Cameco Resources
Smith Ranch Highland Uranium Project
2016-2017 Surety Estimate Update

Itemized changes in 2016-2017 surety bond calculation

2015-2016 Approved Total = $212,675,100 *(Submitted November 2015)*

		$212,675,100
Removed MU-J extension from all pages	($1,446,400)	$211,228,700
Updated WF Data page, well counts, Header houses, fencing, etc., removed planned wells/Header Houses	($1,500,600)	$209,728,100
Updated Master Costs page, CPI 2015 Escalator Update	($24,500)	$209,703,600
Updated Master Costs page-Electricity, costs up 3.35%	$1,338,700	$211,042,300
Updated Master Costs page, Nat. Gas, propane, chemical, analytical, equip, quotes, & GL-12 cost updates: Significant change = Concrete Floor demolition	($1,597,900)	$209,444,400
Updated GWR Site page, updates to capitol costs and harvesting costs	($2,328,100)	$207,116,300
Updated WA page: no delineation planned for next period and updated plugged well counts	($4,009,400)	$203,106,900
Updated WF Blgs, EQUIP/BLDGS and WF Rec Pages: minor changes	($46,100)	$203,060,800
Updated Misc Page: PSR-2/CLI costs, updated costs for pipeline SR-1 to Se Plant, removed planned pipeline/road to SRHUP #8.	$57,500	$203,118,300
Updated GWR-WF page with pore volumes and MU-10 MP wells	($144,500)	$202,973,800
Updated years of operation & restoration from proposed water balance; Decrease of 4 years with the removal of planned wellfields/development.	($15,250,100)	$187,723,700
WA page: WQD revised surety for UIC Class I DDWs, 3% decrease $$/Foot	($28,500)	$187,695,200

Net Update for 2016-2017 Surety Estimate **$187,695,200**

Cameco Resources
Smith Ranch Highland Uranium Project
2015-2016 Surety Estimate Update

Total Restoration and Reclamation Cost Estimate			
I.	Groundwater Restoration (GWR-WF and GWR-SITE Sheets)		$115,610,402
II.	Well & Drill Hole Abandonment (WA Sheet)		$23,448,562
III.	Wellfield Buildings & Equipment Removal & Disposal (WF BLDGS Sheet)		$8,540,144
IV.	Wellfield and Satellite Surface Relclamation (WF REC Sheet)		$1,110,695
V.	Equipment Removal & Disposal (EQUIP Sheet)		$1,559,941
VI.	Building Removal & Disposal (BLDGS Sheet)		$5,319,951
VII.	Miscellaneous Reclamation (MISC REC Sheet)		$7,623,536
	Subtotal Restoration and Reclamation Cost Estimate		$163,213,232
	Contractor Profit & Overhead (10%)[1]	See Master Costs	
	Contingency (15%)[2]	15%	$24,481,985
		TOTAL[3]	$187,695,200

[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 Highland Uranium Project
2015-2016 Surety Estimate Update

