$3,235	$3,235	$6,469	$6,469	$3,235	$3,235	$4,852	$4,852	$3,235	$3,235	$3,235	$3,235	$3,235	$3,235
Total Wellfield Laydown Area Reclamation Costs	$54,992													
SUBTOTAL SURFACE RECLAMATION COSTS PER WELLFIELD	$40,007	$74,856	$77,238	$207,735	$95,911	$47,166	$64,253	$44,702	$70,047	$81,012	$43,207	$42,642	$3,235	$63,979
TOTAL WELLFIELD SURFACE RECLAMATION COSTS	$955,990													
IV. Fence Removal														
Length of Fencing (ft)	16,487	11,580	7,388	25,047	7,074	0	23,271	23,271	21,887	21,595	10,000	19,732	0	8,674
Fence Removal Costs	$0.42	$0.42	$0.42	$0.42	$0.42	$0.42	$0.42	$0.42	$0.42	$0.42	$0.42	$0.42	$0.42	$0.42
Subtotal Fence Removal Costs per Wellfield	$6,892	$4,840	$3,088	$10,470	$2,957	$0	$9,727	$9,727	$9,149	$9,027	$4,180	$8,248	$0	$3,626
Total Fence Removal Costs	$81,931													
V. Satellite Area Reclamation	**SR-1**	**SR-2**	**REY**											
Assumptions														
Area of Disturbance (acres)	2.70	5.00	5.00											
Average Depth of Stripped Topsoil (ft)	1	1	1											
Surface Grade: Level Ground														
Average Length of Topsoil Haul (ft)	1000	500	500											
A. Ripping Overburden with Dozer														
Ripping Cost (per acre)	$1,381.27	$1,381.27	$1,381.27											
Subtotal Ripping Costs	$3,729	$6,906	$6,906											
B. Topsoil Application with Scraper														
Volume of Topsoil Removed (cy)	4356	8067	8067											
Moving Materials (0% Grade)	$1.44	$1.44	$1.44											
Subtotal Topsoil Application Costs	$6,282	$11,633	$11,633											
C. Discing and Seeding														
Discing/Seeding Unit Cost ($/acre)	$548	$548	$548											
Subtotal Discing/Seeding Costs	$1,479	$2,738	$2,738											
Subtotal Surface Reclamation Costs per Location	$11,490	$21,277	$21,277											
Total Satellite Building Area Reclamation Costs	$54,044													
TOTAL WELLFIELD AND SATELLITE SURFACE RECLMAATION COSTS	$1,091,965													

Cameco Resources
Smith Ranch Uranium Project
2013-14 Surety Estimate Update

Equipment Removal and Loading	CPP IX Plant	Central Plant	Dryer Building	Satellite SR-1	Pilot ISL	Pumphouse	Bone Yard	Satellite SR-2	Satellite Reynolds
I. Removal and Loading Costs									
A. Tankage									
Number of Tanks	23	36	2	21	15	3	3	10	10
Volume of Tank Construction Material (ft^3)	900	1340	300	840	260	164	164	397	397
Tank Removal Cost	$123.96	$123.96	$123.96	$123.96	$123.96	$123.96	$123.96	$123.96	$123.96
Subtotal Tankage Removal and Loading Costs	$111,568	$166,113	$37,189	$104,131	$32,231	$20,330	$20,330	$49,152	$49,214
B. PVC/Steel Pipe									
PVC Pipe Footage	4800	6000	350	7000	1500	0	0	4000	4000
Average PVC Pipe Diameter (inches)	3	3	2	3	3	3	0	3	3
Shredded PVC Pipe Volume Reduction (ft3/ft)	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	93
Steel Pipe Footage	1100	1,000	300	250	0	80	0	0	0
Average Steel Pipe Diameter (inches)	6	0	0	6	0	8	0	0	0
Volume (ft^3)	216	0	0	49	0	30	0	0	0
Pipe Removal Cost	$8.04	$8.04	$8.04	$8.04	$8.04	$8.04	$8.04	$8.04	$8.04
Subtotal PVC/Steel Pipe Removal and Loading Costs	$47,450	$56,297	$5,228	$58,308	$12,064	$643	$0	$32,170	$32,170
C. Pumps									
Number of Pumps	23	67	6	23	12	2	0	13	13
Average Volume (ft^3/pump)	4.93	4.93	0	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	64
Pump Removal Cost	$96	$96	$96	$96	$96	$96	$96	$96	$96
Subtotal Pump Removal and Loading Costs	$10,847.08	$31,677.31	$0.00	$10,847.08	$5,663.52	$959.92	$0.00	$6,143.48	$6,143.48
D. Dryer									
Dryer Volume (ft^3)	0	0	1,000	0	0	0	0	0	0
Dryer Removal Costs	$14.13	$14.13	$14.13	$14.13	$14.13	$14.13	$14.13	$14.13	$14.13
Subtotal Dryer Dismantling and Loading Cost	$0	$0	$14,130	$0	$0	$0	$0	$0	$0
E. RO Units									
Number of RO Units (500 gpm)									
Current	1	0	0	1	0	0	0	0.25	0
Planned	0	0	0	0	0	0	0	1	1
Number of Degasser Units									
Current	0	0	0	1	0	0	0	0	0
Planned	1	0	0	0	0	0	0	1	1
RO/Degasser Average Volume (ft3/Unit)	250	250	250	250	250	250	250	250	250
RO and Degasser Removal Cost	$4.69	$4.69	$4.69	$4.69	$4.69	$4.69	$4.69	$4.69	$4.69
Subtotal RO Unit Removal and Loading Costs	$2,343.29	$0.00	$0.00	$2,343.29	$0.00	$0.00	$0.00	$2,636.20	$2,343.29
Subtotal Equipment Removal and Loading Costs per Facility	$172,209	$254,087	$56,547	$175,628	$49,958	$21,934	$20,330	$90,101	$89,871
Total Equipment Removal and Loading Costs	**$950,300**								
II. Transportation and Disposal Costs (NRC-Licensed Facility)									
A. Tankage									
Volume of Tank Construction Material (ft^3)	900	1340	300	840	260	164	164	397	397
Volume for Disposal Assuming Void Space (ft^3)	990	1474	330	924	286	180	180	436	437
Transportation and Disposal Unit Cost ($/ft3)	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32

Equipment Removal and Loading	CPP IX Plant	Central Plant	Dryer Building	Satellite SR-1	Pilot ISL	Pumphouse	Bone Yard	Satellite SR-2	Satellite Reynolds
Subtotal Tankage Transportation and Disposal Costs	$7,250	$10,795	$2,417	$6,767	$2,095	$1,318	$1,318	$3,193	$3,200
B. PVC / Steel Pipe									
Volume of Shredded PVC Pipe (ft^3)	111.8	139.7	8.2	163.0	34.9	0.0	0.0	93.1	93.1
Volume for Disposal Assuming Void Space (ft^3)	123	154	9	179	38	0	0	102	102
Volume of Steel Pipe (ft^3)	216	0	0	49.075	0	30	0	0	0
Volume for Disposal Assuming Void Space (ft^3)	238	0	0	54	0	33	0	0	0
Transportation and Disposal Unit Cost ($/ft3)	$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	$1,033	$219	$190	$0	$589	$589
C. Pumps									
Volume of Pumps (ft^3)	113	330	0	113	59	10	0	64	64
Volume for Disposal Assuming Void Space (ft^3)	124	363	0	124	65	11	0	70	70
Transportation and Disposal Unit Cost ($/ft3)	$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	$513
D. Dryer									
Dryer Volume (ft^3)	0	0	1000	0	0	0	0	0	0
Volume for Disposal Assuming Dryer Remains Intact (ft^3)	0	0	1000	0	0	0	0	0	0
Transportation and Disposal Unit Cost ($/ft3)	$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
E. RO/Degasser Units									
Volume of RO Units (ft^3)	500	0	0	500	0	0	0	562.5	500
Volume for Disposal Assuming Volume Reduction (ft^3)	550	0	0	550	0	0	0	618.75	550
Transportation and Disposal Unit Costs	$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	$4,028	$0	$0	$4,028	$0	$0	$0	$4,531	$4,028
Subtotal Equipment Transportation and Disposal Costs per Facility	$14,269	$14,342	$9,792	$12,736	$2,790	$1,589	$1,318	$8,826	$8,330
Total Equipment Transportation and Disposal Costs	**$75,063**								
III. Health and Safety Costs									
Radiation Safety Equipment — Accounted for on GW REST									
Total Health and Safety Costs									
SUBTOTAL EQUIPMENT REMOVAL AND DISPOSAL COSTS PER FACILITY	$186,478	$268,429	$66,339	$188,364	$52,748	$23,523	$21,648	$98,928	$98,200
TOTAL EQUIPMENT REMOVAL AND DISPOSAL COSTS	**$1,025,363**								

Cameco Resources
Smith Ranch Uranium Project
2013-14 Surety Estimate Update

Building Demolition and Disposal	CPP IX Plant 165 x 70	Central Plant 165 x 100	Dryer Building 100 x 35	Office Building	Storage Building	Water Treat Plant	Shop Building	Pilot ISL Building	Fresh Water Pumphouse	CPP O2 Pad	CPP Fuel Area	Mine Unit 15 O2 Pad	DDW 1 Buildings 15x30	DDW SRHUP #10 Buildings 20x24	DDW REY-1 Buildings 20x24	DDW WellHead Buildings 9 ea 8x8	Satellite SR-1 160X120	Yellowcake Warehouse 63 x 63	Satellite SR-2 160X120
I. Decontamination Costs																			
A Wall Decontamination																			
Area to be Decontaminated (ft^2)	9,375	13,150	7,550	0	1,152	576	4,826	12,000	0	0	0	0	720	704	704	0	0	4662	0
HCl Acid Wash, including labor ($/ft2)	$0.88	$0.88	$0.88	$0.88	$0.88	$0.88	$0.88	$0.88	$0.88	$0.88	$0.88	$0.88	$0.88	$0.88	$0.88	$0.88	$0.88	$0.88	$0.88
Subtotal Wall Decontamination Costs	$8,253	$11,576	$6,646	$0	$1,014	$507	$4,248	$10,564	$0	$0	$0	$0	$634	$620	$620	$0	$0	$4,104	$0
B Concrete Floor Decontamination																			
Area to be Decontaminated (ft^2)	11,550	16,500	3,500	0	1,678	839	7,028	17,477	0	0	0	0	450	480	392	0	19200	3969	19200
HCl Acid Wash, including labor ($/ft2)	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54
Subtotal Concrete Floor Decontamination Costs	$6,191	$8,844	$1,876	$0	$899	$450	$3,767	$9,367	$0	$0	$0	$0	$241	$257	$210	$0	$10,291	$2,127	$10,291
C Deep Well Injection Costs																			
Total kgals for Injection (1 gal used per ft2)	20.925	29.65	11.05	0	2.83	1.415	11.854	29.477	0	0	0	0	1.17	1.184	1.096	0	19.2	8.631	19.2
Deep Well Injection Unit Cost ($/kgals)	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13
Subtotal Deep Well Injection Costs	$24	$33	$12	$0	$3	$2	$13	$33	$0	$0	$0	$0	$1	$1	$1	$0	$22	$10	$22
Subtotal Decontamination Costs per Building	$14,468	$20,453	$8,534	$0	$1,916	$959	$8,028	$19,964	$0	$0	$0	$0	$876	$878	$831	$0	$10,313	$6,241	$10,313
Total Decontamination Costs	**$114,188**																		
II. Demolition Costs																			
A Building																			
Height of Building (ft)	30	35	35	15	10	10	25	18	10	0	0	0	8	10	10	10	24	20	24
Volume of Building (ft^3)	346,500	577,500	122,500	120,000	16,780	8,390	175,700	314,586	8,320	0	0	0	3600	4800	3920	5760	460,800	79,380	460,800
Demolition Cost	$0.32	$0.32	$0.32	$0.32	$0.32	$0.32	$0.32	$0.32	$0.32	$0.32	$0.32	$0.32	$0.32	$0.32	$0.32	$0.32	$0.32	$0.32	$0.32
Subtotal Building Demolition Costs	$109,390	$182,317	$38,673	$37,884	$5,297	$2,649	$55,468	$99,315	$2,627	$0	$0	$0	$1,137	$1,515	$1,238	$1,818	$145,475	$25,060	$145,475
B Concrete Floor																			
Area of Concrete Floor (ft^2)	10,550	16,500	3,500	8,000	1,678	839	7,028	17,477	832	400	375	400	450	480	392	448	19,200	3,969	19,200
Demolition Cost	$6.11	$6.11	$6.11	$6.11	$6.11	$6.11	$6.11	$6.11	$6.11	$6.11	$6.11	$6.11	$6.11	$6.11	$6.11	$6.11	$6.11	$6.11	$6.11
Subtotal Concrete Floor Demolition Costs	$64,408	$100,733	$21,368	$48,840	$10,244	$5,122	$42,906	$106,697	$5,079	$2,442	$2,289	$2,442	$2,747	$2,930	$2,393	$2,735	$117,216	$24,231	$117,216
C Concrete Footing																			
Length of Concrete Footing (ft)	411	514	237	358	164	116	335	529	115	80	77	80	85	88	79	85	554	252	554
Demolition Cost	$22.51	$22.51	$22.51	$22.51	$22.51	$22.51	$22.51	$22.51	$22.51	$22.51	$22.51	$22.51	$22.51	$22.51	$22.51	$22.51	$22.51	$22.51	$22.51
Subtotal Concrete Footing Demolition Costs	$9,247	$11,564	$5,326	$8,052	$3,688	$2,608	$7,547	$11,901	$2,597	$1,800	$1,743	$1,800	$1,910	$1,972	$1,782	$1,905	$12,474	$5,672	$12,474
Subtotal Demolition Costs per Building	$183,045	$294,614	$65,367	$94,776	$19,229	$10,379	$105,921	$217,913	$10,303	$4,242	$4,032	$4,242	$5,794	$6,417	$5,413	$6,458	$275,165	$54,963	$275,165
Total Demolition Costs	**$2,052,082**																		
III. Disposal Costs																			
A Building																			
Volume of Building (cy)	12833	21389	4537	4444	621	311	6507	11651	308	0	0	0	133	178	145	213	17067	2940	17067
Off-site County Facility																			
Percentage (%)	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Total Volume for Disposal - Incl. 33% Factor (cy)																			
Volume for Disposal (cubic yards)	4235	7058	1497	1467	205	103	2147	3845	102	0	0	0	44	59	48	70	5632	970	5632
Disposal Unit Cost ($/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
Subtotal county facility off-Site Disposal Costs	$178,576	$297,626	$63,133	$61,844	$8,648	$4,324	$90,551	$162,128	$4,288	$0	$0	$0	$1,855	$2,474	$2,020	$2,969	$237,483	$40,910	$237,483
B Concrete Floor																			
Area of Concrete Floor (ft^2)	10,550	16,500	3,500	8,000	1,678	839	7,028	17,477	832	400	375	400	450	480	392	448	19,200	3,969	19,200
Average Thickness of Concrete Floor (ft)	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Volume of Concrete Floor (ft^3)	7912.5	12375	2625	6000	1258.5	629.25	5271	13107.75	624	300	281.25	300	337.5	360	294	336	14400	2976.75	14400
Volume of Concrete Floor (cy)	293	458	97	222	47	23	195	485	23	11	10	11	13	13	11	12	533	110	533
1 Off-site County disposal																			
Percentage (%)	75	75	75	100	100	100	100	75	100	100	100	100	75	75	75	100	75	75	75
Volume for Disposal (cy)	220	344	73	222	47	23	195	364	23	11	10	11	9	10	8	12	400	83	400
Disposal Unit Cost ($/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
Subtotal county facility off-Site Disposal Costs	$9,268	$14,495	$3,075	$9,370	$1,965	$983	$8,232	$15,353	$975	$469	$439	$469	$395	$422	$344	$525	$16,867	$3,487	$16,867
2 NRC-Licensed Facility																			
Percentage (%)	25	25	25	0	0	0	0	25	0	0	0	0	25	25	25	0	25	25	25
Volume for Disposal (ft^3)	1978	3094	656	0	0	0	0	3277	0	0	0	0	84	90	74	0	3600	744	3600
Transportation and Disposal Unit Cost ($/$ft^3$)	$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
Subtotal NRC-Licensed Facility Disposal Costs	$11,483	$17,959	$3,809	$0	$0	$0	$0	$19,022	$0	$0	$0	$0	$490	$522	$427	$0	$20,897	$4,320	$20,897
Subtotal Concrete Floor Disposal Costs	$20,751	$32,454	$6,884	$9,370	$1,965	$983	$8,232	$34,375	$975	$469	$439	$469	$885	$944	$771	$525	$37,764	$7,807	$37,764
C Concrete Footing																			
Length of Concrete Footing (ft)	411	514	237	358	164	116	335	529	115	80	77	80	85	88	79	85	554	252	554
Average Depth of Concrete Footing (ft)	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Average Width of Concrete Footing (ft)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Volume of Concrete Footing (ft^3)	1643	2055	947	1431	655	463	1341	2115	462	320	310	320	339	351	317	339	2217	1008	2217
Volume of Concrete Footing (cy)	61	76	35	53	24	17	50	78	17	12	11	12	13	13	12	13	82	37	82
Disposal Unit Cost ($/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
Subtotal Concrete Footing Disposal Costs	$2,567	$3,210	$1,478	$2,235	$1,024	$724	$2,095	$3,303	$721	$500	$484	$500	$530	$547	$495	$529	$3,462	$1,574	$3,462
Subtotal Disposal Costs per Building	$201,894	$333,290	$71,495	$73,449	$11,637	$6,031	$100,878	$199,806	$5,984	$969	$923	$969	$3,270	$3,965	$3,286	$4,023	$278,709	$50,291	$278,709
Total Disposal Costs	**$2,027,547**																		
IV. Health and Safety Costs Accounted for on GW REST																			
SUBTOTAL BUILDING DEMOLITION AND DISPOSAL COSTS	$399,407	$648,357	$145,396	$168,225	$32,782	$17,369	$214,827	$437,683	$16,287	$5,211	$4,955	$5,211	$9,940	$11,260	$9,530	$10,481	$564,187	$111,495	$564,187
TOTAL BUILDING DEMOLITION AND DISPOSAL COSTS	**$4,193,817**																		