Ground Water Restoration -Wellfield	Mine Unit 1	Mine Unit 2	Mine Unit 3/3Ext	Mine Unit 4/4A	Mine Unit 15	Mine Unit 15A	Mine Unit K	K-North	Mine Unit 9	Mine Unit 10	Mine Unit 10-Ext	Mine Unit 27	Mine Unit 21	Mine Unit 7	A-Wellfield	B-Wellfield	C-Wellfield	C-22 Pattern	C abandoned UG workings	D-Wellfield	D-Extension	E-Wellfield	F-Wellfield	H-Wellfield	I-Wellfield	J-Wellfield
I. Ground Water Sweep Costs																										
Estimated PV's	0	1	1	0.6	1	1	1	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0.5	1	1	1	1
Total kgals for GWS	0	110,785	152,825	71,530	137,426	52,669	84,209	78,562	136,376	190,435	44,986	0	0	104,736	0	0	0	0	0	0	0	45,540	232,890	90,864	84,780	66,812
Bleed to Deep Disposal Well (%)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Groundwater Sweep Unit Cost ($/kgal)	$2.15	$2.15	$2.15	$2.15	$2.15	$2.15	$2.15	$2.15	$2.15	$2.15	$2.15	$2.15	$2.15	$2.15	$1.38	$1.38	$1.38	$1.38	$1.38	$1.38	$1.38	$1.38	$1.38	$1.38	$1.38	$1.38
Subtotal Ground Water Sweep Costs per Wellfield	$0.00	$237,688.00	$327,884.00	$92,079.00	$294,846.00	$113,001.00	$180,669.00	$168,554.00	$292,593.00	$408,576.00	$96,517.00	$0.00	$0.00	$224,710.00	$0	$0	$0	$0	$0	$0	$0	$31,522	$322,407	$125,790	$117,367	$92,493
Total Ground Water Sweep Costs	**$3,126,696**																									
II. Reverse Osmosis Costs																										
Estimated PV's	0	4.5	4.5	2.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	0	0	4.5	0	0	1	0	0	1	1	3	4.5	3.5	4.5	4.5
Total Kgals for RO	0	498,533	687,713	298,040	618,417	237,011	378,941	353,529	613,692	856,958	202,437	0	0	471,312	0	0	0	0	0	0	0	273,240	1,048,005	408,888	381,510	300,654
Wellfield Pumping Cost	$0.21	$0.21	$0.21	$0.21	$0.21	$0.21	$0.21	$0.21	$0.21	$0.21	$0.21	$0.21	$0.21	$0.21	$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)	$0.64	$0.64	$0.64	$0.64	$0.64	$0.64	$0.64	$0.64	$0.64	$0.64	$0.64	$0.64	$0.64	$0.64	$0.62	$0.62	$0.62	$0.62	$0.62	$0.62	$0.62	$0.62	$0.62	$0.62	$0.62	$0.62
Bleed to Deep Disposal Well (%)	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
Brine Volume for Disposal	0	99,707	137,543	59,608	123,683	47,402	75,788	70,706	122,738	171,392	40,487	0	0	94,262	0	0	0	0	0	0	0	54,648	209,601	81,778	76,302	60,131
DDW Disposal Cost($/kgal)	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19
Permeate Volume for Re-Use	0	398,826	550,170	238,432	494,734	189,608	303,152	282,823	490,954	685,566	161,950	0	0	377,050	0	0	0	0	0	0	0	218,592	838,404	327,110	305,208	240,523
Satellite Pumping Cost	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75
Subtotal Reverse Osmosis & Disposal Costs per Wellfield	$0.00	$838,860.19	$1,157,185.61	$501,499.68	$1,040,584.92	$398,807.85	$637,627.64	$594,868.75	$1,032,634.36	$1,441,967.23	$340,632.44	$0.00	$0.00	$793,057.37	$0	$0	$0	$0	$0	$0	$0	$451,706	$1,732,507	$675,952	$630,692	$497,025
Total Reverse Osmosis Costs	**$12,765,608**																									
III. Reverse Osmosis with Chemical Reductant Costs																										
Estimated PV's	0.0	3.5	3.5	2.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	0.0	0.0	3.5	0	0	1	1	0	1	1	3	3.5	3.5	3.5	3.5
Total kgals for RO	0	387,748	534,888	298,040	480,991	184,342	294,732	274,967	477,316	666,523	157,451	0	0	366,576	0	0	127,233	19,691	0	32,309	19,233	273,240	815,115	318,024	296,730	233,842
Wellfield Pumping Cost	$0.21	$0.21	$0.21	$0.21	$0.21	$0.21	$0.21	$0.21	$0.21	$0.21	$0.21	$0.21	$0.21	$0.21	$0.21	$0.21	$0.21	$0.21	$0.21	$0.21	$0.21	$0.21	$0.21	$0.21	$0.21	$0.21
Reverse Osmosis with Chemical Reductant Unit Cost ($/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	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72	$0.72
Bleed to Deep Disposal Well (%)	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
Brine Volume for Disposal (kgal)	0	77,550	106,978	59,608	96,198	36,868	58,946	54,993	95,463	133,305	31,490	0	0	73,315	0	0	25,447	3,938	0	6,462	3,847	54,648	163,023	63,605	59,346	46,768
DDW Disposal Cost($/kgal)	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19
Permeate Volume for Re-Use	$0	$310,198	$427,910	$238,432	$384,793	$147,473	$235,785	$219,974	$381,853	$533,218	$125,961	$0	$0	$293,261	0	0	101,786	15,753	0	25,847	15,386	218,592	652,092	254,419	237,384	187,074
Satellite Pumping Cost ($/kgal)	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75
Subtotal RO with Chemical Reductant per Wellfield	$0.00	$685,405.35	$945,498.69	$526,833.08	$850,228.06	$325,852.91	$520,984.78	$486,047.89	$843,731.91	$1,178,184.48	$278,319.67	$0.00	$0.00	$647,981.36	$0	$0	$224,905	$34,807	$0	$57,111	$33,997	$482,995	$1,440,845	$562,158	$524,517	$413,353
Total Reverse Osmosis Costs	**$11,063,756**																									
IV. Mechanical Integrity Testing (MIT) Costs																										
Pre-Restoration, Restoration and Stability Period (yrs)	0	7	14	5	10	12	17	16	20	21	21	0	0	20	0	0	3	1	1	4	3	9	17	9	9	13
Number of Injection Wells	162	281	280	384	831	0	279	174	397	338	153	0	0	247	1	194	258	0	0	143	0	229	704	285	234	233
Number of MITs required per Well	0.0	1.4	2.8	1.0	2.0	2.4	3.4	3.2	4.0	4.2	4.2	0.0	0.0	4.0	0.0	0.0	0.4	0.4	0.4	0.4	0.4	1.0	4.2	1.6	1.4	3.4
MIT Cost per Injection Well	$133.25	$133.25	$133.25	$133.25	$133.25	$133.25	$133.25	$133.25	$133.25	$133.25	$133.25	$133.25	$133.25	$133.25	$133.25	$133.25	$133.25	$133.25	$133.25	$133.25	$133.25	$133.25	$133.25	$133.25	$133.25	$133.25
Subtotal MIT Mine Unit	$0.00	$52,419.92	$104,466.75	$51,167.39	$221,458.84	$0.00	$126,399.43	$74,192.71	$211,598.46	$189,159.43	$85,625.42	$0.00	$0.00	$131,649.42	$0	$0	$13,751	$0	$0	$7,622	$0	$30,514	$393,989	$60,761	$43,652	$105,559
Total MIT Costs	**$1,903,986**																									
V. Wellfield Refurbishment Costs																										
Well Replacement (#)	0	5	50	5	50	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	5	140	5	5	18
Replacement ($/well)	$15,613	$15,613	$15,613	$15,613	$15,613	$15,613	$15,613	$15,613	$15,613	$15,613	$15,613	$15,613	$15,613	$15,613	$15,613	$15,613	$15,613	$15,613	$15,613	$15,613	$15,613	$15,613	$15,613	$15,613	$15,613	$15,613
Bellhole Refurbishment (#)	0	7	11	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0
Refurbishment ($/bellhole)	$5,505	$5,505	$5,505	$5,505	$5,505	$5,505	$5,505	$5,505	$5,505	$5,505	$5,505	$5,505	$5,505	$5,505	$5,505	$5,505	$5,505	$5,505	$5,505	$5,505	$5,505	$5,505	$5,505	$5,505	$5,505	$5,505
Header House Refurbishment (#)	0	5	5	5	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	0	0	0
Refurbishment ($/header house)	$10,008	$10,008	$10,008	$10,008	$10,008	$10,008	$10,008	$10,008	$10,008	$10,008	$10,008	$10,008	$10,008	$10,008	$10,008	$10,008	$10,008	$10,008	$10,008	$10,008	$10,008	$10,008	$10,008	$10,008	$10,008	$10,008
Subtotal Refurbishment Cost per Wellfield	$0	$166,639	$891,243	$205,172	$900,751	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$78,065	$0	$0	$0	$0	$78,065	$2,446,038	$78,065	$111,093	$281,034
Total Wellfield Refurbishment Cost	**$5,236,165**																									
VI. Monitoring and Sampling Costs																										
A. Pre-Restoration Monitoring																										
1. Excursion Monitoring (M, MO and MU wells, twice per month)																										
# of Wells	47	50	40	90	83	42	51	53	69	49	66	85	0	62	7	64	85	0	0	50	0	59	119	82	34	59
Total # samples	0	0	4800	0	5976	7056	9792	10176	16560	12936	26928	0	0	20832	0	0	0	0	0	0	0	0	11424	0	0	5664
UCL Parameters ($/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	$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	$144,000.00	$0.00	$179,280.00	$211,680.00	$293,760.00	$305,280.00	$496,800.00	$388,080.00	$807,840.00	$0.00	$0.00	$624,960.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$342,720.00	$0.00	$0.00	$169,920.00
Total Pre-Restoration Monitoring Costs	$3,964,320																									
B. Restoration Monitoring																										
1. **Sampling Prior to Start-up (MP Wells)**																										