Building Demolition and Disposal	Satellite Reynolds 160X120	Construction Shop 50X80	CPP Lab Addition 25X40	DDW SRHUP #7 Buildings 20x24	DDW SRHUP #8 Buildings 20x24	CPP Control Room / Change Rooms 32 x 32	CPP Lab 32 x 32	CPP Maintenance Shop Addition 25X40	Sodium Hydroxide Addition 20 x 20	CPP Trailer Bay Addition 90 x 20
I. Decontamination Costs										
A. Wall Decontamination										
Area to be Decontaminated (ft^2)	0	0	1000	704	704	0	1024	0	0	4600
HCl Acid Wash, including labor ($/ft2)	$0.88	$0.88	$0.88	$0.88	$0.88	$0.88	0.94	$0.88	0.94	0.94
Subtotal Wall Decontamination Costs	$0	$0	$880	$620	$620	$0	$963	$0	$0	$4,324
B. Concrete Floor Decontamination										
Area to be Decontaminated (ft^2)	0	0	0	480	480	1024	0	1000	800	1800
HCl Acid Wash, including labor ($/ft2)	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54
Subtotal Concrete Floor Decontamination Costs	$0	$0	$0	$257	$257	$549	$0	$536	$429	$965
C. Deep Well Injection Costs										
Total kgals for Injection (1 gal used per ft2)	0	0	1	1.184	1.184	1.024	1.024	1	0.8	6.4
Deep Well Injection Unit Cost ($/kgals)	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13
Subtotal Deep Well Injection Costs	$0	$0	$1	$1	$1	$1	$1	$1	$1	$7
Subtotal Decontamination Costs per Building	$0	$0	$881	$878	$878	$550	$964	$537	$430	$5,296
Total Decontamination Costs										
II. Demolition Costs										
A. Building										
Height of Building (ft)	24	20	10	10	10	10	10	10	20	25
Volume of Building (ft^3)	460,800	80,000	10,000	4800	4800	10240	10240	10000	16000	45000
Demolition Cost	$0.32	$0.32	$0.32	$0.32	$0.32	$0.32	0.31	$0.32	0.31	0.31
Subtotal Building Demolition Costs	$145,475	$25,256	$3,157	$1,515	$1,515	$3,233	$3,174	$3,157	$4,960	$13,950
B. Concrete Floor										
Area of Concrete Floor (ft^2)	19,200	4,000	0	480	480	1,000	0	1,000	800	1800
Demolition Cost	$6.11	$6.11	$6.11	$6.11	$6.11	$6.11	$6.11	$6.11	$6.11	$6.11
Subtotal Concrete Floor Demolition Costs	$117,216	$24,420	$0	$2,930	$2,930	$6,105	$0	$6,105	$4,884	$10,989
C. Concrete Footing										
Length of Concrete Footing (ft)	554	253	0	88	88	0	0	63	57	127
Demolition Cost	$22.51	$22.51	$22.51	$22.51	$22.51	$22.51	$22.51	$22.51	$22.51	$22.51
Subtotal Concrete Footing Demolition Costs	$12,474	$5,694	$0	$1,972	$1,972	$0	$0	$1,423	$1,273	$2,865
Subtotal Demolition Costs per Building	$275,165	$55,370	$3,157	$6,417	$6,417	$9,338	$3,174	$10,685	$11,117	$27,804
Total Demolition Costs										
III. Disposal Costs										
A. Building										
Volume of Building (cy)	17067	2963	370	178	178	379	379	370	593	1667
Off-site County Facility										
Percentage (%)	100	100	100	100	100	100	100	100	100	100
Total Volume for Disposal - Incl. 33% Factor (cy)										
Volume for Disposal (cubic yards)	5632	978	122	59	59	125	125	122	196	550
Disposal Unit Cost ($/cy)	$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	$237,483	$41,230	$5,154	$2,474	$2,474	$5,277	$5,277	$5,154	$8,246	$23,192
B. Concrete Floor										
Area of Concrete Floor (ft^2)	19,200	4,000	0	480	480	1,000	0	1,000	800	1,800
Average Thickness of Concrete Floor (ft)	0.75	0.75	0.75	0.75	0.75	1.75	0.5	0.5	0.75	0.75
Volume of Concrete Floor (ft^3)	14400	3000	0	360	360	1750	0	500	600	1350
Volume of Concrete Floor (cy)	533	111	0	13	13	65	0	19	22	50
1. Off-site County disposal										
Percentage (%)	75	100	90	75	75	90	75	90	75	75
Volume for Disposal (cy)	400	111	0	10	10	58	0	17	17	38
Disposal Unit Cost ($/cy)	$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	$16,867	$4,685	$0	$422	$422	$2,460	$0	$703	$703	$1,581
2. NRC-Licensed Facility										
Percentage (%)	25	0	10	25	25	10	25	10	25	25
Volume for Disposal (ft^3)	3600	0	0	90	90	175	0	50	150	338
Transportation and Disposal Unit Cost ($/$ft^3$)	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80
Subtotal NRC-Licensed Facility Disposal Costs	$20,897	$0	$0	$522	$522	$1,016	$0	$290	$871	$1,959
Subtotal Concrete Floor Disposal Costs	$37,764	$4,685	$0	$944	$944	$3,476	$0	$993	$1,574	$3,540
C. Concrete Footing										
Length of Concrete Footing (ft)	554	253	0	88	88	0	0	63	113	127
Average Depth of Concrete Footing (ft)	4	4	0	4	4	4	0	4	5.75	4
Average Width of Concrete Footing (ft)	1	1	0	1	1	1	0	1	0.75	1
Volume of Concrete Footing (ft^3)	2217	1012	0	351	351	0	0	253	488	509
Volume of Concrete Footing (cy)	82	37	0	13	13	0	0	9	18	19
Disposal Unit Cost ($/cy)	$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	$3,462	$1,580	$0	$547	$547	$0	$0	$395	$762	$795
Subtotal Disposal Costs per Building	$278,709	$47,495	$5,154	$3,965	$3,965	$8,753	$5,277	$6,542	$10,582	$27,527
Total Disposal Costs										
IV. Health and Safety Costs Accounted for on GW REST										
SUBTOTAL BUILDING DEMOLITION AND DISPOSAL COSTS	$553,874	$102,865	$9,192	$11,260	$11,260	$18,641	$9,415	$17,764	$22,129	$60,627
TOTAL BUILDING DEMOLITION AND DISPOSAL COSTS										

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 (ft²)	13068
	Demolition Cost	$6.11
	Average Thickness of Concrete Floor (ft)	0.50
	Volume of Concrete Floor (ft³)	6,534
	Volume of Concrete Floor (cy)	242
	Concrete Disposal On Site ($/cy)	$9.50
	Subtotal Concrete Pad Demolition and Disposal Costs	$82,080
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	$1.44
	Subtotal Gravel Road Base Removal Costs	$9,306
C	Ripping Overburden with Dozer	
	Overburden Surface Area (acres)	10.6
	Ripping Cost (per acre)	$1,381.27
	Subtotal Ripping Overburden Costs	$14,600
D	Topsoil Application	
	Area of surface disturbance (ft²)	460426
	Average thickness of topsoil (ft)	0.5
	Average haul distance (ft)	2000
	Surface grade (%)	
	Volume of Topsoil (cy)	8,526
	Moving Materials	$1.44
	Subtotal Topsoil Application Costs	$12,296
E	Discing/Seeding	
	Surface Area (acres)	10.57
	Discing/Seeding Unit Cost ($/acre)	$548
	Subtotal Discing/Seeding Costs	$5,789
	Total CPP/Office/Yard Area Reclamation	**$124,071**

		CPP Access Rd.	**CPP to SAT 3**	**Access to WF**	**MU-15 Access**	**SR2 Access**	**Reynolds Access**	**Access SRHUP 7**	**Access SRHUP 8**	**Access SRHUP 10 from MU-4**
II.	**Access Road Reclamation (includes culverts)**									
A	Assumptions									
	Surface grade	1%	5%	5%	0%	5%	0%	0%	0%	0%
	Length of Road (ft)	5,173	15,827	15,557	10,560	8,500	2,500	1,500	11,250	2,500
	Width of Road (ft)	40	30	14	30	30	30	20	20	20
	Area of road (acres)	4.8	10.9	5.0	7.3	5.9	1.7	0.7	5.2	1.1
B	Ripping and Hauling Asphalt									
	Assumptions									
	Average Haul Distance (feet)	500	500	500	500	500	500	500	500	500
	Average Thickness of Asphalt (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	Ripping Cost (per acre)	$958.14	$958.14	$958.14	$958.14	$958.14	$958.14	$958.14	$958.14	$958.14
	Volume of Asphalt (cy)	3832	8793	4033	5867	4722	1389	556	4167	926
	Moving Materials	$1.65	$1.65	$1.65	$1.65	$1.65	$1.65	$1.65	$1.65	$1.65
	Subtotal Ripping and Hauling Asphalt	$10,887	$24,981	$11,459	$16,668	$13,416	$3,946	$1,578	$11,838	$2,631
B.	Gravel Road Base Removal									
	Average haul distance (ft)	1000	1000	1000	1000	1000	1000	1000	1000	1000
	Gravel Road Base Width (ft)	30	20	10	20	20	20	20	20	20
	Gravel Road Base Area (acres)	3.56	7.27	3.57	4.85	3.90	1.15	0.69	5.17	1.15
	Average Road Base Depth (ft)	0.75	0.5	0.5	0.5	0.5	0	0	0	0
	Volume of Road Base (cy)	4311	5862	2881	3911	3148	0	0	0	0
	Moving Materials	$1.44	$1.44	$1.44	$1.44	$1.44	$1.44	$1.44	$1.44	$1.44
	Subtotal Gravel Road Base Removal Costs	$6,217	$8,453	$4,155	$5,640	$4,540	$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	5.2	1.1

Miscellaneous Reclamation											
	Ripping Cost (per Acre)	$1,381.27	$1,381.27	$1,381.27	$1,381.27	$1,381.27	$1,381.27	$1,381.27	$1,381.27	$1,381.27	
	Subtotal Ripping Overburden Costs	$6,561	$15,056	$6,906	$10,046	$8,086	$2,378	$951	$7,135	$1,585	
D	Topsoil Application										
	Average haul distance (ft)	1500	1500	1500	1500	1500	1500	1500	1500	1500	
	Topsoil Surface Area (ft^2)	206920	474810	217798	316800	255000	75000	30000	225000	50000	
	Depth of Topsoil (ft)	0.3157	0.3157	0.3157	0.3157	0.3157	0.3157	0.3157	0.3157	0.3157	
	Volume of Topsoil (cy)	2419	5552	2547	3704	2982	877	351	2631	585	
	Moving Materials	$1.44	$1.44	$1.44	$1.44	$1.44	$1.44	$1.44	$1.44	$1.44	
	Subtotal Topsoil Application Costs	$3,489	$8,006	$3,672	$5,342	$4,300	$1,265	$506	$3,794	$843	
E	Discing/Seeding										
	Surface Area (acres)	4.8	10.9	5.0	7.3	5.9	1.7	0.7	5.2	1.1	
	Discing/Seeding Unit Cost ($/acre)	$548	$548	$548	$548	$548	$548	$548	$548	$548	
	Subtotal Discing/Seeding Costs	$2,602	$5,970	$2,738	$3,983	$3,206	$943	$377	$2,829	$629	
	Multiplier for Projected Additions	0	0	1	0	0	0	0	0	0	
	Subtotal Reclamation Costs per Access Road	$29,756	$62,466	$57,860	$41,679	$33,548	$8,532	$3,412	$25,596	$5,688	
	Total Access Road Reclamation Costs	$268,536									
III.	**Trunk Lines**	**Trunk Line #1 (CPP to MU-4)**	**Trunk Line #2 (CPP to SR-1)**	**Trunk Line #3 (MU 15 to SR-1)**	**Trunk Line #4 (O Sand Pilot)**	**Trunk Line (SR 2 to CPP)**	**WF 4 to CPP - projected**	**Waste Transfer SR2 to MU-15**	**Waste Transfer SR2 to SRHUP 8**	**Waste Transfer SR1 to SRHUP 7**	**SR to HUP DDW Pipeline**
				Included in MU 15 WF REC							
	Length of Trench (ft)	7750	8500	0	5500	2500	10000	12000	10000	7000	9700
A	Removal and Loading										
	Main Pipeline Removal Unit Cost ($/ft of trench)	$3.08	$3.08	$3.08	$3.08	$3.08	$3.08	$3.08	$3.08	$3.08	$3.08
	Subtotal Trunkline Removal and Loading Costs	$23,907	$26,221	$0	$16,966	$7,712	$30,848	$37,018	$30,848	$21,594	$29,923
B	Transport and Disposal Costs (NRC-Licensed Facility)										
1	2" HDPE Trunkline										
	Piping Length (ft)	7750	8500	0	22000	0	0	0	0	0	0
	Chipped Volume Reduction (ft3/ft)	0.0107	0.0107	0.0107	0.0107	0.0107	0.0107	0.0107	0.0107	0.0107	0.0107
	Chipped Volume (ft^3)	83	91	0	236	0	0	0	0	0	0
1	4" HDPE Trunkline										
	Piping Length (ft)	0	0	0	0	15000	10000	12000	10000	7000	0
	Chipped Volume Reduction (ft3/ft)	0.0385	0.0385	0.0385	0.0385	0.0385	0.0385	0.0385	0.0385	0.0385	0.0385
	Chipped Volume (ft^3)	0	0	0	0	577	385	462	385	269	0
2	6" HDPE Trunkline										
	Piping Length (ft)	7750	17000	0	0	0	0	0	0	0	9700
	Chipped Volume Reduction (ft3/ft)	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834
	Chipped Volume (ft^3)	646	1,418	0	0	0	0	0	0	0	809
3	12" HDPE Trunkline										
	Piping Length (ft)	0	6000	0	0	0	0	0	0	0	0
	Chipped Volume Reduction (ft3/ft)	0.3088	0.3088	0.3088	0.3088	0.3088	0.3088	0.3088	0.3088	0.3088	0.3088
	Chipped Volume (ft^3)	0	1,853	0	0	0	0	0	0	0	0
4	16" HDPE Trunkline										
	Piping Length (ft)	15500	11000	0	15500	15500	0	0	0	0	0
	Chipped Volume Reduction (ft3/ft)	0.4864	0.4864	0.4864	0.4864	0.4864	0.4864	0.4864	0.4864	0.4864	0.4864
	Chipped Volume (ft^3)	7,539	5,350	0	7,539	7,539	0	0	0	0	0
5	18" HDPE Trunkline										
	Piping Length (ft)	0	0	0	0	2320	0	0	0	0	0
	Chipped Volume Reduction (ft3/ft)	0.6155	0.6155	0.6155	0.6155	0.6155	0.6155	0.6155	0.6155	0.6155	0.6155
	Chipped Volume (ft^3)	0	0	0	0	1,428	0	0	0	0	0
	Total Volume Chipped (ft^3)	8,268	8,712	0	7,775	9,544	385	462	385	269	809
	Volume for Disposal Assuming Void Space (ft^3)	9,095	9,583	0	8,552	10,498	423	508	423	296	890
	Transportation and Disposal Unit Cost (NRC-Licensed Facility) ($/ft3)	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77
	Subtotal Transport and Disposal Costs	$52,476	$55,292	$0	$49,343	$60,571	$2,441	$2,931	$2,441	$1,708	$5,135
C	Discing/Seeding										
	Width of Pipeline Trench (ft)	4	4	4	4	4	5	5	5	5	5
	Area of Pipeline Trench (acres)	0.7	0.8	0.0	0.5	0.2	1.1	1.4	1.1	0.8	1.1
	Discing/Seeding Unit Cost ($/acre)	$548	$548	$548	$548	$548	$548	$548	$548	$548	$548
	Subtotal Discing/Seeding Costs	$390	$427	$0	$277	$126	$629	$754	$629	$440	$610
	Subtotal Reclamation Costs per Pipeline	$76,773	$81,940	$0	$66,586	$68,409	$33,918	$40,703	$33,918	$23,742	$35,668
	Total Pipeline Reclamation Costs	$461,657									

			Storage Ponds	Settling Pond
Miscellaneous Reclamation				
IV.		**Settling Basin/Storage Ponds Reclamation**	**Storage Ponds**	**Settling Pond**
	A	Soil Sampling and Monitoring		
		Number of Soil Samples	15	15
		$/Sample	$255	$255
		Subtotal Soil Sampling and Monitoring Costs	$3,825	$3,825
	B	Liner/Subsoil Removal and Disposal		
		Thickness of clay liner (ft)	1	0.5
		Thickness of contaminated subsoil (ft)	1	0.5
		Width of Pond (ft)	200	252
		Length of Pond (ft)	100	432
		Depth of Pond (ft)	10	20
		Surface area of pond (ft^2)	20000	108864
	1	Removal and Loading		
		Volume of Clay Liner (cy)	1481	4032
		Clay Liner Removal and Loading Unit Cost ($/cy)	$4.02	$4.02
		Subtotal Liner Removal and Loading Costs	$5,953	$16,201
	2	Transportation and Disposal		
		Volume of Clay Liner (ft^3)	1481	4032
		Volume of Geotextile Liner (ft^3)	52	0
		Volume of Geotextile Liner @ 40% void (ft^3)	87	0
		Transportation and Disposal Unit Cost ($/ft^3)	$5.80	$5.80
		Subtotal Liner Transportation and Disposal Costs	$9,103	$23,405
		Subtotal Liner Removal and Disposal Costs	$15,056	$39,606
	C	Grade and Contour		
		Volume of Embankment Material (CY)	7,407	80,640
		Average Grade (%)	0	0
		Distance (ft)	50	100
		Material Moving Unit Cost per WDEQ Guideline No.12, App E ($/cy)	$0.174	$0.294
		Subtotal Grade and Contour Costs	$1,287	$23,684
	D	Topsoil Application		
		Area of surface disturbance (ft^2)	20000	108899
		Average thickness of topsoil (ft)	1	1
		Average haul distance (ft)	1000	1000
		Surface grade (%)	0%	3%
		Volume of Topsoil (cy)	741	4,033
		Topsoil Unit Cost per WDEQ Guideline No.12, App.C ($/cy)	$1.442	$1.442
		Subtotal Topsoil Application Costs	$1,068	$5,816
	E	Discing/Seeding		
		Area of surface disturbance (acres)	0.5	2.5
		Discing/Seeding Unit Cost ($/acre)	$548	$548
		Subtotal Discing/Seeding Costs	$274	$1,369
		Subtotal Reclamation Costs	$21,510	$74,300
		Total Settling Basin/Ponds Reclamation Costs	**$95,810**	
TOTAL MISCELLANEOUS RECLAMATION COSTS			**$950,075**	

Cameco Resources
Smith Ranch Uranium Project
2013-14 Surety Estimate Update

	Mine Unit-1	Mine Unit-2	Mine Unit-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
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
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	1,132,560	641,495	0	1,490,217
Wellfield Area (acres)	25.44	52.14	49.92	62.56	58.64	22.27	41.64	32.71	44.34	49.76	26.00	14.73	0.00	34.21
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	1,132,560	641,495	0	1,490,217
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
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
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	49,266,360	26,852,981	0	51,859,552
Kgallons per Pore Volume	62,837	110,785	152,825	119,216	137,426	52,669	84,209	78,562	136,376	190,435	99,498	54,232	0	104,736
Restoration Schedule (Based on Annual Water Balance/Schedule Update)														
Pre-Restoration Period (yrs)	0	0	4	0	3	9	10	11	11	13	15	4	0	9
Restoration Period (yrs)	0	6	5	5	9	4	11	10	7	6	3	7	0	5
Stability Period (yrs)	1	1	1	1	1	1	1	1	1	1	1	1	0	1
Total # of Years	1	7	10	6	13	14	22	22	19	20	19	12	0	15
End of Restoration (yrs)	21													
End of Stability (yrs)	22													
Number of Header Houses per Wellfield														
Current	6	5	10	11	18	5	9	7	13	9	0	0	0	0
Planned	0	0	0	0	0	0	0	0	0	0	0	4	0	7
Total Estimated	6	5	10	11	18	5	9	7	13	9	0	4	0	7
Average Header House Volume (ft3)	1600													
Number of Wells (In Service) per Wellfield														
Production Wells (P)						Inc in MU-15								
Current	95	134	207	229	416	0	171	99	260	196	0	0	0	27
Planned	0	0	0	0	0	0	0	0	0	14	100	190	0	108
Total Estimated	95	134	207	229	416	0	171	99	260	210	100	190	0	135
Injection Wells (I)														
Current	160	233	280	371	835	0	280	175	398	341	0	0	0	29
Planned	0	0	0	0	0	0	0	0	0	39	200	380	0	221
Total Estimated	160	233	280	371	835	0	280	175	398	380	200	380	0	250
Restoration Wells (R)														
Current	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Planned	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
Monitor Wells (M, MO, MU, etc.)														
Current	49	50	40	90	83	42	51	53	69	49	0	85	0	49
Planned	0	0	0	0	0	0	0	0	0	0	35	0	0	0
Total Estimated	49	50	40	90	83	42	51	53	69	49	35	85	0	49
Other Wells (Pumping Wells, etc.)														
Current	1	2	3	0	3	0	0	1	7	1	0	3	0	2
Planned	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Estimated	1	2	3	0	3	0	0	1	7	1	0	3	0	2
Wellfield Refurbishment (I or P)														
Planned	0	10	50	10	50	0	0	0	0	0	0	0	0	0
Number of In Service Wells per Wellfield	305	429	580	700	1387	42	502	328	734	640	335	658	0	436
Total Number of Wells	7,076													
Well Completion Details														
Average Well Depth (ft)	500	850	750	850	450	500	950	864	950	900	900	800	600	825
Average Diameter of Casing (inches)	5	5	5	5	4.5	4.5	4.5	4.5	5	5	5	0	0	5
Wellfield Fencing														
Length of Fencing (ft)	16,487	11580	7388	25047	7074	0	23271	23271	21887	21595	10000	19732	0	8674