# of Wells	19	13	24	12	22	10	13	11	14	20	3	0	0	18	0	0	32	0	0	9	5	29	21	12	6	12
Guideline 8 ($/sample)	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00
2. Restoration Progress Monitoring (MP Wells, every 2 months)																										
# of Wells	19	13	24	12	22	10	13	11	14	20	3	0	0	18	0	0	32	0	11	9	5	29	21	12	6	12
Total # samples	0	468	1152	288	792	240	624	462	756	1080	54	0	0	540	0	0	384	0	0	162	60	1392	1512	576	288	576
Restoration Progress Parameters ($/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	$50.00	$50.00	$50.00	$50.00	$50.00	$50.00	$50.00	$50.00	$50.00	$50.00	$50.00	$50.00
3. Excursion Monitoring (M, MO and MU wells, every 2 months)																										
# of Wells	47	50	40	90	83	42	51	53	69	49	66	0	0	62	7	64	85	0	0	50	0	59	119	82	34	59
Total # samples	0	1800	1920	2160	2988	1008	2448	2226	3726	2646	1188	0	0	1860	0	0	1020	0	0	900	0	2832	8568	3936	1632	2832
UCL Parameters ($/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	$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	$7,068.00	$82,236.00	$124,128.00	$83,664.00	$137,424.00	$45,960.00	$109,476.00	$93,972.00	$154,788.00	$140,820.00	$39,456.00	$0.00	$0.00	$89,496.00	$0.00	$0.00	$61,704.00	$0.00	$0.00	$38,448.00	$4,860.00	$165,348.00	$340,452.00	$151,344.00	$65,592.00	$118,224.00
Total Restoration Monitoring Costs	$2,034,460.00																									
C. Stability Monitoring																										
1. Beginning of stability (MP wells)																										
# of Wells	19	13	24	12	22	10	13	11	14	20	9	0	0	18	0	0	32	0	11	9	5	29	21	12	6	12
Guideline 8 ($/sample)	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00
2. Quarterly sampling (MP wells)																										
# of Wells	19	13	24	12	22	10	13	11	14	20	9	0	0	18	0	0	32	0	11	9	5	29	21	12	6	12
Total # samples	0	52	96	48	88	40	52	44	56	80	36	0	0	72	0	0	128	0	44	36	20	116	84	48	24	48
Guideline 8 ($/sample)	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00	$372.00
3. Monitor Well Sampling (M wells, every 2 months)																										
# of Wells	25	24	24	57	39	18	28	28	43	49	20	0	0	20	0	0	37	0	0	17	10	26	48	45	20	28
Total # samples	0	144	144	342	234	108	168	168	258	294	120	0	0	120	0	0	222	0	0	102	60	156	288	270	120	168
UCL Parameters ($/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	$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	$7,068.00	$28,500.00	$48,960.00	$32,580.00	$47,940.00	$21,840.00	$29,220.00	$25,500.00	$33,780.00	$46,020.00	$20,340.00	$0.00	$0.00	$37,080.00	$0.00	$0.00	$66,180.00	$0.00	$20,460.00	$19,800.00	$11,100.00	$58,620.00	$47,700.00	$30,420.00	$14,760.00	$27,360.00
Total Stability Monitoring Costs	$675,228.00																									
D. Other Laboratory Costs																										
Radon, bio-assay, & other sampling costs/month at mine site	$396,000.00																									
Subtotal Monitoring and Sampling Costs per Mine Unit	$14,136.00	$110,736.00	$317,088.00	$116,244.00	$364,644.00	$279,480.00	$432,456.00	$424,752.00	$685,368.00	$574,920.00	$867,636.00	$0.00	$0.00	$751,536.00	$0	$0	$127,884	$0	$20,460	$58,248	$15,960	$223,968	$730,872	$181,764	$80,352	$315,504
Total Monitoring and Sampling Costs	**$7,090,008**																									
VII. Header House Heating Costs																										
Number of Header Houses per Unit(s)	6	5	10	11	18	5	9	7	13	9	3	0	0	7	5	18	20	0	0	4	3	15	43	10	6	9
Pre-Restoration and Restoration Period (yrs)	0	6	13	4	9	11	16	15	19	20	20	0	0	19	0	0	2	0	0	3	2	8	16	8	8	12
Electrical Heating Costs ($/yr)	$1,098	$1,098	$1,098	$1,098	$1,098	$1,098	$1,098	$1,098	$1,098	$1,098	$1,098	$1,098	$1,098	$1,098	$1,098	$1,098	$1,098	$1,098	$1,098	$1,098	$1,098	$1,098	$1,098	$1,098	$1,098	$1,098
Subtotal Header House Heating Cost per Wellfield	$0	$32,951	$142,787	$48,328	$177,934	$60,410	$158,164	$115,328	$271,295	$197,705	$65,902	$0	$0	$146,082	$0	$0	$43,934	$0	$0	$13,180	$6,590	$131,803	$755,672	$87,869	$52,721	$118,623

Cameco Resources
Smith Ranch Highland Uranium Project
2015-2016 Surety Estimate Update

Ground Water Restoration -Wellfield		Mine Unit 1	Mine Unit 2	Mine Unit 3/3Ext	Mine Unit 4/4A	Mine Unit 15	Mine Unit 15A	Mine Unit K	K-North	Mine Unit 9	Mine Unit 10	Mine Unit 10-Ext	Mine Unit 27	Mine Unit 21	Mine Unit 7	A-Wellfield	B-Wellfield	C-Wellfield	C-22 Pattern	C abandoned UG workings	D-Wellfield	D-Extension	E-Wellfield	F-Wellfield	H-Wellfield	I-Wellfield	J-Wellfield
Total Header House Heating Costs		**$2,627,276**																									
TOTAL RESTORATION COST PER WELLFIELD		$14,136	$2,124,700	$3,886,153	$1,541,323	$3,850,447	$1,177,552	$2,056,301	$1,863,743	$3,337,221	$3,990,512	$1,734,632	$0	$0	$2,695,016	$0	$0	$488,539	$34,807	$20,460	$136,161	$56,547	$1,430,573	$7,822,330	$1,772,359	$1,560,394	$1,823,591
TOTAL WELLFIELD RESTORATION COSTS		**$43,813,495**																									