Cameco Resources
Smith Ranch Uranium Project
2013-14 Surety Estimate Update

Labor Costs	2013 Rate	Esc Rate ($)	Net Benefits*	Units	Source
Environmental Manager/RSO	$46.00	$46.97	$65.75	hour	2013 MSEC rates plus CPI 1.02 June 2014
Restoration Manager	$40.00	$40.84	$57.18	hour	2013 MSEC rates plus CPI 1.02 June 2014
Environmental Tech/HPT	$25.50	$25.53	$35.74	hour	2013 MSEC rates plus CPI 1.02 June 2014
Operator/Laborer	$26.00	$26.55	$37.16	hour	2013 MSEC rates plus CPI 1.02 June 2014
Maintenance Tech	$23.00	$23.48	$32.88	hour	2013 MSEC rates plus CPI 1.02 June 2014

*Includes additional 40% net benefits based on InfoMine USA cost data for Surface Metal and Industrial Mineral Mines - Western U.S. (Table 5)

CPI Escalators (CPI-U, U.S. City Average)	
1988 CPI	118.3
June 2014	238.3
2013 CPI	233.5
Current CPI (June 2014)	238.3
2014	1.02

Utility Costs	Rate ($)	Profit & Overhead	Units	Source
Electrical Costs	$0.0648	included	kWhr	Actual Costs-2013
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	$33,817.00	included	year	Actual Costs-2013
Natural Gas - Satellite SR-1	$4,180.00	included	year	Actual Costs-2013
Propane - CPP Main Office Area	$0.00	included	year	Actual Costs-2013
Propane - Satellite SR-2	$47,202.92	included	year	Actual Costs-2013

Chemical & Materials Costs	Rate ($)	Profit & Overhead	Units	Source
Antiscalant for RO (Hypersperse)	$3.9050	included	pound	Actual Costs-2013
Antiscalant for RO (ScaleTrol)	$4.5177	included	pound	Actual Costs-2013
Sodium Tripolyphosphate	$1.0893	included	pound	Actual Costs-2013
EDTA Tetrasodium Dihydrate	$1.8774	included	pound	Actual Costs-2013
Sodium Sulfide	$0.5520	included	pound	Quote-2013
Hydrochloric Acid	$0.1992	included	pound	Actual Costs-2013
Barium Chloride	$0.7976	included	pound	Actual Costs-2013
Iron Aggregate	$0.5516	included	pound	Actual Costs-2013
Silica Sand	$0.1407	included	pound	Actual Costs-2013
Pea Gravel	$0.0190	included	pound	Actual Costs-2013

Analytical Costs	Rate ($)	Profit & Overhead	Units	Source*
Modified Guideline 8	$249.00	included	analysis	Quote 2012-13
Excursion Parameters (UCL)	$30.00	included	analysis	Fee Schedule-2013
Restoration Progress Parameters (UCL + U + Se)	$50.00	included	analysis	Fee Schedule-2013
Irrigator Fluid	$245.00	included	analysis	Actual Costs-2012
Irrigator Vegetation	$270.00	included	analysis	Actual Costs-2012
Irrigator Soil	$255.00	included	analysis	Actual Costs-2012
Irrigator Soil Water	$150.00	included	analysis	Fee Schedule-2013
Other (Radon, Bioassay, etc.)	$1,000.00	$1,100.00	analysis	Cost Estimate

*All quotes, fee schedules and actual costs based on Energy Laboratories, Inc., Casper, WY

Equipment Costs	Rate ($)	Profit & Overhead*	Units	Source	date
Bandit 1290XP Trailer Mounted Brush Chipper	$34.33	$37.76	hour	Equipment Watch**	2014
Bobcat S250 Skid Steer Loader	$22.72	$24.99	hour	Equipment Watch	2014
Cat 320C L Trackhoe - 1.25 cu yd bucket	$69.44	$76.38	hour	Equipment Watch	2014
Cat 416E Backhoe	$27.17	$29.89	hour	Equipment Watch	2014
Cat 924H Loader - 2.4 cu yd bucket	$42.89	$47.18	hour	Equipment Watch	2014
Concrete Jaws Labounty - CP-60	$18.90	$20.79	hour	2013 Equipment Watch - CPI Escalator	2014
GEHL DL-8 Rough Terrain Lift Truck	$46.78	$51.46	hour	Equipment Watch	2014
Manlift	$39.13	$43.04	hour	Equipment Watch	2014
MIT Unit	$30.72	$33.79	hour	2013 Equipment Watch - CPI Escalator	2014
Pick-up Truck 3/4 ton 4X4	$18.79	$20.67	hour	Equipment Watch	2014
Pulling Unit***	$36.06	$39.67	hour	2013 Equipment Watch - CPI Escalator	2014

*Includes additional 10% Profit & Overhead per WDEQ/LQD Guidline No. 12, Section 12(b)
**Equipment Watch Rental Rate Blue Book, Volume 1
***1 3/4 Ton 4x4 Truck with Hoist

Quoted Costs	Rate ($)	Profit & Overhead	Units	Source
Deep Disposal Well - Plug & Abandonment Costs	$13.62	included	foot	UIC Permit-2012
Deep Disposal Well - MIT Costs	$31,625	included	well	Quote-2013
Well Replacements (Restoration)	$14,763	included	well	Actual Costs-2013
Bellhole Refurbishment	$5,530	included	bellhole	Contract-2012
Header House Refurbishment	$10,000	included	header house	Actual Costs-2013

WDEQ/LQD Guideline No. 12 Costs	Appendix	Rate ($)	Profit & Overhead*	Units	Source
Moving Materials One-Way Distance 500 feet, 0% grade	Appendix C	$1.098	$1.208	bcy	Guideline-10/2014
Moving Materials One-Way Distance 1,000 feet, 0% grade	Appendix C	$1.311	$1.442	bcy	Guideline-10/2014
Moving Materials One-Way Distance 2,000 feet, 0% grade	Appendix C	$1.503	$1.653	bcy	Guideline-10/2014
Moving Materials One-Way Distance 50 feet, 0% grade	Appendix E	$0.158	$0.174	lcy	Guideline-10/2014
Moving Materials One-Way Distance 100 feet, 0% grade	Appendix E	$0.267	$0.294	lcy	Guideline-10/2014
Moving Materials One-Way Distance 150 feet, 0% grade	Appendix E	$0.347	$0.382	lcy	Guideline-10/2014
Grading Operating Costs	Appendix G	$77.57	$85.33	acre	Guideline-10/2014
Fencing Removal	Appendix H	$0.38	$0.42	foot	Guideline-10/2014
Ripping Operating Costs (Asphalt)	Appendix I	$871.04	$958.14	acre	Guideline-10/2014
Ripping Operating Costs (Overburden)	Appendix H	$1,255.70	$1,381.27	acre	Guideline-10/2014
Building Demolition - Mixture of Types	Appendix K	$0.287	$0.32	ft3	Guideline-10/2014
Building Demo Disposal (Average)	Appendix K	$9.76	$10.74	cy	Guideline-10/2014
Concrete (Floor) Demolition - 6" Thick with Rebar	Appendix K	$5.55	$6.11	ft2	Guideline-10/2014
Concrete (Footing) Demolition - 2' Thick, 3' Wide	Appendix K	$20.46	$22.51	linear foot	Guideline-10/2014
Concrete Disposal On-Site	Appendix K	$8.64	$9.50	cy	Guideline-10/2014
Drill Hole Abandonment Wet Exploration Holes <25 holes	Appendix L	$3.00	$3.30	foot	Guideline-10/2014
Well Abandonment, Monitor, Production, and Injection Wells	Appendix L	$2.50	$2.75	foot	Guideline-10/2014
Incidental Costs Small Site Grading and Seeding (<1000 sq. feet)	Appendix L	$50	$55	site	Guideline-10/2014
Incidental Costs Capping	Appendix L	$10	$11	each	Guideline-10/2014
Incidental Costs Site Location	Appendix L	$10	$11	hole	Guideline-10/2014
Incidental Costs Remove Pump, Wiring, and Drop Pipe	Appendix L	$0.40	$0.44	foot	Guideline-10/2014
Incidental Costs Remove and Dispose Casing (top few feet)	Appendix L	$30	$33	well	Guideline-10/2014
Incidental Costs Monitoring Well Concrete Pedestal Disposal	Appendix L	$100	$110	each	Guideline-10/2014
Scarification Costs	Appendix P	$71.51	$78.66	acre	Guideline-10/2014
Revegetation Costs-Seed	Appendix Q	$106	$117	acre	Actual Costs-2013
Revegetation Costs-Mulch	Appendix Q	$91.88	$101.07	acre	Actual Costs-2013
Revegetation Costs-Fertilizer	Appendix Q	$300.00	$330.00	acre	Actual Costs-2013
Revegetation Costs-Total	Appendix Q	$497.88	$547.67	acre	Actual Costs-2013
Revegetation Costs-Total	Guideline 12A	$300.00	$330.00	acre	Guideline-10/2014

*Includes additional 10% Profit & Overhead per WDEQ/LQD Guidline No. 12, Section 12(b)

Construction & Demolition Debris Transportation & Disposal Costs

Building Volume for Disposal	0.33					
Void Factor (for disposal)	1.1					
	Disposal ($/ton)	**C&D (cy/ton)**	**Tranport ($/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)**	**Tranport ($/cy)**	**Total ($/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. Tranportation 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 tranports one 36.4-cy bin of Type II chipped piping waste.

GROUNDWATER RESTORATION UNIT COSTS		
Wellfield Pumping		
Equipment		
Wellfield Pump Sizes	5	hp
Wellfield Pump Flow Rate	25	gpm
kW to HP Conversion Factor	0.746	
Cost of Electricity	$0.0648	kWhr
Efficiency	80%	
Wellfield Pumping Cost	$0.20	per kgal
Satellite Pumping		
Equipment		
Satellite Pump Sizes	60	hp
Satellite Pump Flow Rate	75	gpm
kW to HP Conversion Factor	0.746	
Cost of Electricity	$0.0648	kWhr
Efficiency	90%	
Satellite Pumping Cost	$0.72	per kgal
Deep Disposal Well Injection		
Equipment		
Deep Disposal Well Pump Size	75	hp
Deep Disposal Well Flow Rate	75	gpm
kW to HP Conversion Factor	0.746	
Cost of Electricity	$0.0648	kWhr
Efficiency	90%	
Reagent		
Antiscalant Cost (Scaletrol)	$4.5177	per lb
Density of Water	8.34	lbs/gal
Specific Gravity (Scaletrol)	1.284	
Antiscalant Cost (Scaletrol)	$48.38	per gal
Antiscalant Dose (ScaleTrol)	0.0000048	gal/gal
Deep Disposal Well Cost	**$1.13**	**per kgal**
Total Groundwater Sweep Costs	**$2.04**	**per kgal**
Reverse Osmosis		
Equipment		
System Capacity	250	gpm
Unit Pump	60	hp
Injection Pump	60	hp
Waste Pump	15	hp
kW to HP Conversion Factor	0.746	
Cost of Electricity	$0.0648	kWhr
Efficiency	90%	
Reagents		
Tripolyphosphate Usage Rate	0.00000130	lb/gal
Tripolyphosphate Cost	$1.0893	per lb
EDTA Usage Rate	0.00000315	lb/gal
EDTA Cost	$1.8774	per lb
Antiscalant Cost (Hypersperse)	$3.9050	per lb
Density of Water	8.34	lbs/gal
Specific Gravity (Hypersperse)	1.124	
Antiscalant Cost (Hypersperse)	$36.6061	per gal
Antiscalant Dose (Hypersperse)	0.0000036	gal/gal
Sodium Sulfide Usage Rate	0.00017	lb/gal
Sodium Sulfide Cost	$0.5520	per lb
RO Cost (without Reductant)	**$0.62**	**per kgal**
RO Cost (with Reductant)	**$0.71**	**per kgal**
MIT Costs for Production Wells		
Equipment		
Pulling Unit Hours	4	hrs/day
Pulling Unit Cost	$39.67	$/hour
MIT Unit Hours	8	hrs/day
MIT Unit Cost	$33.79	$/hour
Labor		

Required Hours	8	hrs/day
Required Laborers	1.5	per day
Labor Cost	$32.88	$/hour
Productivity	4	wells/day
MIT Cost for Production Wells	**$205.88**	**per well**
MIT Costs for Injection Wells		
Equipment		
Pulling Unit Hours	0	hrs/day
Pulling Unit Cost	$39.67	$/hour
MIT Unit Hours	8	hrs/day
MIT Unit Cost	$33.79	$/hour
Labor		
Required Hours	8	hrs/day
Required Laborers	1	per day
Labor Cost	$32.88	$/hour
Productivity	4	wells/day
MIT Cost for Injection Wells	**$133.34**	**per well**
Booster Pump Operating Cost		
Equipment		
Wellfield Pump Sizes	40	hp
Number of Pumps Running (avg.)	9	per year
Hours Running	24	per day
kW to HP Conversion Factor	0.746	
Cost of Electricity	$0.0648	kWhr
Efficiency	90%	
Booster Pump Operating Costs	**$169,386.16**	**per year**
WELL ABANDONMENT UNIT COSTS		
Removal of Contaminated Soil Around Wells		
Equipment		
Cat 416 Backhoe Time	0.25	hours
Cat 416 Backhoe Cost	$29.89	per hour
Labor		
Radiation Technician	0.25	hours
Radiation Technician Cost	$35.74	per hour
Operator	0.25	hours
Operator Cost	$37.16	per hour
Disposal		
ByProduct Disposal	0.37	cubic yard
Disposal Cost (incl. Transport)	$156.73	per cubic yard
Removal of Contaminated Soil Cost	**$83.69**	**per well**
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	$32.88	
Disposal		
Volume of DDW Pump	240	ft^3
ByProduct Disposal	$7.32	per ft^3
DDW Pump Dismanteling and Disposal	**$2,809.67**	**per pump**
WELLFIELD RECLAMATION COSTS		
Wellfield Piping Removal		
Equipment		
Trackhoe	1	per day
Trackhoe Cost	$76.38	per hour
Loader	1	per day
Loader Cost	$47.18	per hour
Pickup Truck	1	per day
Pickup Cost	$20.67	per hour
Chipper Cost	$37.76	per hour

Labor		
Backhoe Operator	$37.16	per hour
Loader Operator	$37.16	per hour
Laborer	$32.88	per hour
Hours Per Day	8	per day
Productivity	1500	ft/day
Piping Removal Cost	**$1.54**	**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	
Trunk Line Removal		
Equipment		
Trackhoe	1	per day
Trackhoe Cost	$76.38	per hour
Loader	1	per day
Loader Cost	$47.18	per hour
Pickup Truck	1	per day
Pickup Cost	$20.67	per hour
Chipper Cost	$37.76	per hour
Labor		
Trackhoe Operator	$37.16	per hour
Loader Operator	$37.16	per hour
Laborer	$32.88	per hour
Hours Per Day	8	per day
Productivity	750	ft/day
Buried Piping Removal Cost	**$3.08**	**per foot of pipe**
Production Pump Volume		
Length	66	inches
Diameter	3.8	inches
Cubic Inch to Cubic Foot Conversion	0.0006	
Production Pump Volume	**0.43**	cubic feet
Removal of Well Head Covers		
Volume of Well Head Cover (ft^3)	1.86	cubic feet
Demolition Cost	$0.316	per cubic ft
Decontamination		
Acid Usage	4.1	pounds per wellhead cover
Acid Cost	$0.20	per wellhead cover
Labor		
Radiation Tech	$35.74	per hour
Operator	$37.16	per hour
Productivity	10	wellheads per hour
Disposal		
Void space	10%	
Transportation and Disposal Cost	$1.56	per cubic ft
Removal of Well Head Cover Cost	**$11.89**	**per well**
Header House Decontamination		
Decontamination		
Acid Usage	20	pounds per header house

Acid Cost	$0.20	per pound
Labor		
Radiation Tech	$35.74	per hour
Number of Operators	2	per day
Operator	$37.16	per hour
Hours Per Day	8	per day
Productivity	1	header house per day
Header House Decontamination Cost	**$634**	**per header house**
Header House Heating		
Heater Power Usage	7.5	kW/day
Days Used	180	days per year
Electricity Cost	$0.0648	kWhr
Header House Heating Cost	**$1,050**	**per year**
WELLFIELD AND SATELLITE AND SURFACE RECLAMATION		
Wellfield Road Reclamation		
Gravel Road Base		
Average Depth	0.25	feet
Average Width	10	feet
Material Moved (0% Grade)	$1.44	bcy
Cubic Yard to Cubic Feet Conversion	0.04	
Scarification of Road		
Scarification Costs	$79	per acre
Average Width	25	feet
Acre to Sq. Foot Conversion	2.29568E-05	
Grading Cost	$85	per acre
Topsoil Depth	0.67	feet
Discing/Seeding Costs	$548	
Linear Feet for Unit Cost	1000	feet
Wellfield Road Reclamation Cost	**$1,436.60**	**per 1000 feet**
EQUIPMENT COSTS		
Tank Removal		
Equipment		
Loader	$47.18	per hour
Trackhoe	$76.38	per hour
Manlift	$43.04	per hour
Pickup	$20.67	per hour
Lift Truck	$51.46	per hour
Labor		
Number of Operators	4	
Operator Cost	$37.16	per hour
Hours Per Day	8	per day
Productivity	25	ft^3/day
Tank Removal Cost	**$124**	**per ft^3**
Pipe Removal		
Equipment		
Manlift	$43.04	per hour
Pickup	$20.67	per hour
Lift Truck	$51.46	per hour
Chipper	$37.76	per hour
Labor		
Number of Operators	4	
Operator Cost	$37.16	per hour
Hours Per Day	8	per day
Productivity	300	ft/day
Pipe Removal Cost (Inside Buildings)	**$8.04**	**per ft**
Pump Removal		
Equipment		
Truck	$20.67	per hour
Skid Steer	$24.99	per hour
Labor		
Number of Operators	2	

		Operator Cost	$37.16	per hour
		Hours Per Day	8	per day
	Productivity		10	ft^3/day
		Pump Removal	**$95.99**	**per ft^3**
Dryer Removal				
	Equipment			
		Truck	$20.67	per hour
		Lift Truck	$51.46	per hour
	Labor			
		Number of Operators	4	
		Operator Cost	$37.16	per hour
		Hours Per Day	8	per day
	Productivity		125	ft^3/day
		Dryer Removal Cost	**$14.13**	**per ft^3**
RO and Degasser Removal				
	Equipment			
		Truck	$20.67	per hour
		Lift Truck	$51.46	per hour
	Labor			
		Number of Operators	2	
		Operator Cost	$37.16	per hour
		Hours Per Day	8	per day
	Productivity		250	ft^3/day
		RO and Degasser Removal Cost	**$4.69**	**per ft^3**
BUILDING COSTS				
Acid Wash Walls				
	Acid			
		Acid Usage	0.05	per square foot
		Acid Cost	$0.20	per pound
	Equipment			
		Manlift	$43.04	per hour
	Labor			
		Laborer	2	people
		Laborer Cost	$32.88	per hour
	Productivity		125	square feet per hour
		Acid Wash Walls Cost	**$0.88**	**per square foot**
Acid Wash Floors				
	Acid			
		Acid Usage	0.05	per square foot
		Acid Cost	$0.20	per pound
	Labor			
		Laborer	2	people
		Laborer Cost	$32.88	per hour
	Productivity		125	square feet per hour
		Acid Wash Floors Cost	**$0.54**	**per square foot**
Eletrical Power				
*Pumping Costs for Operating DDWs, RO, and Wellfield are included in GW Rest Costs				
	CPP			
		Miscellaneous Pumps, Fans, Sumps, etc.	27.5	HP
		Lighting	35.0625	kW (per square ft)
		kW to HP Conversion Factor	0.746	
		Electricity Cost	$0.0648	per kWhr
		Efficiency Factor	90%	
		Operating Hours Per Year	8760	hours
		CPP Power Cost	**$30,384**	**per year**
	SR 1 & SR 2 Power Costs			
		Miscellaneous Pumps, Fans, Sumps, etc.	72.5	HP
		Lighting	24	kW
		kW to HP Conversion Factor	0.746	kW (per square ft)
		Electricity Cost	$0.0648	per kWhr

Efficiency Factor	90%	
Operating Hours Per Year	8760	hours
SR 1 & SR 2 Power Costs	**$41,255**	**per year**
Reynolds Ranch Power Costs		
Miscellaneous Pumps, Fans, Sumps, etc.	72.5	HP
Lighting	24	kW
kW to HP Conversion Factor	0.746	kW (per square ft)
Electricity Cost	$0.0648	per kWhr
Efficiency Factor	90%	
Operating Hours Per Year	8760	hours
Reynolds Ranch Power Costs	**$41,255**	**per year**
DDW - Typical		
Miscellaneous Pumps, Fans, Sumps, etc.	2	HP
Lighting	0.4875	kW
Heating	12.5	kW
kW to HP Conversion Factor	0.746	kW (per square ft)
Electricity Cost	$0.0648	per kWhr
Efficiency Factor	90%	
Operating Hours Per Year	8760	hours
DDW Electrical Cost	**$4,587**	**per year**
Maintenance Shop Power Costs		
Miscellaneous Pumps, Fans, Sumps, etc.	2	HP
Lighting	8.785	kW
kW to HP Conversion Factor	0.746	kW (per square ft)
Electricity Cost	$0.0648	per kWhr
Efficiency Factor	90%	
Operating Hours Per Year	8760	hours
Maintenance Shop Power Costs	**$5,749**	**per year**
Fresh Water Pumphouse Power Costs		
Miscellaneous Pumps, Fans, Sumps, etc.	10	HP
Lighting	1.04	kW
Heating	10	kW
kW to HP Conversion Factor	0.746	kW (per square ft)
Electricity Cost	$0.0648	per kWhr
Efficiency Factor	90%	
Operating Hours Per Year	8760	hours
Fresh Water Pumphouse Power Costs	**$10,078**	**per year**
Office Building Power Costs		
Miscellaneous Pumps, Fans, Sumps, etc.	7.5	HP
Lighting	10	kW
Air Conditioning	30	kW
kW to HP Conversion Factor	0.746	kW (per square ft)
Electricity Cost	$0.0648	per kWhr
Efficiency Factor	90%	
Operating Hours Per Year	8760	hours
Office Building Power Costs	**$25,564**	**per year**
MISCELLANEOUS RECLAMATION AND RESTORATION COSTS		
Liner and Subsoil Removal Costs		
Equipment		
Trackhoe Cost	$ 76.38	per hour
Loader Cost	$ 47.18	per hour
Labor		
Operator	37.16	per hour
Productivity	40	cubic yards/hour
Total Removal	**$ 4.02**	**per cubic yard**

Cameco Resources
Highland Operations
2014-15 Surety Estimate

Total Restoration and Reclamation Cost Estimate			
I.	Groundwater Restoration (GWR-WF and GWR-SITE Sheets)		$52,677,886
II.	Well & Drill Hole Abandonment (WA Sheet)		$9,411,288
III.	Wellfield Buildings & Equipment Removal & Disposal (WF BLDGS Sheet)		$4,575,869
IV.	Wellfield & Satellite Surface Reclamation (WF REC Sheet)		$539,094
V.	Equipment Removal and Disposal (EQUIP Sheet)		$666,590
VI.	Building Demolition and Disposal (BLDGS Sheet)		$3,191,954
VII.	Miscellaneous Reclamation (MISC REC Sheet)		$7,180,262
	Subtotal Restoration and Reclamation Cost Estimate		$78,242,943
	Contractor Profit & Overhead (10%)[1]	See Master Costs	
	Contingency (15%)[2]	15%	$11,736,441
		TOTAL[3]	$89,979,400

[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.

Cameco Resources
Highland Uranium Project
2013-14 Surety Estimate

Ground Water Restoration -Wellfield	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	J-Extension
I. Ground Water Sweep Costs													
Estimated PV's	0	0	0	0	0	0	0	0.5	1	1	1	1	1
Total kgals for GWS	0	0	0	0	0	0	0	45,540	232,890	90,864	84,780	66,812	50,673
Bleed to Deep Disposal Well (%)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Groundwater Sweep Unit Cost ($/kgal)	$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 Ground Water Sweep Costs per Wellfield	$0	$0	$0	$0	$0	$0	$0	$30,127	$308,141	$120,224	$112,174	$88,400	$67,046
Total Ground Water Sweep Costs	**$726,112**												
II. Reverse Osmosis Costs													
Estimated PV's	0	0	0	0	0	0	0	3	4.5	4.5	4.5	4.5	4.5
Total Kgals for RO	0	0	0	0	0	0	0	273,240	1,048,005	408,888	381,510	300,654	228,029
Wellfield Pumping Cost	$0.20	$0.20	$0.20	$0.20	$0.20	$0.20	$0.20	$0.20	$0.20	$0.20	$0.20	$0.20	$0.20
Reverse Osmosis Unit Cost ($/kgal)	$0.62	$0.62	$0.62	$0.62	$0.62	$0.62	$0.62	$0.62	$0.62	$0.62	$0.62	$0.62	$0.62
Bleed to Deep Disposal Well (%)	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
Brine Volume for Disposal	0	0	0	0	0	0	0	54,648	209,601	81,778	76,302	60,131	45,606
DDW Disposal Cost($/kgal)	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13
Permeate Volume for Re-Use	0	0	0	0	0	0	0	218,592	838,404	327,110	305,208	240,523	182,423
Satellite Pumping Cost ($/kgal)	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72
Subtotal Reverse Osmosis Costs per Wellfield	$0	$0	$0	$0	$0	$0	$0	$441,288	$1,692,550	$660,363	$616,147	$485,562	$368,271
Total Reverse Osmosis Costs	**$4,264,181**												
III. Reverse Osmosis with Chemical Reductant Costs													
Estimated PV's	0	0	1.5	1	1	1	1	3	3.5	3.5	3.5	3.5	3.5
Total kgals for RO	0	0	127,233	19,691	0	32,309	19,233	273,240	815,115	318,024	296,730	233,842	177,356
Wellfield Pumping Cost	$0.20	$0.20	$0.20	$0.20	$0.20	$0.20	$0.20	$0.20	$0.20	$0.20	$0.20	$0.20	$0.20
Reverse Osmosis with Chemical Reductant Unit Cost ($/kgal)	$0.71	$0.71	$0.71	$0.71	$0.71	$0.71	$0.71	$0.71	$0.71	$0.71	$0.71	$0.71	$0.71
Bleed to Deep Disposal Well (%)	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
Brine Volume for Disposal (kgal)	0	0	25,447	3,938	0	6,462	3,847	54,648	163,023	63,605	59,346	46,768	35,471
DDW Disposal Cost($/kgal)	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13
Permeate Volume for Re-Use	0	0	101,786	15,753	0	25,847	15,386	218,592	652,092	254,419	237,384	187,074	141,884
Satellite Pumping Cost ($/kgal)	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72
Subtotal RO with Chemical Reductant Costs per Wellfield	$0	$0	$217,423	$33,649	$0	$55,212	$32,867	$466,929	$1,392,918	$543,459	$507,070	$399,603	$303,076
Total Reverse Osmosis with Chemical Reductant Costs	**$3,952,206**												
IV. Mechanical Integrity Testing (MIT) Costs													
Pre-Restoration, Restoration and Stability Period (yrs)	0	0	2	2	2	2	2	5	21	8	7	17	14
Number of Injection Wells	1	194	258	0	0	143	0	229	704	285	234	233	112
Number of MITs per Injection Well	0.0	0.0	0.4	0.4	0.4	0.4	0.4	1.0	4.2	1.6	1.4	3.4	2.8
MIT Costs per Injection Well	$133.34	$133.34	$133.34	$133.34	$133.34	$133.34	$133.34	$133.34	$133.34	$133.34	$133.34	$133.34	$133.34
Subtotal MIT Costs per Wellfield	$0	$0	$13,761	$0	$0	$7,627	$0	$30,535	$394,261	$60,803	$43,682	$105,632	$41,816
Total Wellfield MIT Costs	**$698,117**												
V. Wellfield Refurbishment Costs													
Well Replacement (#)	0	0	5	0	0	0	0	10	180	5	10	18	0
Replacement ($/well)	$14,763	$14,763	$14,763	$14,763	$14,763	$14,763	$14,763	$14,763	$14,763	$14,763	$14,763	$14,763	$14,763
Bellhole Refurbishment (#)	0	0	0	0	0	0	0	0	0	0	6	0	0
Refurbishment ($/bellhole)	$5,530	$5,530	$5,530	$5,530	$5,530	$5,530	$5,530	$5,530	$5,530	$5,530	$5,530	$5,530	$5,530
Header House Refurbishment (#)	0	0	0	0	0	0	0	0	26	0	0	0	0
Refurbishment ($/header house)	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000
Subtotal Refurbishment Cost per Wellfield	$0	$0	$73,815	$0	$0	$0	$0	$147,630	$2,917,340	$73,815	$180,810	$265,734	$0
Total Wellfield Refurbishment Cost	**$3,659,144**												
VI. Monitoring and Sampling Costs													
A Pre-Restoration Monitoring													
1 Excursion Monitoring (M, MO and MU wells, twice per month)													

Ground Water Restoration -Wellfield	**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**	**J-Extension**
# of Wells	0	0	0	0	0	0	0	0	90	72	29	42	20
Total # samples	0	0	0	0	0	0	0	0	15120	0	0	8064	3840
UCL Parameters ($/sample)	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00
Subtotal Pre-Restoration Monitoring Costs per Mine Unit	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$453,600.00	$0.00	$0.00	$241,920.00	$115,200.00
Total Pre-Restoration Monitoring Costs	$810,720.00												
B Restoration Monitoring													
1 Sampling Prior to Start-up (MP Wells)													
# of Wells	0	0	0	0	0	0	0	0	21	12	6	12	5
Modified Guideline 8 ($/sample)	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00
2 Restoration Progress Monitoring (MP Wells, every 2 months)													
# of Wells	0	0	32	0	11	9	5	29	21	12	6	12	5
Total # samples	0	0	192	0	66	54	30	696	1638	504	216	576	150
Restoration Progress Parameters ($/sample)	$50.00	$50.00	$50.00	$50.00	$50.00	$50.00	$50.00	$50.00	$50.00	$50.00	$50.00	$50.00	$50.00
3 Excursion Monitoring (M, MO and MU wells, every 2 months)													
# of Wells	0	0	71	0	0	22	16	51	90	72	29	42	20
Total # samples	0	0	426	0	0	132	96	1224	7020	3024	1044	2016	600
UCL Parameters ($/sample)	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00
Subtotal Restoration Monitoring Costs per Mine Unit	$0.00	$0.00	$22,380.00	$0.00	$3,300.00	$6,660.00	$4,380.00	$71,520.00	$297,729.00	$118,908.00	$43,614.00	$92,268.00	$26,745.00
Total Restoration Monitoring Costs	$660,759												
C Stability Monitoring													
1 Beginning of stability (MP wells)													
# of Wells	0	0	32	0	11	9	5	29	21	12	6	12	5
Modified Guideline 8 ($/sample)	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00
2 Quarterly sampling (MP wells)													
# of Wells	0	0	32	0	11	9	5	29	21	12	6	12	5
Total # samples	0	0	128	0	44	36	20	116	84	48	24	48	20
Modified Guideline 8 ($/sample)	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00	$249.00
3 Monitor Well Sampling (M wells, every 2 months)													
# of Wells	0	0	37	0	0	17	10	26	48	45	20	28	20
Total # samples	0	0	222	0	0	102	60	156	288	270	120	168	120
UCL Parameters ($/sample)	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00
Subtotal Stability Monitoring Costs per Mine Unit	$0.00	$0.00	$46,500.00	$0.00	$13,695.00	$14,265.00	$8,025.00	$40,785.00	$34,785.00	$23,040.00	$11,070.00	$19,980.00	$9,825.00
Total Stability Monitoring Costs	$212,145.00												
D Other Laboratory Costs													
Radon, Bioassay, etc	$0	$0	$26,400	$26,400	$26,400	$26,400	$26,400	$66,000	$277,200	$105,600	$92,400	$224,400	$184,800
Subtotal Monitoring and Sampling Costs per Mine Unit	$0	$0	$95,280	$26,400	$43,395	$47,325	$38,805	$178,305	$1,063,314	$247,548	$147,084	$578,568	$336,570
Total Monitoring and Sampling Costs	**$2,802,594**												
VII. Header House Heating Costs													
Number of Header Houses per Unit(s)	5	18	20	0	0	4	3	15	43	10	6	9	5
Pre-Restoration and Restoration Period (yrs)	0	0	1	1	1	1	1	4	20	7	6	16	13
Electrical Heating Costs ($/yr)	$1,050	$1,050	$1,050	$1,050	$1,050	$1,050	$1,050	$1,050	$1,050	$1,050	$1,050	$1,050	$1,050
Subtotal Header House Heating Cost per Wellfield	$0	$0	$20,995	$0	$0	$4,199	$3,149	$62,986	$902,794	$73,483	$37,791	$151,165	$68,234
Total Header House Heating Costs	**$1,324,796**												
TOTAL RESTORATION COST PER WELLFIELD	$0	$0	$421,274	$60,049	$43,395	$114,363	$74,821	$1,357,800	$8,671,318	$1,779,695	$1,644,758	$2,074,664	$1,185,013
TOTAL WELLFIELD RESTORATION COST	**$17,427,150**												

	Ground Water Restoration - Site Wide				**Deep Disposal Wells**		
I.	**Building Utility Costs**	**Satellite No.2**	**Selenium Plant**	**Satellite No.3**	**Morton 1-20**	**Vollman 33-27**	**SRHUP #9**
	Assumptions:						
	Electricity Unit Cost ($/yr)	$28,478	$40,857	$28,478	$4,588	$4,588	$4,588
	Propane ($/yr)	$506	$506	$43,188	$0	$0	$0
	Natural Gas ($/yr)	$9,044	$9,044	$0	$0	$0	$0
	Number of Years	7	18	14	18	18	18
	Subtotal Utility Cost per Building	$266,199	$907,332	$1,003,333	$82,587	$82,587	$82,587
	*Yrs for Satellite No. 2 assumes end of restoration for MU-I						
	*Yrs for Satellite No. 3 assumes end of restoration for MU-K-North						
	Total Building Utility Costs	**$2,424,625**					
II.	**Irrigation Maintenance and Monitoring**	**Irrigator No. 1A**	**Irrigator No. 2**				
	A. Phytoremediation Study						
	Phytoremediation Study, PPCU	$0	$40,000	*Based on two year contract (2013)			
	Phytoremediation Study, University of Wyoming	$0	$82,080	*Based on two year proposal (2012)			
	Subtotal Phytoremediation Studies	$0	$122,080				
	B. Harvesting Costs						
	Irrigation Area (acres)	55	106				
	Harvesting Costs ($/acre)	$250	$250				
	Restoration Period (yrs)	18		* Based on timeline to support Smith Ranch restoration activities			
	Subtotal Harvesting Costs per Irrigator	$247,500	$477,000				
	C. Irrigation Monitoring						
	# of Irrigation Fluid Samples/Year	6	6				
	$/sample	$245	$245				
	# of Vegetation Samples/Year	5	5				
	$/sample	$270	$270				
	# of Soil Samples/Year	30	34				
	$/sample	$255	$255				
	# of Soil Water Samples/Year	12	2				
	$/sample	$150	$150				
	Restoration Period (yrs)	18		* Based on timeline to support Smith Ranch restoration activities			
	Subtotal Monitoring Costs per Irrigator	$220,860	$212,220				
	Subtotal Monitoring and Harvesting Costs per Irrigator	$468,360	$811,300				
	Total Maintenance and Monitoring Costs	**$1,279,660**					
III.	**Selenium Plant Operation Costs**						
	Restoration Period (yrs)	18		* Based on timeline to support Smith Ranch restoration activities			
	Selenium Plant Operating Cost ($/yr)	$157,852					
	Total Selenium Plant Operating Cost	**$2,841,339**					
IV.	**Booster Pump Operation Costs**						
	Restoration Period (yrs)	20					

	Booster Pump Operating Cost ($/yr)	$37,641.37	
	Total Booster Pump Operating Cost	**$752,827**	
V.	**Infrastructure, Equipment Maintenance,**		
	Replacement and Repair Costs		
	Annual Maintenance Cost ($/yr)	$92,320	*Based on planned expenditures (2013)
	Restoration Period (yrs)	20	
	Total Cost	**$1,846,400**	
VI.	**Deep Disposal Well MIT Costs**		
	Five-year MIT Costs for Disposal Wells	$31,625.00	
	Number of DDWs	3	
	Number of MITs per DDW	3	* Based on timeline to support Smith Ranch restoration activities
	Total DDW MIT Cost	**$284,625**	
VII.	**Capital Costs**		
	*Estimates based on planned expenditures (2013)		
	Irrigator No. 1 Pivot Replacement	$906,000	
	SR-HUP Connecting Pipeline	$532,752	
	Total Capital Costs	**$1,438,752**	
VIII.	**Vehicle Operation Costs**		
	Number of Pickup Trucks (Gas)	10	
	Truck Cost ($/hr)	$20.67	
	Average Operating Time (hrs/yr)	1000	
	Restoration and Stability Period (yrs)	21	
	Total Vehicle Operation Cost	**$4,340,490**	
IX.	**Labor Costs**		
	Assumptions:		
	Number of Environmental Managers/RSOs	0.5	*Management positions split between Highland and Smith Ranch
	$/hr	$65.75	
	Number of Restoration Managers	0.5	*Management positions split between Highland and Smith Ranch
	$/hr	$57.18	
	Number of Environmental Techs/HPTs	2	
	$/hr	$35.74	
	Number of Operators/Laborers	7	
	$/hr	$37.16	
	Number of Maintenance Technicians	2	
	$/hr	$32.88	
	Hrs/yr	2080	
	Restoration and Stability Period (yrs)	21	
	Total Labor Cost	**$20,042,018**	
TOTAL SITE-WIDE RESTORATION COSTS		**$35,250,736**	