Cameco Resources
Smith Ranch Highland Uranium Project
2015-2016 Surety Estimate Update

Ground Water Restoration - Site Wide											
I.	**Building Utility Costs**	**CPP**	**Main Office**	**Maint Shop**	**Pumphouse**	**Sat SR-1**	**Sat SR-2**	**Sat Reynolds**	**Satellite No.2**	**Selenium Plant**	**Satellite No.3**
	Electricity Unit Cost ($/yr)	$31,791	$26,748	$6,015	$10,545	$43,165	$43,165	$43,165	$29,797	$42,749	$29,797
	Propane ($/yr)	$2,364	$0	$0	$0	$0	$54,948	$54,948	$0	$0	$48,723
	Natural Gas ($/yr)	$66,706	$0	$0	$0	$11,990	$0	$0	$11,587	$11,587	$0
	Number of Years	21	21	21	21	19	21	0	8	21	16
	Subtotal Utility Cost per Building	$2,118,072	$561,705	$126,319	$221,437	$1,047,938	$2,060,373	$0	$331,073	$1,141,062	$1,256,312
	*Yrs for Satellite SR-1 assumes end of restoration for MU-7										
	Total Building Utility Costs	**$8,864,289**									
II.	**Deep Disposal Well Utility Costs**	**SR-1**	**SR-2**	**REY-1**	**SRHUP #6**	**SRHUP #7**	**SRHUP #10**	**Morton 1-20**	**Vollman 33-27**	**SRHUP #9**	
	Electricity Unit Cost ($/yr)	$4,799	$4,799	$4,799	$4,799	$4,799	$4,799	$4,799	$4,799	$4,799	
	Propane ($/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	21	21	21	21	21	21	
	Subtotal Utility Cost per Building	$100,781	$100,781	$100,781	$100,781	$100,781	$100,781	$100,781	$100,781	$100,781	
	Total Deep Disposal Well Utility Costs	**$907,033**									
III.	**Booster Pump Operation Costs**	**SRH**									
	Restoration Period (yrs)	20									
	Booster Pump Operating Cost ($/yr)	$216,612.14									
	Total Booster Pump Operating Cost	**$4,332,243**									
IV.	**Infrastructure, Equipment Maintenance,**	**SRH**									
	Replacement and Repair Costs										
	Annual Maintenance Cost	$188,277		Based on planned expenditures in 2013 plus 2015 Escalator = X 1.0197							
	Restoration Period (yrs)	20									
	Total Cost	**$3,765,540**									
V.	**Deep Disposal Well MIT Costs**	**SRH**									
	Five-year MIT Costs for Disposal Wells	$17,065.32									
	Number of DDWs	9									
	Number of MITs per DDW	4									
	Total DDW MIT Cost	**$614,352**									
VI.	**Capital Costs**	**SRH**									
	*Estimates based on planned expenditures (2016)										
	DDW 7- Rey Ranch DDW connecting pipeline	$470,000		*In support of the revised water balance to add restoration capacity to Smith Ranch network.							
	Total Capital Costs	**$470,000**									
VII.	**Vehicle Operation Costs**	**SRH**									
	Number of Pickup Trucks (Gas)	20									
	Truck Cost ($/hr)	$20.69									
	Average Operating Time (hrs/yr)	1000									
	Restoration and Stability Period (yrs)	21									
	Total Vehicle Operation Cost	**$8,690,220**									

Cameco Resources
Smith Ranch Highland Uranium Project
2015-2016 Surety Estimate Update

VIII.	**Labor Costs**	**SRH**									
	Assumptions:										
	Number of Environmental Managers/RSOs	1									
	$/hr	$65.75									
	Number of Restoration Managers	1									
	$/hr	$57.18									
	Number of Environmental Techs/HPTs	4									
	$/hr	$35.74									
	Number of Operators/Laborers	14									
	$/hr	$37.16									
	Number of Maintenance Technicians	4									
	$/hr	$32.88									
	Hrs/yr	2080									
	Restoration and Stability Period (yrs)	21									
	Total Labor Cost	**$40,084,035**									
IX.	**Irrigation Maintenance and Monitoring**	**Irrigator No. 1A**	**Irrigator No. 2**								
	A. **Harvesting Costs**										
	Irrigation Area (acres)	55	106								
	Harvesting Costs ($/acre)	$76	$76	FY 2015 Wyoing Practice Payment Rate-Perennial Crops, Delayed Mowing							
	Restoration Period (yrs)	21		* Based on timeline to support Smith Ranch restoration activities							
	Subtotal Harvesting Costs per Irrigator	$88,219	$170,022								
	B. Irrigation Monitoring										
	# of Irrigation Fluid Samples/Year	6	6								
	$/sample	$105	$105								
	# of Vegetation Samples/Year	5	5								
	$/sample	$270	$270								
	# of Soil Samples/Year	30	34								
	$/sample	$335	$335								
	# of Soil Water Samples/Year	12	2								
	$/sample	$150	$150								
	Restoration Period (yrs)	21		* Based on timeline to support Smith Ranch restoration activities							
	Subtotal Monitoring Costs per Irrigator	$290,430	$287,070								
	Subtotal Monitoring and Harvesting Costs per Irrigator	$378,649	$457,092								
	Total Maintenance and Monitoring Costs	**$835,741**									
X.	**Selenium Plant Operation Costs**	**SRH**									
	Restoration Period (yrs)	21		* Based on timeline to support Smith Ranch restoration activities							
	Selenium Plant Operating Cost ($/yr)	$153,974									
	Total Selenium Plant Operating Cost	**$3,233,454**									
TOTAL SITE-WIDE RESTORATION COSTS		**$71,796,907**									

Cameco Resources
Smith Ranch Highland Uranium Project
2015-2016 Surety Estimate Update