Cameco Resources
Highland Uranium Project
2013-14 Surety Estimate

Well and Drill Hole Abandonment	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	J-Extension	Other
I. Well Abandonment (Wellfields)														
A Sealing Costs				Inc in MU-C	Inc in MU-C		Inc in MU-D							
Total # of Wells per Wellfield	8	392	567	0	0	288	0	438	1470	534	411	410	193	3
Production, Injection and Perimeter Well Average Depth (ft)	500	450	550	550	550	600	600	550	650	500	650	540	540	650
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
Subtotal Sealing Costs per Wellfield	$11,000	$485,100	$857,588	$0	$0	$475,200	$0	$662,475	$2,627,625	$734,250	$734,663	$608,850	$286,605	$5,363
B Casing Removal and Diposal Costs														
Total # of Wells per Wellfield	8	392	567	0	0	288	0	438	1470	534	411	410	193	3
# of Previously Abandoned Wells Pending Release	54	118	180	0	0	86	0	271	330	50	40	20	0	0
Total # of Wells for Casing Removal and Disposal	62	510	747	0	0	374	0	709	1800	584	451	430	193	3
Remove and Dispose Casing ($/well)	$33	$33	$33	$33	$33	$33	$33	$33	$33	$33	$33	$33	$33	$33
Subtotal Casing Removal and Diposal Costs per Wellfield	$2,046	$16,830	$24,651	$0	$0	$12,342	$0	$23,397	$59,400	$19,272	$14,883	$14,190	$6,369	$99
Subtotal Well Abandonment Costs per Wellfield	$13,046	$501,930	$882,239	$0	$0	$487,542	$0	$685,872	$2,687,025	$753,522	$749,546	$623,040	$292,974	$5,462
Total Well Abandonment Costs	$7,682,198													
II. Removal of Contaminated Soil Around Wells														
# of Production and Injection Wells	1	327	464	0	0	234	0	379	1343	456	375	365	168	
Removal of Contaminated Soil Around Wells ($/well)	$83.69	$83.69	$83.69	$83.69	$83.69	$83.69	$83.69	$83.69	$83.69	$83.69	$83.69	$83.69	$83.69	
Subtotal Contaminated Soil Removal/Disposal Costs per Wellfield	$84	$27,366	$38,831	$0	$0	$19,583	$0	$31,717	$112,391	$38,161	$31,383	$30,546	$14,059	
Total Contaminated Soil Removal/Disposal Costs	$344,121													
III. Drill Hole Abandonment														
A Drill Hole Plug and Abandonment														
# of Drill Holes Pending Bond Release														
2009-10	89													
2010-11	133													
2011-12	195													
2012-13	95													
2013-14	2													
Total # of Drill Holes	514													
# of Projected Drill Holes														
2014-15	300													
Total # of Drill Holes	814													
% of Drill Holes Requiring Bentonite Top 100 ft	20%													
Total Footage Requiring Abandonment (ft)	16,280													
Hole Abandonment ($/ft)	$3.30													
Subtotal Plug and Abandonment Costs	$53,724													
Projected Drill Hole Abandonment, ave depth 800ft	$792,000													
B Incidental Costs														
Total # of Drill Holes	814													
Site Location ($/hole)	$11													
Capping ($/hole)	$11													
Small Site Grading and Seeding ($/site)	$55													
Subtotal Incidental Costs	$62,678													
Total Delineation Hole Abandonment	$908,402													
IV. Waste Disposal Well Abandonment	**Morton No. 1-20**	**Vollman No. 33-27**	**SRHUP # 9**											
A Well Sealing														
Total Depth of Well	9,206	14,412	9,500											
Sealing Cost Per Foot	$13.62	$13.62	$13.62											
*Sealing costs per foot includes surface reclamation costs														
Subtotal Plugging Costs per Well	$125,386	$196,291	$129,390											
B Pump Dismantling and Decontamination														
Number of Pumps	2	2	2											
Pump Dismantling and Disposal Cost	$2,810	$2,810	$2,810											
Subtotal Dismantling and Decon Costs per Well	$5,619.34	$5,619.34	$5,619.34											
C Tubing String Disposal (NRC-Licensed Facility)														
Length of Tubing String (ft)	8,498	8,869	8,820											
Diameter of Tubing String (inches)	2.875	2.875	2.875											
Volume of Tubing String (ft³)	383	400	397											
Transportation and Disposal Unit Cost ($/ft3)	$7.32	$7.32	$7.32											
Subtotal Tubing String Disposal Costs per Well	$2,804	$2,927	$2,911											
Subtotal Waste Disposal Well Abandonment Costs per Well	$133,809	$204,838	$137,920											
Total Waste Disposal Well Abandonment Costs	$476,567													
TOTAL WELL AND DRILL HOLE ABANDONMENT COSTS	$9,411,288													

Cameco Resources
Highland Uranium Project
2013-14 Surety Estimate

Wellfield Buildings and Equipment Removal and Disposal	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	J-Extension
I. Wellfield Piping				Inc in MU-C	Inc in MU-C								
Number of Header Houses per Wellfield	5	18	20	0	0	4	3	15	43	10	6	9	5
Approximate Length of Piping per Header House (ft)	13,800	13,800	13,800	13,800	13,800	13,800	13,800	13,800	13,800	13,800	13,800	13,800	13,800
*average 46 wells per with 300 ft pipeline/well)													
Approximate Total Length of Piping (ft)	69,000	248,400	276,000	0	0	55,200	41,400	207,000	593,400	138,000	82,800	124,200	69,000
A Removal and Loading													
Wellfield Piping Removal Unit Cost ($/ft of pipe)	$1.54	$1.54	$1.54	$1.54	$1.54	$1.54	$1.54	$1.54	$1.54	$1.54	$1.54	$1.54	$1.54
Subtotal Wellfield Piping Removal and Loading Costs	$106,426	$383,132	$425,702	$0	$0	$85,140	$63,855	$319,277	$915,260	$212,851	$127,711	$191,566	$106,426
B Transport and Disposal Costs (NRC-Licensed Facility)													
Average Diameter of Piping (inches)	2	2	2	2	2	2	2	2	2	2	2	2	2
Chipped Volume Reduction (ft3/ft)	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011
Chipped Volume per Wellfield (ft^3)	740	2663	2959	0	0	592	444	2219	6362	1480	888	1332	740
Volume for Disposal Assuming 10% Void Space (ft^3)	814	2930	3255	0	0	651	488	2441	6998	1628	977	1465	814
Transportation and Disposal Unit Cost ($/ft3)	$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	$4,697	$16,905	$18,781	$0	$0	$3,756	$2,816	$14,084	$40,377	$9,393	$5,637	$8,453	$4,697
Subtotal Wellfield Piping Costs per Wellfield	$111,123	$400,037	$444,483	$0	$0	$88,896	$66,671	$333,361	$955,637	$222,244	$133,348	$200,019	$111,123
Total Wellfield Piping Costs	$3,066,942												
II. Well Pumps and DownholeTubing													
Assumptions: Pump and tubing removal costs included under ground water restoration labor													
60% of production/injection wells contain pumps and/or tubing													
A Pump and Tubing Transportation and Disposal				Inc in MU-C	Inc in MU-C		Inc in MU-D						
Number of Production Wells	0	133	204	0	0	91	0	145	549	169	136	123	56
Number of Injection Wells	1	194	261	0	0	143	0	234	794	288	239	242	112
Number of Monitor Wells	7	64	85	0	0	50	0	59	113	74	34	45	25
1 Pump Volume													
Number of Production Wells with Pumps	0	133	203.5	0	0	91	0	145	549	168.5	136	123	56
Pump Volume (ft^3)	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43
Pump Volume per Wellfield (ft^3)	0.0	57.6	88.1	0.0	0.0	39.4	0.0	62.8	237.8	73.0	58.9	53.3	24.3
2 Tubing Volume													
Average Tubing Length per Well (ft)	475	425	525	525	525	575	575	525	625	475	625	515	515
*Average tubing length/wellfield based on average well depth minus 25 ft													
Number of Production Wells with Tubing	0	80	122	0	0	55	0	87	329	101	82	74	34
Number of Injection Wells with Tubing	1	116	156	0	0	86	0	140	476	173	143	145	67
Tubing Length per Wellfield (ft)	3,800	110,500	190,575	0	0	109,825	0	150,150	573,750	165,300	161,875	135,960	64,890
Diameter of Production Well Fiberglass Tubing (inches)	2	2	2	2	2	2	2	2	2	2	2	2	2
Diameter of Injection Well HDPE Tubing (inches)	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
Chipped Volume Reduction (ft^3/ft)	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011
Chipped Volume per Wellfield (ft^3)	41	1185	2043	0	0	1177	0	1610	6151	1772	1736	1458	696
Volume of Pump and Tubing (ft^3)	41	1243	2131	0	0	1216	0	1673	6389	1845	1795	1511	720
Volume for Disposal Assuming Void Space (ft^3)	45	1367	2344	0	0	1338	0	1840	7028	2029	1974	1662	792
Transportation and Disposal Unit Cost ($/ft3)	$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	$260	$7,887	$13,524	$0	$0	$7,720	$0	$10,616	$40,550	$11,707	$11,390	$9,589	$4,570
Total Pump and DownholeTubing Costs	$117,813												
III. Buried Trunkline (Includes $ for fiber optic cable removal)													
Assumptions		Inc in MU-A		Inc in MU-C	Inc in MU-C			Inc in MU-D					
Length of Trunkline Trench (ft)	6500	0	5900	0	0	12000	5500	0	11700	13200	10750	2500	2000
A Removal and Loading													
Main Pipeline Removal Unit Cost ($/ft of trench)	$3.08	$3.08	$3.08	$3.08	$3.08	$3.08	$3.08	$3.08	$3.08	$3.08	$3.08	$3.08	$3.08
Subtotal Trunkline Removal and Loading Costs	$20,051	$0	$18,200	$0	$0	$37,018	$16,966	$0	$36,092	$40,719	$33,162	$7,712	$6,170
B Transport and Disposal Costs (NRC-Licensed Facility)													
1 3" HDPE Trunkline													
Piping Length (ft)	6500	0	5900	0	0	12000	5500	0	11700	13200	10750	0	0
Chipped Volume per Lft (ft3/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
Chipped Volume (ft^3)	151	0	137	0	0	279	128	0	272	307	250	0	0
2. 6" HDPE Trunkline													
Piping Length (ft)	0	0	0	0	0	0	11000	0	0	0	3000	0	0
Chipped Volume per Lft (ft3/ft)	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083

Wellfield Buildings and Equipment Removal and Disposal	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	J-Extension
Chipped Volume (ft^3)	0	0	0	0	0	0	917	0	0	0	250	0	0
3 10" HDPE Trunkline													
Piping Length (ft)	13000	0	0	0	0	0	0	0	0	0	750	2000	1500
Chipped Volume per Lft (ft3/ft)	0.220	0.220	0.220	0.220	0.220	0.220	0.220	0.220	0.220	0.220	0.220	0.220	0.220
Chipped Volume (ft^3)	2854	0	0	0	0	0	0	0	0	0	165	439	329
4 12" HDPE Trunkline													
Piping Length (ft)	0	0	11800	0	0	24000	0	0	0	0	0	2000	1500
Chipped Volume per Lft (ft3/ft)	0.309	0.309	0.309	0.309	0.309	0.309	0.309	0.309	0.309	0.309	0.309	0.309	0.309
Chipped Volume (ft^3)	0	0	3644	0	0	7411	0	0	0	0	0	618	463
5 14" HDPE Trunkline													
Piping Length (ft)	0	0	0	0	0	0	0	0	23400	26400	8500	0	0
Chipped Volume per Lft (ft3/ft)	0.372	0.372	0.372	0.372	0.372	0.372	0.372	0.372	0.372	0.372	0.372	0.372	0.372
Chipped Volume (ft^3)	0	0	0	0	0	0	0	0	8712	9829	3165	0	0
6 16" HDPE Trunkline													
Piping Length (ft)	0	0	0	0	0	0	0	0	23400	26400	8500	0	0
Chipped Volume per Lft (ft3/ft)	0.486	0.486	0.486	0.486	0.486	0.486	0.486	0.486	0.486	0.486	0.486	0.486	0.486
Chipped Volume (ft^3)	0	0	0	0	0	0	0	0	11381	12841	4134	0	0
Total Trunkline Chipped Volume (ft^3)	3006	0	3781	0	0	7691	1045	0	20366	22977	7964	1057	793
Volume for Disposal Assuming 10% Void Space (ft^3)	3306	0	4159	0	0	8460	1150	0	22403	25275	8761	1162	872
Transportation and Disposal Unit Cost ($/ft3)	$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	$19,075	$0	$23,996	$0	$0	$48,812	$6,635	$0	$129,260	$145,831	$50,549	$6,704	$5,031
Subtotal Trunkline Decommissioning Costs per Wellfield	$39,126	$0	$42,196	$0	$0	$85,830	$23,601	$0	$165,352	$186,550	$83,711	$14,416	$11,201
Total Trunkline Decommissioning Costs	$651,983												
IV. **Wellhead Cover Removal**				Inc in MU-C	Inc in MU-C								
Number of Production and Injection Wells	1	327	459	0	0	234	0	369	1163	451	365	347	168
Well Head Removal, Decontamination, and Disposal Cost	$11.89	$11.89	$11.89	$11.89	$11.89	$11.89	$11.89	$11.89	$11.89	$11.89	$11.89	$11.89	$11.89
Subtotal Wellhead Removal Costs	$12	$3,888	$5,457	$0	$0	$2,782	$0	$4,387	$13,827	$5,362	$4,340	$4,126	$1,997
Total Wellhead Cover Removal Costs	$46,178												
IV. **Header Houses** (Includes Booster Stations)				Inc in MU-C	Inc in MU-C								
Total Quantity	5	18	21	0	0	4	3	15	43	11	6	9	5
Average Header House Volume (ft^3)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
A Removal													
Total Volume (ft^3)	8000	28800	33600	0	0	6400	4800	24000	68800	17600	9600	14400	8000
Demolition Cost	$0.316	$0.316	$0.316	$0.316	$0.316	$0.316	$0.316	$0.316	$0.316	$0.316	$0.316	$0.316	$0.316
Subtotal Building Demolition Costs	$2,526	$9,092	$10,608	$0	$0	$2,020	$1,515	$7,577	$21,720	$5,556	$3,031	$4,546	$2,526
B Survey and Decontamination													
Cost per Header House	$634	$634	$634	$634	$634	$634	$634	$634	$634	$634	$634	$634	$634
Subtotal Survey and Decontamination Costs	$3,172	$11,418	$13,321	$0	$0	$2,537	$1,903	$9,515	$27,277	$6,978	$3,806	$5,709	$3,172
C Disposal													
Total Volume for Disposal - Incl. 33% Factor (cy)	98	352	411	0	0	78	59	293	841	215	117	176	98
Volume for Disposal Assuming Void Space (cy)	108	387	452	0	0	86	65	323	925	237	129	194	108
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
Subtotal County Landfill Disposal Costs	$4,554	$16,319	$19,059	$0	$0	$3,626	$2,741	$13,620	$39,004	$9,994	$5,440	$8,180	$4,554
Headerhouse Soil Removal Volume (assumes 10'Wx20'Lx2.5'D)	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
Subtotal 11(e)2 Disposal Cost	$14,512	$52,243	$60,951	$0	$0	$11,610	$8,707	$43,536	$124,804	$31,926	$17,414	$26,122	$14,512
Subtotal Header House Removal and Disposal Costs per Wellfield	$24,764	$89,072	$103,939	$0	$0	$19,793	$14,866	$74,248	$212,805	$54,454	$29,691	$44,557	$24,764
Total Header House Removal and Disposal Costs	$692,953												
TOTAL REMOVAL AND DISPOSAL COSTS PER WELLFIELD	$175,285	$500,884	$609,599	$0	$0	$205,021	$105,138	$422,612	$1,388,171	$480,317	$262,480	$272,707	$153,655
TOTAL WELLFIELD BUILDINGS AND EQUIPMENT REMOVAL	$4,575,869												

Cameco Resources
Highland Uranium Project
2013-14 Surety Estimate

Wellfield and Satellite Surface Reclamation	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	J-Extension
I. Wellfield Pattern Area Reclamation										
Pattern Area (acres)	37.9	63.9	15.0	44.6	157.6	56.1	9.3	52.7	52.7	40.0
*Assumes wellfield pattern area X 2										
Discing/Seeding Unit Cost ($/acre)	$548	$548	$548	$548	$548	$548	$548	$548	$548	$548
Subtotal Pattern Area Reclamation Costs per Wellfield	$20.746	$35.007	$8.215	$24.437	$86.302	$30.746	$5.071	$28.840	$28.884	$21.907
Total Wellfield Pattern Area Reclamation Costs	**$290,155**									
II. Wellfield Road Reclamation										
Road Construction										
Length of Wellfield Roads (1000 ft)	12.8	11.3	2.4	13.3	18	15.7	5	5	5	5
Wellfield Road Reclamation Unit Cost ($/1000 ft)	$1.436	$1.436	$1.436	$1.436	$1.436	$1.436	$1.436	$1.436	$1.436	$1.436
Subtotal Wellfield Road Reclamation Costs	$18.386	$16.231	$3.447	$19.104	$25.855	$22.551	$7.182	$7.182	$7.182	$7.182
Total Wellfield Road Reclamation Costs	**$134,302**									
III. Laydown area reclamation										
Area of Disturbance (acres)	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
Surface Grade Level Ground										
Average Length of Topsoil Haul (ft)	500	500	500	500	500	500	500	500	500	500
A Ripping Overburden with Dozer										
Ripping Cost (per acre)	$1.381	$1.381	$1.381	$1.381	$1.381	$1.381	$1.381	$1.381	$1.381	$1.381
Subtotal Ripping Costs	$1.381	$1.381	$1.381	$1.381	$1.381	$1.381	$1.381	$1.381	$1.381	$1.381
B Topsoil Application with Scraper										
Volume of Topsoil Removed (cy)	1081	1081	1081	1081	1081	1081	1081	1081	1081	1081
Moving Materials (0% Grade)	$1.21	$1.21	$1.21	$1.21	$1.21	$1.21	$1.21	$1.21	$1.21	$1.21
Subtotal Topsoil Application Costs	$1.306	$1.306	$1.306	$1.306	$1.306	$1.306	$1.306	$1.306	$1.306	$1.306
C Discing and Seeding										
Discing/Seeding Unit Cost ($/acre)	$548	$548	$548	$548	$548	$548	$548	$548	$548	$548
Subtotal Discing/Seeding Costs	$548	$548	$548	$548	$548	$548	$548	$548	$548	$548
Subtotal Surface Reclamation Costs per WF laydown area	$3.235	$3.235	$3.235	$3.235	$3.235	$3.235	$3.235	$3.235	$3.235	$3.235
Total Wellfield Laydown Area Reclamation Costs	**$32,350**									
IV. Fence Removal										
Length of Fencing (ft)	13.720	18.694	14.060	18.426	29.540	9.680	0	9.977	10.000	0
Fence Removal Costs	$0.42	$0.42	$0.42	$0.42	$0.42	$0.42	$0.42	$0.42	$0.42	$0.42
Subtotal Fence Removal Costs per Wellfield	$5.735	$7.814	$5.877	$7.702	$12.348	$4.046	$0	$4.170	$4.180	$0
Total Fence Removal Costs	**$51,873**									
SUBTOTAL SURFACE RECLAMATION COSTS PER WELLFIELD	**$48,102**	**$62,287**	**$20,774**	**$54,478**	**$127,740**	**$60,578**	**$15,488**	**$43,427**	**$43,481**	**$32,324**
TOTAL WELLFIELD SURFACE RECLAMATION COSTS	**$508,680**									
V. Satellite Area Reclamation	**Satellite No.1**	**Satellite No.2**	**Satellite No.3**	**Se Plant**						
Assumptions:										
Area of Disturbance (acres)	1	3	2.5	2						
Average Depth of Stripped Topsoil (ft)	1	0.67	0.67	0.67						
Surface Grade Level Ground										
Average Length of Topsoil Haul (ft)	1000	500	500	500						
A Ripping Overburden with Dozer										
Ripping Cost (per acre)	$1,381.27	$1,381.27	$1,381.27	$1,381.27						
Subtotal Ripping Costs	$1,381.00	$4.144.00	$3.453	$2.763						
B Topsoil Application with Scraper										
Volume of Topsoil Removed (cy)	1613	3243	2702	2162						
Moving Materials (0% Grade)	$1.44	$1.44	$1.44	$1.44						
Subtotal Topsoil Application Costs	$2.327	$4.676	$3.897	$3.118						
C Discing and Seeding										
Discing/Seeding Unit Cost ($/acre)	$548	$548	$548	$548						
Subtotal Discing/Seeding Costs	$548	$1.643	$1.369	$1.095						
Subtotal Surface Reclamation Costs per Satellite	$4.256	$10.463	$8.719	$6.976						
Total Satellite Building Area Reclamation Costs	**$30,414**									
TOTAL WELLFIELD & SATELLITE SURFACE RECLAMATION COSTS	**$539,094**									