Well and Drill Hole Abandonment	Mine Unit 1	Mine Unit 2	Mine Unit 3 / 3 Ext	Mine Unit 4/4A	Mine Unit 15	Mine Unit 15A	Mine Unit K	K-North	Mine Unit 9	Mine Unit 10	Mine Unit 10-Ext	Mine Unit 27	Mine Unit 21	Mine Unit 7	Mine Unit 8	A-Wellfield	B-Wellfield	C-Wellfield	C-22 Pattern	C abandoned UG workings	D-Wellfield	D-Extension	E-Wellfield	F-Wellfield	H-Wellfield	I-Wellfield	J-Wellfield	Other
I. Well Abandonment (Wellfields)																												
A. Sealing Costs						Inc in MU-15													Inc in MU-C	Inc in MU-C		Inc in MU-D						
Total # of Wells per Wellfield	292	473	580	669	1374	42	498	327	731	584	333	88	0	445	128	8	392	560	0	0	286	0	431	1399	521	393	422	24
Production, Injection and Perimeter Well Average Depth (ft)	500	850	750	850	450	500	950	864	950	900	930	800	600	825	668	500	450	550	550	550	600	600	550	650	500	650	540	900
Well Abandonment (Sealing) Costs ($/ft)	$2.75	$2.75	$2.75	$2.75	$2.75	$2.75	$2.75	$2.75	$2.75	$2.75	$2.75	$2.75	$2.75	$2.75	$2.75	$2.75	$2.75	$2.75	$2.75	$2.75	$2.75	$2.75	$2.75	$2.75	$2.75	$2.75	$2.75	$2.75
Subtotal Sealing Costs per Wellfield	$401,500	$1,105,638	$1,196,250	$1,563,788	$1,700,325	$57,750	$1,301,025	$776,952	$1,909,738	$1,445,400	$851,648	$193,600	$0	$1,009,594	$235,136	$11,000	$485,100	$847,000	$0	$0	$471,900	$0	$651,888	$2,500,713	$716,375	$702,488	$626,670	$59,400
B Casing Removal and Diposal Costs																												
Total # of Wells per Wellfield (In Service)	292	473	580	669	1374	42	498	327	731	584	333	88	0	445	128	8	392	560	0	0	286	0	431	1399	521	393	422	24
# of Previously Abandoned Wells Pending Release	124	100	70	89	134	0	132	12	92	7	0	19	0	0	0	54	118	189	0	0	89	0	273	340	52	40	22	0
Total # of Wells for Casing Removal and Disposal	416	573	650	758	1508	42	630	339	823	591	333	107	0	445	128	62	510	749	0	0	375	0	704	1739	573	433	444	24
Remove and Dispose Casing ($/well)	$33	$33	$33	$33	$33	$33	$33	$33	$33	$33	$33	$33	$33	$33	$33	$33	$33	$33	$33	$33	$33	$33	$33	$33	$33	$33	$33	$33
Subtotal Casing Removal and Diposal Costs per Wellfield	$13,728	$18,909	$21,450	$25,014	$49,764	$1,386	$20,790	$11,187	$27,159	$19,503	$10,989	$3,531	$0	$14,685	$4,224	$2,046	$16,830	$24,717	$0	$0	$12,375	$0	$23,232	$57,387	$18,909	$14,289	$14,652	$792
Subtotal Well Abandonment Costs per Wellfield	$415,228	$1,124,547	$1,217,700	$1,588,802	$1,750,089	$59,136	$1,321,815	$788,139	$1,936,897	$1,464,903	$862,637	$197,131	$0	$1,024,279	$239,360	$13,046	$501,930	$871,717	$0	$0	$484,275	$0	$675,120	$2,558,100	$735,284	$716,777	$641,322	$60,192
Total Well Abandonment Costs	**$21,248,424**																											