Cameco Resources
Highland Uranium Project
2013-14 Surety Estimate

Equipment Removal and Loading	Central Plant	Satellite No. 1	Satellite No. 2	Satellite No. 3	Selenium Plant
I. Removal and Loading Costs					
A. Tankage					
Number of Tanks	39	8	14	18	7
Volume of Tank Construction Material (ft^3)	1629	162	290	397	290
Tank Removal Cost	$123.96	$123.96	$123.96	$123.96	$123.96
Subtotal Tankage Removal and Loading Costs	$201,939	$20,082	$35,950	$49,214	$35,950
B. PVC/Steel Pipe					
PVC Pipe Footage	12996	1000	4000	4000	4000
Average PVC Pipe Diameter (inches)	3	3	3	3	3
Shredded PVC Pipe Volume Reduction (ft3/ft)	0.023	0.023	0.023	0.023	0.023
Volume of Shredded PVC Pipe (ft^3)	303	23	93	93	93
Steel Pipe Footage	645	0	0	0	0
Average Steel Pipe Diameter (inches)	2	0	0	0	0
Volume (ft^3)	15	0	0	0	0
Pipe Removal Cost	$8.04	$8.04	$8.04	$8.04	$8.04
Subtotal PVC/Steel Pipe Labor & Equipment Costs	$109,707	$8,042	$32,170	$32,170	$32,170
C. Pumps					
Number of Pumps	52	10	14	13	14
Average Volume (ft^3/pump)	4.93	4.93	4.93	4.93	4.93
Volume of Pumps (ft^3)	256.36	49.3	69.02	64.09	69.02
Pump Removal Cost	$95.99	$95.99	$95.99	$95.99	$95.99
Subtotal Pump Removal and Loading Costs	$24,608	$4,732	$6,625	$6,152	$6,625
D. Dryer					
Dryer Volume (ft^3)	885	0	0	0	0
Dryer Removal Cost	$14.13	$14.13	$14.13	$14.13	$14.13
Subtotal Dryer Removal Costs	$12,505	$0	$0	$0	$0
E. RO and Degasser Units					
Number of RO Units (500 gpm)					
Current	0	0	2.5	0	0
Planned	0	0	0	0	0
Number of Degasser Units					
Current	0	0	0	0	1
Planned	0	0	0	0	0
RO/Degasser Average Volume (ft3/Unit)	250	250	250	250	250
RO and Degasser Removal Cost	$4.69	$4.69	$4.69	$4.69	$4.69
Subtotal RO Unit Removal and Loading Costs	$0	$0	$2,929	$0	$1,172
Subtotal Equipment Removal and Loading Costs per Facility	$348,759	$32,857	$77,674	$87,536	$75,917
Total Equipment Removal and Loading Costs	**$622,743**				

Cameco Resources
Highland Uranium Project
2013-14 Surety Estimate

Equipment Removal and Loading	Central Plant	Satellite No. 1	Satellite No. 2	Satellite No. 3	Selenium Plant
II. Transportation and Disposal Costs (NRC-Licensed Facility)					
A. Tankage					
Volume of Tank Construction Material (ft^3)	1629	162	290	397	290
Volume for Disposal Assuming Void Space (ft^3)	1792	178	319	437	319
Transportation and Disposal Unit Cost ($/ft3)	$7.32	$7.32	$7.32	$7.32	$7.32
Subtotal Tankage Transportation and Disposal Costs	$13,124	$1,304	$2,336	$3,200	$2,336
B. PVC / Steel Pipe					
Volume of Shredded PVC Pipe (ft^3)	303	23	93	93	93
Volume for Disposal Assuming Void Space (ft^3)	333	25	102	102	102
Volume of Steel Pipe (ft^3)	15	0	0	0	0
Volume for Disposal Assuming Void Space (ft^3)	17	0	0	0	0
Transportation and Disposal Unit Cost ($/ft3)	$5.77	$5.77	$5.77	$5.77	$5.77
Subtotal PVC Pipe Transportation and Disposal Costs	$2,019	$144	$589	$589	$589
C. Pumps					
Volume of Pumps (ft^3)	256.36	49.3	69.02	64.09	69.02
Volume for Disposal Assuming Void Space (ft^3)	282	54	76	70	76
Transportation and Disposal Unit Cost ($/ft3)	$7.32	$7.32	$7.32	$7.32	$7.32
Subtotal Pump Transportation and Disposal Costs	$2,065	$395	$557	$513	$557
D. Dryer					
Dryer Volume (ft^3)	885	0	0	0	0
Volume for Disposal Assuming Dryer Remains Intact (ft^3)	885	0	0	0	0
Transportation and Disposal Unit Cost ($/ft3)	$7.32	$7.32	$7.32	$7.32	$7.32
Subotal Dryer Transportation and Disposal Costs	$6,481	$0	$0	$0	$0
E. RO/Degasser Units					
Volume of RO/Degasser Units (ft^3)	0	0	625	0	250
Volume for Disposal Assuming Volume Reduction (ft^3)	0	0	687.5	0	275
Transportation and Disposal Unit Costs	$7.32	$7.32	$7.32	$7.32	$7.32
Subtotal RO Unit Transportation and Disposal Costs	$0	$0	$5,035	$0	$2,014
Subtotal Equipment Transportation and Disposal Costs per Facility	$23,689	$1,843	$8,517	$4,302	$5,496
Total Equipment Transportation and Disposal Costs	**$43,847**				
III. Health and Safety Costs					
Radiation Safety Equipment — Accounted for on GW REST					
Total Health and Safety Costs					
SUBTOTAL EQUIPMENT REMOVAL AND DISPOSAL COSTS PER FACILITY	$372,448	$34,700	$86,191	$91,838	$81,413
TOTAL EQUIPMENT REMOVAL AND DISPOSAL COSTS	**$666,590**				

Cameco Resources
Highland Uranium Project
2013-14 Surety Estimate

Building Demolition and Disposal	Central Plant	Dryer Building	Satellite No. 1	Satellite No. 2	Satellite No. 3	Sat. No. 3 Fab Shop	Yellowcake Warehouse	South Warehouse	Suspended Walkway	Changehouse and Lab	Process/ Fire Water	Potable Water Bldg
I. Decontamination Costs												
A. Wall Decontamination												
Area to be Decontaminated (ft^2)	131,000	20,000	0	0	0	0	0	0	0	0	0	0
HCl Acid Wash, including labor ($/ft2)	$0.88	$0.88	$0.88	$0.88	$0.88	$0.88	$0.88	$0.88	$0.88	$0.88	$0.88	$0.88
Subtotal Wall Decontamination Costs	$115,322	$17,606	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
B. Concrete Floor Decontamination												
Area to be Decontaminated (ft^2)	17,820	0	6,000	9,600	9,600	0	0	0	0	0	0	0
HCl Acid Wash, including labor ($/ft2)	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54
Subtotal Concrete Floor Decontamination Costs	$9,551	$0	$3,216	$5,145	$5,145	$0	$0	$0	$0	$0	$0	$0
C. Deep Well Injection Costs												
Total kgals for Injection (1 gal used per ft2)	148.82	20	6	9.6	9.6	0	0	0	0	0	0	0
Deep Well Injection Unit Cost ($/kgals)	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13
Subtotal Deep Well Injection Costs	$168	$23	$7	$11	$11	$0	$0	$0	$0	$0	$0	$0
Subtotal Decontamination Costs per Building	$125,041	$17,629	$3,223	$5,156	$5,156	$0	$0	$0	$0	$0	$0	$0
Total Decontamination Costs	**$166,914**											
II. Demolition Costs												
A. Building												
Height of Building (ft)	24	24	24	25	25	25	14	19	0	14	21	35
Volume of Building (ft^3)	794,000	30,720	192,000	320,000	320,000	37,560	91,000	333,000	5,600	73000	16,500	6,300
Demolition Cost	$0.316	$0.316	$0.316	$0.316	$0.316	$0.316	$0.316	$0.316	$0.316	$0.316	$0.316	$0.316
Subtotal Building Demolition Costs	$250,666	$9,698	$60,614	$101,024	$101,024	$11,858	$28,729	$105,128	$1,768	$23,046	$5,209	$1,989
B. Concrete Floor												
Area of Concrete Floor (ft^2)	23,760	500	8,000	12800	12800	0	6500	18000	0	5400	800	180
Demolition Cost	$6.11	$6.11	$6.11	$6.11	$6.11	$6.11	$6.11	$6.11	$6.11	$6.11	$6.11	$6.11
Subtotal Concrete Floor Demolition Costs	$145,055	$3,053	$48,840	$78,144	$78,144	$0	$39,683	$109,890	$0	$32,967	$4,884	$1,099
C. Concrete Footing												
Length of Concrete Footing (ft)	617	89	358	453	453	0	322	537	0	294	113	54
Demolition Cost	$22.51	$22.51	$22.51	$22.51	$22.51	$22.51	$22.51	$22.51	$22.51	$22.51	$22.51	$22.51
Subtotal Concrete Footing Demolition Costs	$13,877	$2,013	$8,052	$10,185	$10,185	$0	$7,258	$12,078	$0	$6,615	$2,546	$1,208
Subtotal Demolition Costs per Building	$409,598	$14,764	$117,506	$189,353	$189,353	$11,858	$75,670	$227,096	$1,768	$62,628	$12,639	$4,296
Total Demolition Costs	**$1,608,482**											
III. Disposal Costs												
A. Building												
Volume of Building (cy)	29407	1138	7111	11852	11852	1391	3370	12333	207	2704	611	233
Off-Site County Landfill												
Percentage (%)	100	100	100	100	100	100	100	100	100	100	100	100
Total Volume for Disposal - Incl. 33% Factor (cy)	9704	375	2347	3911	3911	459	1112	4070	68	892	202	77
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
Subtotal County Facility Off-Site Disposal Costs	$409,204	$15,832	$98,951	$164,919	$164,919	$19,357	$46,899	$171,618	$2,886	$37,622	$8,504	$3,247
B. Concrete Floor												
Area of Concrete Floor (ft^2)	23760	500	8000	12800	12800	1500	6500	18000	1186	3000	800	180
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
Volume of Concrete Floor (ft^3)	17820	375	6000	9600	9600	1125	4875	13500	889.5	2250	600	135
Volume of Concrete Floor (cy)	660	14	222	356	356	42	181	500	33	83	22	5
1. On-Site Concrete Disposal												
Percentage (%)	75	75	75	100	100	100	100	100	100	100	100	100
Volume for Disposal (cy)	495	10	167	356	356	42	181	500	33	83	633	5

Cameco Resources
Highland Uranium Project
2013-14 Surety Estimate

Building Demolition and Disposal	Central Plant	Dryer Building	Satellite No. 1	Satellite No. 2	Satellite No. 3	Sat. No. 3 Fab Shop	Yellowcake Warehouse	South Warehouse	Suspended Walkway	Changehouse and Lab	Process/ Fire Water	Potable Water Bldg
Concrete Disposal On Site (cy)	$9.50	$9.50	$9.50	$9.50	$9.50	$9.50	$9.50	$9.50	$9.50	$9.50	$9.50	$9.50
Subtotal County Facility Off-Site Disposal Costs	$4,704	$99	$1,584	$3,379	$3,379	$396	$1,716	$4,752	$313	$792	$6,019	$48
2. NRC-Licensed Facility												
Percentage (%)	25	25	25	0	0	0	0	0	0	0	0	0
Volume for Disposal (ft^3)	4455	94	1500	0	0	0	0	0	0	0	0	0
Transportation and Disposal Unit Cost ($/$ft^3$)	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32
Subtotal NRC-Licensed Facility Disposal Costs	$32,626	$687	$10,985	$0	$0	$0	$0	$0	$0	$0	$0	$0
Subtotal Concrete Floor Disposal Costs	$37,330	$786	$12,569	$3,379	$3,379	$396	$1,716	$4,752	$313	$792	$6,019	$48
C. Concrete Footing												
Length of Concrete Footing (ft)	617	89	358	453	453	0	322	537	124	294	113	54
Average Depth of Concrete Footing (ft)	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
Volume of Concrete Footing (ft^3)	2466	358	1431	1810	1810	0	1290	2147	496	1176	453	215
Volume of Concrete Footing (cy)	91	13	53	67	67	0	48	80	18	44	17	8
Concrete Disposal On Site (cy)	$9.50	$9.50	$9.50	$9.50	$9.50	$9.50	$9.50	$9.50	$9.50	$9.50	$9.50	$9.50
Subtotal Concrete Footing Disposal Costs	$868	$126	$504	$637	$637	$0	$454	$756	$175	$414	$159	$76
Subtotal Disposal Costs per Building	$447,402	$16,744	$112,024	$168,935	$168,935	$19,753	$49,069	$177,126	$3,374	$38,828	$14,682	$3,371
Total Disposal Costs	**$1,416,558**											
IV. Health and Safety Costs Accounted for on GW REST												
SUBTOTAL BUILDING DEMOLITION AND DISPOSAL COSTS	$982,041	$49,137	$232,753	$363,444	$363,444	$31,611	$124,739	$404,222	$5,142	$101,456	$27,321	$7,667
TOTAL BUILDING DEMOLITION AND DISPOSAL COSTS	**$3,191,954**											

Cameco Resources
Highland Uranium Project
2013-14 Surety Estimate

Building Demolition and Disposal	Potable Water Tank Slab	Central Plant Tank Slabs	Selenium Plant	SRHUP #9 DDW	Vollman 33-27 DDW	Morton 1-20 DDW
I. Decontamination Costs						
A. Wall Decontamination						
Area to be Decontaminated (ft^2)	0	0	4,000	0	0	0
HCl Acid Wash, including labor ($/ft2)	$0.88	$0.88	$0.88	$0.88	$0.88	$0.88
Subtotal Wall Decontamination Costs	$0	$0	$3,521	$0	$0	$0
B. Concrete Floor Decontamination						
Area to be Decontaminated (ft^2)	0	0	9,600	1260	1260	1260
HCl Acid Wash, including labor ($/ft2)	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54
Subtotal Concrete Floor Decontamination Costs	$0	$0	$5,145	$675	$675	$675
C. Deep Well Injection Costs						
Total kgals for Injection (1 gal used per ft2)	0	0	13.6	1.26	1.26	1.26
Deep Well Injection Unit Cost ($/kgals)	$1.13	$1.13	$1.13	$1.13	$1.13	$1.13
Subtotal Deep Well Injection Costs	$0	$0	$15	$1	$1	$1
Subtotal Decontamination Costs per Building	$0	$0	$8,681	$676	$676	$676
Total Decontamination Costs						
II. Demolition Costs						
A. Building						
Height of Building (ft)	0	0	25	12	12	12
Volume of Building (ft^3)	0	0	320,000	15120	15120	15120
Demolition Cost	$0.316	$0.316	$0.316	$0.316	$0.316	$0.316
Subtotal Building Demolition Costs	$0	$0	$101,024	$4,773	$4,773	$4,773
B. Concrete Floor						
Area of Concrete Floor (ft^2)	1256	7854	12800	1260	1260	1260
Demolition Cost	$6.11	$6.11	$6.11	$6.11	$6.11	$6.11
Subtotal Concrete Floor Demolition Costs	$7,668	$47,949	$78,144	$7,692	$7,692	$7,692
C. Concrete Footing						
Length of Concrete Footing (ft)	0	0	453	142	142	142
Demolition Cost	$22.51	$22.51	$22.51	$22.51	$22.51	$22.51
Subtotal Concrete Footing Demolition Costs	$0	$0	$10,185	$3,196	$3,196	$3,196
Subtotal Demolition Costs per Building	$7,668	$47,949	$189,353	$15,661	$15,661	$15,661
Total Demolition Costs						
III. Disposal Costs						
A. Building						
Volume of Building (cy)	0	0	11852	560	560	560
Off-Site County Landfill						
Percentage (%)	100	100	100	100	100	100
Total Volume for Disposal - Incl. 33% Factor (cy)	0	0	3911	185	185	185
Disposal Cost, Landfill (cy)	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17
Subtotal County Facility Off-Site Disposal Costs	$0	$0	$164,919	$7,792	$7,792	$7,792
B. Concrete Floor						
Area of Concrete Floor (ft^2)	1256	7854	12800	1260	1260	1260
Average Thickness of Concrete Floor (ft)	0.75	0.75	0.75	0.75	0.75	0.75
Volume of Concrete Floor (ft^3)	942	5890.5	9600	945	945	945
Volume of Concrete Floor (cy)	35	218	356	35	35	35
1. On-Site Concrete Disposal						
Percentage (%)	100	100	100	100	100	100
Volume for Disposal (cy)	35	218	356	35	35	35

Building Demolition and Disposal	**Potable Water Tank Slab**	**Central Plant Tank Slabs**	**Selenium Plant**	**SRHUP #9 DDW**	**Vollman 33-27 DDW**	**Morton 1-20 DDW**
Concrete Disposal On Site (cy)	$9.50	$9.50	$9.50	$9.50	$9.50	$9.50
Subtotal County Facility Off-Site Disposal Costs	$332	$2,073	$3,379	$333	$333	$333
2. NRC-Licensed Facility						
Percentage (%)	0	0	0	0	0	0
Volume for Disposal (ft^3)	0	0	0	0	0	0
Transportation and Disposal Unit Cost ($/$ft^3$)	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32
Subtotal NRC-Licensed Facility Disposal Costs	$0	$0	$0	$0	$0	$0
Subtotal Concrete Floor Disposal Costs	$332	$2,073	$3,379	$333	$333	$333
C. Concrete Footing						
Length of Concrete Footing (ft)	0	0	453	142	142	142
Average Depth of Concrete Footing (ft)	4	4	4	4	4	4
Average Width of Concrete Footing (ft)	1	1	1	1	1	1
Volume of Concrete Footing (ft^3)	0	0	1810	568	568	568
Volume of Concrete Footing (cy)	0	0	67	21	21	21
Concrete Disposal On Site (cy)	$9.50	$9.50	$9.50	$9.50	$9.50	$9.50
Subtotal Concrete Footing Disposal Costs	$0	$0	$637	$200	$200	$200
Subtotal Disposal Costs per Building	$332	$2,073	$168,935	$8,325	$8,325	$8,325
Total Disposal Costs						
IV. Health and Safety Costs — Accounted for on GW REST						
SUBTOTAL BUILDING DEMOLITION AND DISPOSAL COSTS	$8,000	$50,022	$366,969	$24,662	$24,662	$24,662
TOTAL BUILDING DEMOLITION AND DISPOSAL COSTS						

			CPP/Office Area	Sat No. 1	Sat No. 3	Connecting Road	Sat No. 2 to Rancher Rd
Miscellaneous Reclamation							
I.	**CPF/Office Area Reclamation**						
		Concrete Pad= 0.3 acres					
		Total Area = 10 acres					
	A.	Asphalt					
		Area of Asphalt (acres)	3.4				
		Ripping Cost (per acre)	$958.14				
		Average Thickness (ft)	0.50				
		Moving Materials (0% Grade)	$1.208				
		Volume of Asphalt (cy)	2,743				
		Disposal Cost	$42.17				
		Subtotal Asphalt Ripping and Disposal Costs	$130,487				
	B.	Ripping Overburden with Dozer					
		Overburden Surface Area (acres)	10.6				
		Ripping Cost (per acre)	$1,381.27				
		Subtotal Ripping Overburden Costs	$14,600				
	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)	$1.65				
		Subtotal Topsoil Application Costs	$4,001				
	D	Discing/Seeding					
		Surface Area (acres)	13				
		Discing/Seeding Unit Cost ($/acre)	$548				
		Subtotal Discing/Seeding Costs	$7,120				
Total CPP/Office/Yard Area Reclamation			**$156,208**				
II.	**Access Road Reclamation (includes culverts)**		**CPP/Office Area**	**Sat No. 1**	**Sat No. 3**	**Connecting Road**	**Sat No. 2 to Rancher Rd**
	A.	Assumptions					
		Surface grade	5%	0%	0%	0%	0%
		Length of Road (ft)	13200	15840	5280	10560	2640
		Width of Road (ft)	25	30	30	30	10
		Area of road (acres)	7.6	10.9	3.6	7.3	0.6
	B	Ripping and Hauling Asphalt					
		Assumptions					
		Average Haul Distance (feet)	5500	0	0	0	0.0
		Average Thickness of Asphalt (ft)	0.5	0.5	0.5	0.5	0.5
		Ripping Cost (per acre)	$958.14	$958.14	$958.14	$958.14	$958.14
		Volume of Asphalt (cy)	6111	8800	2933	5867	489
		Moving Materials (0% Grade)	$1.65	$1.65	$1.65	$1.65	$1.65
		Subtotal Ripping and Hauling Asphalt	$17,362.17	$25,001.52	$8,333.84	$16,667.68	$1,388.97
	C	Gravel Road Base Removal					
		Average haul distance (ft)	0	1000	1000	1000	0
		Gravel Road Base Width (ft)	0	14	14	14	0
		Gravel Road Base Area (acres)	0.00	5.09	1.70	3.39	0.00
		Average Road Base Depth (ft)	0	0.5	0.5	0.5	0
		Volume of Road Base (cy)	0	4107	1369	2738	0
		Moving Materials (0% Grade)	$1.44	$1.44	$1.44	$1.44	$1.44
		Subtotal Gravel Road Base Removal Costs	$0	$5,922	$1,974	$3,948	$0
	D.	Ripping Overburden with Dozer					
		Overburden Surface Area (acres)	0.0	10.9	3.6	7.3	0.6
		Ripping Cost (per acre)	$1,381.27	$1,381.27	$1,381.27	$1,381.27	$1,381.27
		Subtotal Ripping Overburden Costs	$0	$15,068	$5,023	$10,046	$837
	E.	Topsoil Application					
		Average haul distance (ft)	1500	5000	1500	1500	1500

Miscellaneous Reclamation										
	Topsoil Surface Area (ft^2)	330000	475200	158400	316800	26400				
	Depth of Topsoil (ft)	0	0	0	0	0				
	Volume of Topsoil (cy)	0	0	0	0	0				
	Moving Materials (0% Grade)	$1.44	$1.44	$1.44	$1.44	$1.44				
	Subtotal Topsoil Application Costs	$0	$0	$0	$0	$0				
F.	Discing/Seeding									
	Surface Area (acres)	7.6	10.9	3.6	7.3	0.6				
	Discing/Seeding Unit Cost ($/acre)	$548	$548	$548	$548	$548				
	Subtotal Discing/Seeding Costs	$4,149	$5,975	$1,992	$3,983	$332				
	Multiplier for Projected Additions	0	0	0	0	0				
	Subtotal Reclamation Costs per Access Road	$21,511	$51,967	$17,323	$34,645	$2,558				
Total Access Road Reclamation Costs		$128,003								
III.	**Waste Water Pipeline Reclamation**	**SAT2 to SAT1 / Morton 1-20 WW Pipeline**	**SAT3 to SAT2 PSR**	**H-WF Rest. Bypass**	**Vollman WW Pipeline**	**SRHUP 9 WW Pipeline**	**SAT3 to SAT2**	**HUP to SR DDW Pipeline**	**Pipeline to Irrigator 1**	**SAT2 to PSR2**
	Length of Trench (ft)	24000	22000	2200	13000	4000	10950	9700	24000	5600
A.	Removal and Loading									
	Main Pipeline Removal Unit Cost ($/ft of trench)	$3.08	$3.08	$3.08	$3.08	$3.08	$3.08	$3.08	$3.08	$3.08
	Subtotal Trunkline Removal and Loading Costs	$74,035	$67,866	$6,787	$40,102	$12,339	$33,779	$29,923	$74,035	$17,275
B.	Transport and Disposal Costs (NRC-Licensed Facility)									
1.	3" HDPE Trunkline									
	Piping Length (ft)	24000	0	2200	0	4000	0	0	0	0
	Chipped Volume Reduction (ft3/ft)	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023
	Chipped Volume (ft^3)	559	0	51	0	93	0	0	0	0
2.	4" HDPE Trunkline									
	Piping Length (ft)	0	22000	0	13000	0	0	0	6000	0
	Chipped Volume Reduction (ft3/ft)	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038
	Chipped Volume (ft^3)	0	846	0	500	0	0	0	231	0
3.	6" HDPE Trunkline									
	Piping Length (ft)	0	0	0	0	0	10950	9700	0	3500
	Chipped Volume Reduction (ft3/ft)	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
	Chipped Volume (ft^3)	0	0	0	0	0	913	809	0	292
4.	8" HDPE Trunkline									
	Piping Length (ft)	0	0	0	0	0	0	0	24000	0
	Chipped Volume Recution (ft3/ft)	0.141	0.141	0.141	0.141	0.141	0.141	0.141	0.141	0.141
	Chipped Volume	0	0	0	0	0	0	0	3391	0
	Total Pipeline Disposal Volume	559	846	51	500	93	913	809	3622	292
	Volume for Disposal Assuming Void Space (ft^3)	615	931	56	550	102	1004	890	3984	321
	Transportation and Disposal Unit Cost (NRC-Licensed Facility) ($/ft3)	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77
	Subtotal Transport and Disposal Costs	$3,548	$5,372	$323	$3,173	$589	$5,793	$5,135	$22,987	$1,852
C.	Discing/Seeding									
	Width of Pipeline Trench (ft)	10	10	8	8	8	8	8	8	8
	Area of Pipeline Trench (acres)	5.5	5.1	0.4	2.4	0.7	2.0	1.8	4.4	1.0
	Discing/Seeding Unit Cost ($/acre)	$548	$548	$548	$548	$548	$548	$548	$548	$548
	Subtotal Discing/Seeding Costs	$3,017	$2,766	$221	$1,308	$402	$1,101	$976	$2,414	$563
	Subtotal Reclamation Costs per Pipeline	$80,600	$76,004	$7,331	$44,583	$13,330	$40,673	$36,034	$99,436	$19,690
Total Pipeline Reclamation Costs		$417,681								
IV.	**Radium Settling Basin Reclamation**	**E. Radium Pond**	**W. Radium Pond**							
	*Cost estimates based on planned expenditures (June 2013)									
A.	Soil Sampling and Monitoring	$0	$0							
	*Soil Sampling and Characterization were Complete in 2011									
B.	Task Training and Access Control	$3,657	$3,657							
C.	Subsoil Removal and Loading	$15,687	$15,687							
D.	Site Backfill	$14,334	$14,334							
E.	Revegetation	$6,318	$6,318							
F.	Transportation & Disposal to 11e (2) Facility									

Miscellaneous Reclamation				
		Volume of Subsoil for Disposal (cy)	242.5	242.5
		Transportation and Disposal Unit Cost ($/cy)	$156.73	$156.73
		Subtotal Byproduct Material Transportation & Disposal Costs	$38,007	$38,007
	Subtotal Radium Pond Reclamation		$78,002	$78,003
Total Settling Basin/Ponds Reclamation Costs			**$156,005**	
V.	**Purge Storage Reservoir Reclamation**		**PSR-1**	**PSR-2**
	A	Soil Sampling and Monitoring		
		Number of Soil Samples	10	10
		$/Sample	$255	$255
		Subtotal Soil Sampling and Monitoring Costs	$2,550	$2,550
	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)	$1.442	$0.00
		Topsoil/Subsoil Unit Cost per WDEQ Guideline No 12, App E ($/cy)	$0.00	$0.382
		Subtotal Topsoil/Subsoil Application Costs per Reservoir	$119,694	$28,246
	D	Discing/Seeding		
		Surface Area (acres)	6	32
		Discing/Seeding Unit Cost ($/acre)	$548	$548
		Subtotal Discing/Seeding Costs	$3,286	$17,525
	E	Well Abandonment		
		Number of Wells	5	16
		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	$7,568
	Subtotal Reclamation Costs per Reservoir		$132,345	$55,889
	Total Purge Storage Reservoir Reclamation Costs		**$188,234**	
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)	$548	$548
		Subtotal Discing/Seeding Costs	$30,122	$58,053
	Subtotal Reclamation Costs per Irrigation Area		$43,122	$81,253
	Total Irrigation Area Reclamation Costs		**$124,375**	
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	$4.02	$4.02
		Subtotal Removal and Loading	$19,448	$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		$778,021	$4,149,447
	Total Purge Storage Reservoir Mitigation Costs		**$4,927,468**	

Miscellaneous Reclamation				
VIII.	**Revegetation of Exxon Reclaimed Lands**			
		Surface Area (acres)	217	
		Assumptions		
		10% Reseeding potential areas of erosion ($/acre)	$548	
	Total Exxon Reclaimed Lands Revegetation Costs		**$11,884**	
IX.	**Potential Ground Water Mitigation for Casing Leak Investigation and PSR-2**			
	A.	CLI Investigation Costs	$891,067	*Based on planned expenditures (June 2013)
	B	Ground Water Pump and Treat Costs		
		Area (ft2)	1,000,000	*Includes PSR-2. C-North and E-Wellfield Areas
		Sand Thickness (ft)	20	
		Porosity (%)	27%	
		Affected ground water (kgal)	40,392	
		Wellfield Pumping Cost	$0.20	
		Reverse Osmosis Unit Cost ($/kgal)	$0 62	
		Bleed to Deep Disposal Well (%)	25%	
		Brine Volume for Disposal	10,098	
		DDW Disposal Cost($/kgal)	$1 13	
		Permeate Volume for Re-Use	30,294	
		Satellite Pumping Cost ($/kgal)	$0 72	
		Subtotal Ground Water Pump and Treat Costs	$66,064	
	C	Well Abandonment (CLI Shallow Wells)		
		# of Monitoring Wells (Current)	151	
		Average Well Depth (ft)	156	
		# of Monitoring Wells (Planned)	21	
		Average Well Depth (ft)	250	
		Total Well Depth (ft)	28,806	
		Well Abandonment ($/ft)	2 75	
		Small Site Grading and Seeding ($/site)	55	
		Remove and Dispose Casing ($/well)	33	
		Concrete Pedestal Disposal ($/each)	110	
		Subtotal Well Abandonment Costs	$113,273	
	Total CLI and PSR-2 Ground Water Mitigation Costs		**$1,070,404**	
TOTAL MISCELLANEOUS RECLAMATION COSTS			**$7,180,262**	

Cameco Resources
Highland Uranium Project
2013-14 Surety Estimate

	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	J-Extension
Pore Volume Calculations													
Flare Factor	4.13	4.13	2.46	2	0	2.88	2.78	2.9	2.1	2.3	1.83	1.92	1.92
Wellfield Area (ft2)	148,600	676,550	1,067,056	325,000	0	326,750	201,509	971,941	3,431,990	1,222,583	1,146,959	1,148,680	871,200
Wellfield Area (acres)	3.41	15.53	24.50	7.46	0.00	7.50	4.63	22.31	78.79	28.07	26.33	26.37	20.00
Affected Ore Zone Area (ft2)	148,600	676,550	1,067,056	325,000	0	326,750	201,509	971,941	3,431,990	1,222,583	1,146,959	1,148,680	871,200
Avg Completed Thickness	15.0	15.0	16.0	15.0	0.0	17.0	17.0	16.0	16.0	16.0	20.0	15.0	15.0
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
Affected Volume (ft3)	9,205,770	41,912,273	41,999,324	9,750,000	0	15,997,680	9,523,315	45,098,062	115,314,864	44,991,054	41,978,699	33,081,984	25,090,560
Kgallons per Pore Volume	18,592	84,646	84,822	19,691	0	32,309	19,233	91,080	232,890	90,864	84,780	66,812	50,673
Restoration Schedule (Based on Annual Water Balance/Schedule Update)													
Pre-Restoration Period (yrs)	0	0	0	0	0	0	0	0	7	0	0	8	8
Restoration Period (yrs)	0	0	1	1	1	1	1	4	13	7	6	8	5
Stability Period (yrs)	0	0	1	1	1	1	1	1	1	1	1	1	1
Total # of Years	0	0	2	2	2	2	2	5	21	8	7	17	14
End of Restoration (yrs)	20												
End of Stability (yrs)	21												
Number of Header Houses per Wellfield													
Current	5	18	20	0	0	4	3	15	43	10	6	9	0
Planned	0	0	0	0	0	0	0	0	0	0	0	0	5
Total Estimated	5	18	20	0	0	4	3	15	43	10	6	9	5
Average Header House Volume (ft3)	1600												
Number of Wells (In Service) per Wellfield													
Production Wells (P)				Inc in MU-C	Inc in MU-C		Inc in MU-D						
Current	0	133	201	0	0	91	0	140	459	166	131	114	0
Planned	0	0	0	0	0	0	0	0	0	0	0	0	56
Total Estimated	0	133	201	0	0	91	0	140	459	166	131	114	56
Injection Wells (I)													
Current	1	194	258	0	0	143	0	229	704	285	234	233	0
Planned	0	0	0	0	0	0	0	0	0	0	0	0	112
Total Estimated	1	194	258	0	0	143	0	229	704	285	234	233	112
Restoration Wells (R)													
Current	0	0	18	0	0	0	0	0	14	0	0	0	0
Planned	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Estimated	0	0	18	0	0	0	0	0	14	0	0	0	0
Monitor Wells (M, MO, MU, etc)													
Current	7	64	85	0	0	50	0	59	113	74	34	45	0
Planned	0	0	0	0	0	0	0	0	0	0	0	0	25
Total Estimated	7	64	85	0	0	50	0	59	113	74	34	45	25
Other Wells (Pumping Wells, etc)													
Current	0	1	0	0	0	4	0	0	0	4	2	0	0
Planned	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Estimated	0	1	0	0	0	4	0	0	0	4	2	0	0
Wellfield Refurbishment (I or P)													
Planned	0	0	5	0	0	0	0	10	180	5	10	18	0
Number of Wells per Wellfield	8	392	567	0	0	288	0	438	1470	534	411	410	193
Total Number of In Service Wells	4711												
Well Completion Details													
Average Well Depth (ft)	500	450	550	550	550	600	600	550	650	500	650	540	540
Average Diameter of Casing (inches)	5	5	5	5	5	5	5	5	5	5	5	5	5
Wellfield Fencing													
Length of Fencing (ft)	0	13720	18694	0	0	14060	0	18426	29540	9680	9977	10000	0

Cameco Resources
Highland Uranium Project
2013-14 Surety Estimate

Labor Costs	2013 Rate	Esc Rate ($)	Net Benefits*	Units	Source
Environmental Manager/RSO	$46.00	$46.97	$65.75	hour	2013 MSEC rates plus CPI 1.02 Juner 2014
Restoration Manager	$40.00	$40.84	$57.18	hour	2013 MSEC rates plus CPI 1.02 Juner 2014
Environmental Tech/HPT	$25.50	$25.53	$35.74	hour	2013 MSEC rates plus CPI 1.02 Juner 2014
Operator/Laborer	$26.00	$26.55	$37.16	hour	2013 MSEC rates plus CPI 1.02 Juner 2014
Maintenance Tech	$23.00	$23.48	$32.88	hour	2013 MSEC rates plus CPI 1.02 Juner 2014

*Includes additional 40% net benefits based on InfoMine USA cost data for Surface Metal and Industrial Mineral Mines - Western U.S. (Table 5)

CPI Escalators (CPI-U, U.S. City Average)	
1988 CPI (average)	118.3
June 2014 CPI (deep well estimate)	238.3
2013 CPI (June 2013 used in last update)	233.5
Current CPI (June 2014)	238.3
2014 Escalation Factor	1.02

Utility Costs	Rate ($)	Profit & Overhead	Units	Source
Electrical Costs	$0.0648	included	kWh	Actual Costs-2013
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 - Satellite No. 2/Selenium Treatment Plant	$18,088.78	included	year	Actual Costs-2013
Propane - Satellite No. 2/Selenium Treatment Plant	$1,011.27	included	year	Actual Costs-2013
Propane - Satellite No. 3	$43,188.29	included	year	Actual Costs-2013

Chemical & Material Costs	Rate ($)	Profit & Overhead	Units	Source
Antiscalant for RO (Hypersperse)	$3.9050	included	pound	Actual Costs-2013
Antiscalant for RO (ScaleTrol)	$4.5177	included	pound	Actual Costs-2013
Sodium Tripolyphosphate	$1.0893	included	pound	Actual Costs-2013
EDTA Tetrasodium Dihydrate	$1.8774	included	pound	Actual Costs-2013
Sodium Sulfide	$0.5520	included	pound	Quote-2013
Hydrochloric Acid	$0.1992	included	pound	Actual Costs-2013
Barium Chloride	$0.7970	included	pound	Actual Costs-2013
Iron Aggregate	$0.5516	included	pound	Actual Costs-2013
Silica Sand	$0.1407	included	pound	Actual Costs-2011
Pea Gravel	$0.0190	included	pound	Actual Costs-2013

Analytical Costs	Rate ($)	Profit & Overhead	Units	Source*
Modified Guideline 8	$249.00	included	analysis	Quote 2012-13
Excursion Parameters (UCL)	$30.00	included	analysis	Fee Schedule-2013
Restoration Progress Parameters (UCL + U + Se)	$50.00	included	analysis	Fee Schedule-2013
Irrigator Fluid	$245.00	included	analysis	Actual Costs-2012
Irrigator Vegetation	$270.00	included	analysis	Actual Costs-2012
Irrigator Soil	$255.00	included	analysis	Actual Costs-2012
Irrigator Soil Water	$150.00	included	analysis	Fee Schedule-2013
Other (Radon, Bioassay, etc.)	$1,000.00	$1,100.00	month	Cost Estimate

*All quotes, fee schedules and actual costs based on Energy Laboratories, Inc., Casper, WY

Equipment Costs	Rate ($)	Profit & Overhead*	Units	Source	date
Bandit 1290XP Trailer Mounted Brush Chipper	$34.33	$37.76	hour	Equipment Watch**	2014
Bobcat S250 Skid Steer Loader	$22.72	$24.99	hour	Equipment Watch	2014
Cat 320C L Trackhoe - 1.25 cu yd bucket	$69.44	$76.38	hour	Equipment Watch	2014
Cat 416E Backhoe	$27.17	$29.89	hour	Equipment Watch	2014
Cat 924H Loader - 2.4 cu yd bucket	$42.89	$47.18	hour	Equipment Watch	2014
Concrete Jaws Labounty - CP-60	$18.90	$20.79	hour	2013 Equipment Watch - CPI Escalator	2014
GEHL DL-8 Rough Terrain Lift Truck	$46.78	$51.46	hour	Equipment Watch	2014
Manlift	$39.13	$43.04	hour	Equipment Watch	2014
MIT Unit	$30.72	$33.79	hour	2013 Equipment Watch - CPI Escalator	2014
Pick-up Truck 3/4 ton 4X4	$18.79	$20.67	hour	Equipment Watch	2014
Pulling Unit***	$36.06	$39.67	hour	2013 Equipment Watch - CPI Escalator	2014

*Includes additional 10% Profit & Overhead per WDEQ/LQD Guidline No. 12, Section 12(b)
**Equipment Watch Rental Rate Blue Book, Volume 1
***1 3/4 Ton 4x4 Truck with Hoist

Quoted Costs	Rate ($)	Profit & Overhead	Units	Source
Deep Disposal Well - Plug & Abandonment Costs	$13.62	included	foot	UIC Permit-2012
DDW MIT	$31,625	included	well	Quote-2013
Well Replacements (Restoration)	$14,763	included	well	Actual Costs-2013
Bellhole Refurbishment	$5,530	included	bellhole	Contract-2012
Header House Refurbishment (Typical Wellfield)	$10,000	included	header house	Actual Costs-2013

WDEQ/LQD Guideline No. 12 Costs	Appendix	Rate ($)	Profit & Overhead*	Units	Source
Moving Materials: One-Way Distance 500 feet, 0% grade	Appendix C	$1.098	$1.208	bcy	Guideline-10/2014
Moving Materials: One-Way Distance 1,000 feet, 0% grade	Appendix C	$1.311	$1.442	bcy	Guideline-10/2014
Moving Materials: One-Way Distance 2,000 feet, 0% grade	Appendix C	$1.503	$1.653	bcy	Guideline-10/2014
Moving Materials: One-Way Distance 150 feet, 0% grade	Appendix E	$0.347	$0.382	lcy	Guideline-10/2014
Grading Operating Costs	Appendix G	$77.57	$85.33	acre	Guideline-10/2014
Fencing Removal	Appendix H	$0.38	$0.42	foot	Guideline-10/2014
Ripping Operating Costs (Asphalt)	Appendix I	$871.04	$958.14	acre	Guideline-10/2014
Ripping Operating Costs (Overburden)	Appendix II	$1,255.70	$1,381.27	acre	Guideline-10/2014
Building Demolition - Mixture of Types	Appendix K	$0.287	$0.316	ft3	Guideline-10/2014
Building Demo Disposal (Average)	Appendix K	$9.76	$10.74	cy	Guideline-10/2014
Concrete (Floor) Demolition - 6" Thick with Rebar	Appendix K	$5.55	$6.11	ft2	Guideline-10/2014
Concrete (Footing) Demolition - 2' Thick, 3' Wide	Appendix K	$20.46	$22.51	linear foot	Guideline-10/2014
Concrete Disposal On-Site	Appendix K	$8.64	$9.50	cy	Guideline-10/2014
Drill Hole Abandonment: Wet Exploration Holes >25 holes	Appendix L	$3.00	$3.30	foot	Guideline-10/2014
Well Abandonment: Monitor, Production, and Injection Wells	Appendix L	$2.50	$2.75	foot	Guideline-10/2014
Incidental Costs: Small Site Grading and Seeding (< 1000 sq. feet)	Appendix L	$50	$55	site	Guideline-10/2014
Incidental Costs: Capping	Appendix L	$10	$11	each	Guideline-10/2014
Incidental Costs: Site Location	Appendix L	$10	$11	site	Guideline-10/2014
Incidental Costs: Remove Pump, Wiring, and Drop Pipe	Appendix L	$0.40	$0.44	foot	Guideline-10/2014
Incidental Costs: Remove and Dispose Casing (top few feet)	Appendix L	$30	$33.00	well	Guideline-10/2014
Incidental Costs: Monitoring Well Concrete Pedestal Disposal	Appendix L	$100	$110.00	each	Guideline-10/2014
Scarification Costs	Appendix P	$71.15	$78.27	acre	Guideline-10/2014
Revegetation Costs-Seed	Appendix Q	$106	$116.60	acre	Actual Costs-2013
Revegetation Costs-Mulch	Appendix Q	$91.88	$101.07	acre	Actual Costs-2013
Revegetation Costs-Fertilizer	Appendix Q	$300.00	$330.00	acre	Actual Costs-2013
Revegetation Costs-Total	Appendix Q	$497.88	$547.67	acre	Actual Costs-2013

*Includes additional 10% Profit & Overhead per WDEQ/LQD Guidline No. 12, Section 12(h)

Construction & Demolition Debris Transportation & Disposal Costs						
Building Volume for Disposal	0.33					
Void Factor (for disposal)	1.1					
	Disposal ($/ton)	C&D (cy/ton)	Tranport ($/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)	Tranport ($/cy)	Total ($/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, plumps, 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. Tranportation 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 tranports one 36.4-cy bin of Type II chipped piping waste.

Cameco Resources
Highland Uranium Project
2013-14 Surety Estimate

GROUNDWATER RESTORATION UNIT COSTS		
Wellfield Pumping		
Equipment		
Wellfield Pump Sizes	5	hp
Wellfield Pump Flow Rate	25	gpm
kW to HP Conversion Factor	0.746	
Cost of Electricity	$0.0648	kWhr
Efficiency	80%	
Wellfield Pumping Cost	**$0.20**	**per kgal**
Satellite Pumping		
Equipment		
Satellite Pump Sizes	60	hp
Satellite Pump Flow Rate	75	gpm
kW to HP Conversion Factor	0.746	
Cost of Electricity	$0.0648	kWhr
Efficiency	90%	
Satellite Pumping Cost	**$0.72**	**per kgal**
Deep Disposal Well Injection		
Equipment		
Deep Disposal Well Pump Size	75	hp
Deep Disposal Well Flow Rate	75	gpm
kW to HP Conversion Factor	0.746	
Cost of Electricity	$0.0648	kWhr
Efficiency	90%	
Reagent		
Antiscalant Cost (Scaletrol)	$4.5177	per lb
Density of Water	8.34	lbs/gal
Specific Gravity (Scaletrol)	1.284	
Antiscalant Cost (Scaletrol)	$48.38	per gal
Antiscalant Dose (ScaleTrol)	0.0000048	gal/gal
Deep Disposal Well Cost	**$1.13**	**per kgal**
PSR2 & Irrigator		
Equipment		
Feed Water Pump	40	hp
Irrigator Pump	50	hp
Sampler	0.5	kW
Irrigator Flow Rate	200	gpm
kW to HP Conversion Factor	0.746	
Cost of Electricity	$0.0648	kWhr
Efficiency	90%	
PSR 2 & Irrigator Cost	**$0.41**	**per kgal**
Total Groundwater Sweep Costs	**$1.32**	**per kgal**
Reverse Osmosis		
Equipment		
System Capacity	250	gpm
Unit Pump	60	hp
Injection Pump	60	hp
Waste Pump	15	hp
kW to HP Conversion Factor	0.746	
Cost of Electricity	$0.0648	kWhr
Efficiency	90%	
Reagents		
Tripolyphosphate Usage Rate	0.00000130	lb/gal
Tripolyphosphate Cost	$1.0893	per lb
EDTA Usage Rate	0.00000315	lb/gal
EDTA Cost	$1.8774	per lb
Antiscalant Cost (Hypersperse)	$3.9050	per lb
Density of Water	8.34	lbs/gal
Specific Gravity (Hypersperse)	1.124	

Antiscalant Cost (Hypersperse)	$36.6061	per gal			
Antiscalant Dose (Hypersperse)	0.0000036	gal/gal			
Sodium Sulfide Usage Rate	0.00017	lb/gal			
Sodium Sulfide Cost	$0.5520	per lb			
RO Cost (without Reductant)	**$0.62**	**per kgal**			
RO Cost (with Reductant)	**$0.71**	**per kgal**			
MIT Costs for Production Wells					
Equipment					
Pulling Unit Hours	4	hrs/day			
Pulling Unit Cost	$39.67	$/hour			
MIT Unit Hours	8	hrs/day			
MIT Unit Cost	$33.79	$/hour			
Labor					
Required Hours	8	hrs/day			
Required Laborers	1.5	per day			
Labor Cost	$32.88	$/hour			
Productivity	4	wells/day			
MIT Cost for Production Wells	**$205.88**	**per well**			
MIT Costs for Injection Wells					
Equipment					
Pulling Unit Hours	0	hrs/day			
Pulling Unit Cost	$39.67	$/hour			
MIT Unit Hours	8	hrs/day			
MIT Unit Cost	$33.79	$/hour			
Labor					
Required Hours	8	hrs/day			
Required Laborers	1	per day			
Labor Cost	$32.88	$/hour			
Productivity	4	wells/day			
MIT Cost for Injection Wells	**$133.34**	**per well**			
Selenium Plant Operating Costs					
Plant Operation					
Selenium Plant Media Change	4	times/year			
Number of Columns in Plant	2	columns			
Reagents					
Barium Chloride	90,000	lb/year			
BaCl Cost	$0.7970	$/lb			
Materials					
Iron	12,000	lb/column			
Iron Cost	$0.5516	$/lb			
Sand	18,000	lb/column			
Sand Cost	$0.14	$/lb			
Gravel	20,000	lb/column			
Gravel Cost	$0.0190	$/lb			
Disposal					
ByProduct for Disposal	63	yd^3/year			
Disposal Cost (incl. Transport)	$157	per yd^3			
Selenium Plant Operating Cost	**$157,852.16**	**per year**			
Booster Pump Operating Cost					
Equipment					
Wellfield Pump Sizes	40	hp			
Number of Pumps Running (avg.)	2	per year			
Hours Running	24	per day			
kW to HP Conversion Factor	0.746				
Cost of Electricity	$0.0648	kWhr			
Efficiency	90%				
Booster Pump Operating Costs	**$37,641.37**	**per year**			
WELL ABANDONMENT UNIT COSTS					
Removal of Contaminated Soil Around Wells					

Equipment		
Cat 416 Backhoe Time	0.25	hours
Cat 416 Backhoe Cost	$29.89	per hour
Labor		
Radiation Technician	0.25	hours
Radiation Technician Cost	$35.74	per hour
Operator	0.25	hours
Operator Cost	$37.16	per hour
Disposal		
ByProduct Disposal	0.37	cubic yard
Disposal Cost (incl. Transport)	$156.73	per cubic yard
Removal of Contaminated Soil Cost	**$83.69**	**per well**
DDW Pump Dismantling and Disposal		
Labor		
Number of Laborers	2	per day
Number of Pumps Dismantled	0.5	per day
Hours Per Day	8	hours
Laborers Cost	$32.88	
Disposal		
Volume of DDW Pump	240	ft^3
ByProduct Disposal	$7.32	per ft^3
DDW Pump Dismanteling and Disposa	**$2,809.67**	**per pump**
WELLFIELD RECLAMATION COSTS		
Wellfield Piping Removal		
Equipment		
Trackhoe	1	per day
Trackhoe Cost	$76.38	per hour
Loader	1	per day
Loader Cost	$47.18	per hour
Pickup Truck	1	per day
Pickup Cost	$20.67	per hour
Chipper Cost	$37.76	per hour
Labor		
Backhoe Operator	$37.16	per hour
Loader Operator	$37.16	per hour
Laborer	$32.88	per hour
Hours Per Day	8	per day
Productivity	1500	ft/day
Piping Removal Cost	**$1.54**	**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	
Production Pump Volume		
Length	66	inches
Diameter	3.8	inches
Cubic Inch to Cubic Foot Conversion	0.0006	
Production Pump Volume	**0.43**	**cubic feet**
Trunk Line Removal		
Equipment		
Trackhoe	1	per day
Trackhoe Cost	$76.38	per hour
Loader	1	per day
Loader Cost	$47.18	per hour
Pickup Truck	1	per day
Pickup Cost	$20.67	per hour

Cameco Resources
Highland Uranium Project
2013-14 Surety Estimate

Chipper Cost	$37.76	per hour
Labor		
Trackhoe Operator	$37.16	per hour
Loader Operator	$37.16	per hour
Laborer	$32.88	per hour
Hours Per Day	8	per day
Productivity	750	ft/day
Buried Piping Removal Cost	**$3.08**	**per foot of pipe**
Removal of Well Head Covers		
Volume of Well Head Cover (ft^3)	1.86	cubic feet
Demolition Cost	$0.316	per cubic ft
Decontamination		
Acid Usage	4.1	pounds per wellhead cover
Acid Cost	$0.1992	per lbs
Labor		
Radiation Tech	$35.74	per hour
Operator	$37.16	per hour
Productivity	10	wellheads per hour
Disposal		
Void space	10%	
Transportation and Disposal Cost	$1.56	per ft3
Removal of Well Head Cover Cost	**$11.89**	**per well**
Header House Decontamination		
Decontamination		
Acid Usage	20	pounds per header house
Acid Cost	$0.20	per pound
Labor		
Radiation Tech	$35.74	per hour
Number of Operators	2	per day
Operator	$37.16	per hour
Hours Per Day	8	per day
Productivity	1	header house per day
Header House Decontamination Cost	**$ 634.35**	**per header house**
Header House Heating		
Heater Power Usage	7.5	kW
Days Used	180	days per year
Electricity Cost	$0.0648	kWhr
Header House Heating Cost	**$1,050**	**per year**
WELLFIELD AND SATELLITE AND SURFACE RECLAMATION		
Wellfield Road Reclamation		
Gravel Road Base		
Average Depth	0.25	feet
Average Width	10	feet
Material Moved (0% Grade)	$1.44	bcy
Cubic Yard to Cubic Feet Conversion	0.04	
Scarification of Road		
Scarification Costs	$78	per acre
Average Width	25	feet
Acre to Sq. Foot Conversion	2.29568E-05	
Grading Cost	$85	per acre
Topsoil Depth	0.67	feet
Discing/Seeding Costs	$548	per acre
Linear Feet for Unit Cost	1000	feet
Wellfield Road Reclamation Cost	**$1,436.37**	**per 1000 feet**
EQUIPMENT COSTS		
Tank Removal		
Equipment		
Loader	$47.18	per hour
Trackhoe	$76.38	per hour

Manlift	$43.04	per hour			
Pickup	$20.67	per hour			
Lift Truck	$51.46	per hour			
Labor					
Number of Operators	4				
Operator Cost	$37.16	per hour			
Hours Per Day	8	per day			
Productivity	25	ft^3/day			
Tank Removal Cost	**$124**	**per ft^3**			
Pipe Removal					
Equipment					
Manlift	$43.04	per hour			
Pickup	$20.67	per hour			
Lift Truck	$51.46	per hour			
Chipper	$37.76	per hour			
Labor					
Number of Operators	4				
Operator Cost	$37.16	per hour			
Hours Per Day	8	per day			
Productivity	300	ft/day			
Pipe Removal Cost (Inside Buildings)	**$8.04**	**per ft**			
Pump Removal					
Equipment					
Truck	$20.67	per hour			
Skid Steer	$24.99	per hour			
Labor					
Number of Operators	2				
Operator Cost	$37.16	per hour			
Hours Per Day	8	per day			
Productivity	10	ft^3/day			
Pump Removal	**$95.99**	**per ft^3**			
Dryer Removal					
Equipment					
Truck	$20.67	per hour			
Lift Truck	$51.46	per hour			
Labor					
Number of Operators	4				
Operator Cost	$37.16	per hour			
Hours Per Day	8	per day			
Productivity	125	ft^3/day			
Dryer Removal Cost	**$14.13**	**per ft^3**			
RO and Degasser Removal					
Equipment					
Truck	$20.67	per hour			
Lift Truck	$51.46	per hour			
Labor					
Number of Operators	2				
Operator Cost	$37.16	per hour			
Hours Per Day	8	per day			
Productivity	250	ft^3/day			
RO and Degasser Removal Cost	**$4.69**	**per ft^3**			
BUILDING COSTS					
Acid Wash Walls					
Acid					
Acid Usage	0.05	per square foot			
Acid Cost	$0.20	per pound			
Equipment					
Manlift	$43.04	per hour			

Cameco Resources
Highland Uranium Project
2013-14 Surety Estimate

Labor					
Laborer	2	people			
Laborer Cost	$32.88	per hour			
Productivity	125	square feet per hour			
Acid Wash Walls Cost	**$0.88**	**per square foot**			
Acid Wash Floors					
Acid					
Acid Usage	0.05	per square foot			
Acid Cost	$0.20	per pound			
Labor					
Laborer	2	people			
Laborer Cost	$32.88	per hour			
Productivity	125	square feet per hour			
Acid Wash Floors Cost	**$0.54**	**per square foot**			
Eletrical Power					
*Pumping Costs for Operating DDWs, RO, and Wellfield are included in GW Rest Costs					
Satellite 2					
Miscellaneous Pumps, Fans, Sumps, etc.	22.5	HP			
Lighting	35.0625	kW (per square ft)			
kW to HP Conversion Factor	0.746				
Electricity Cost	$0.0648	per kWhr			
Efficiency Factor	90%				
Operating Hours Per Year	8760	hours			
Satellite 2 Power Cost	**$28,478**	**per year**			
Satellite 3					
Miscellaneous Pumps, Fans, Sumps, etc.	22.5	HP			
Lighting	35.0625	kW (per square ft)			
kW to HP Conversion Factor	0.746				
Electricity Cost	$0.0648	per kWhr			
Efficiency Factor	90%	.			
Operating Hours Per Year	8760	hours			
Satellite 3 Power Cost	**$28,478**	**per year**			
Se Plant					
Miscellaneous Pumps, Fans, Sumps, etc.	72.5	HP			
Lighting	23.3	kW			
kW to HP Conversion Factor	0.746	kW (per square ft)			
Electricity Cost	$0.0648	per kWhr			
Efficiency Factor	90%				
Operating Hours Per Year	8760	hours			
Selenium Power Cost	**$40,857**	**per year**			
DDW - Typical					
Miscellaneous Pumps, Fans, Sumps, etc.	2	HP			
Lighting	0.49	kW			
Heating	12.5	kW	assume operation only 6 mos/yr		
kW to HP Conversion Factor	0.746	kW/hp			
Electricity Cost	$0.0648	per kWhr			
Efficiency Factor	90%				
Operating Hours Per Year	8760	hours			
DDW Electrical Cost	**$4,588**	**per year**			
MISCELLANEOUS RECLAMATION AND RESTORATION COSTS					
Liner and Subsoil Removal Costs					
Equipment					
Trackhoe Cost	$ 76.38	per hour			
Loader Cost	$ 47.18	per hour			
Labor					
Operator	37.16	per hour			
Productivity	40	cubic yards/hour			
Total Removal	**$ 4.02**	**per cubic yard**			