II. Removal of Contaminated Soil Around Wells	Mine Unit 1	Mine Unit 2	Mine Unit 3/ 3 Ext	Mine Unit 4/4A	Mine Unit 15	Mine Unit 15A	Mine Unit K	K-North	Mine Unit 9	Mine Unit 10	Mine Unit 10-Ext	Mine Unit 27	Mine Unit 21	Mine Unit 7	Mine Unit 8	A-Wellfield	B-Wellfield	C-Wellfield	C-22 Pattern	C Haul Drifts	D-Wellfield	D-Extension	E-Wellfield	F-Wellfield	H-Wellfield	I-Wellfield	J-Wellfield
# of Production and Injection Wells	245	420	537	577	1288	0	447	273	655	534	266	0	0	381	0	1	327	455	0	0	231	0	372	1225	437	359	360
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	$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	$20,505	$35,151	$44,943	$48,290	$107,796	$0	$37,410	$22,848	$54,818	$44,692	$22,262	$0	$0	$31,887	$0	$84	$27,367	$38,080	$0	$0	$19,333	$0	$31,133	$102,523	$36,573	$30,045	$30,129
Total Contaminated Soil Removal/Disposal Costs	**$785,868**																										

III. Delineation Hole Abandonment	SRH
A. Subsurface Retained Abandonment Cost	
# of Drill Holes Pending Bond Release	
2012-13	689
2013-14	1022
2014-2015	776
2015-2016	375
Total # of Drill Holes	2862
Mobilization Fee	$1,100.00
Reclamation Cost per hole (grading/seeding, cap, site location)	$77.00
40% of Reclamation Costs (GL 12 Appendix L, footnote 6)	$30.80
Subtotal Subsurface Retained Abandonment Cost	$89,249.60
B. Drill Hole Plug and Abandonment	
# of Projected Drill Holes	
2016-2017	0
Hole Abandonment ($/ft)	$3.30
Projected Drill Hole Abandonment; ave depth 860ft	$0
C. Incidental Costs	
Total # of Drill Holes	0
Mobilization Fee	$1,100.00
Site Location ($/hole)	$11
Capping ($/hole)	$11
Small Site Grading and Seeding ($/site)	$55
Subtotal Incidental Costs	$1,100
Total Delineation Hole Abandonment	**$90,350**

IV. Waste Disposal Well Abandonment	SR-1	SR-2	SRHUP #6	SRHUP #7	SRHUP #10	REY-1	Morton No. 1-2	Vollman No. 33-27	SRHUP # 9
A. Well Sealing									
Total Depth of Well	10,097	9,996	9,600	9,900	9,550	9,950	9,206	14,412	9,500
Sealing Cost Per Foot	$13.62	$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	$130,071	$135,519	$125,386	$196,291	$129,390
B. Pump Dismantling and Decontamination									
Number of Pumps	2	2	2	2	2	2	2	2	2
Pump Dismantling and Disposal Cost	$2,810	$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	$5,619.34	$5,619.34
C. Tubing String Disposal (NRC-Licensed Facility)									
Length of Tubing String (ft)	8,271	8,257	8,910	9,100	8,800	8,217	8,498	8,869	8,820
Diameter of Tubing String (inches)	2.875	2.875	2.875	2.875	2.875	2.875	2.875	2.875	2.875
Volume of Tubing String (ft^3)	193	192	207	212	205	191	383	400	397
Transportation and Disposal Unit Cost ($/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	$1,501	$1,401	$2,804	$2,927	$2,911
Subtotal Cost per Well	$144,550	$143,173	$137,890	$142,009	$137,191	$142,539	$133,809	$204,838	$137,920
Total Waste Disposal Well Abandonment Costs	**$1,323,921**								
TOTAL WELL AND DRILL HOLE ABANDONMENT COSTS	**$23,448,562**								

Cameco Resources
Smith Ranch Highland Uranium Project
2015-2016 Surety Estimate Update

Wellfield Buildings and Equipment Removal and Disposal	Mine Unit 1	Mine Unit 2	Mine Unit 3/3 Ext	Mine Unit 4/4A	Mine Unit 15	Mine Unit 15A	Mine Unit K	K-North	Mine Unit 9	Mine Unit 10	Mine Unit 10-Ext	Mine Unit 27	Mine Unit 21	Mine Unit 7	A-Wellfield	B-Wellfield	C-Wellfield	C-22 Pattern	C abandoned UG workings	D-Wellfield	D-Extension	E-Wellfield	F-Wellfield	H-Wellfield	I-Wellfield	J-Wellfield
I. Wellfield Piping																		Inc in MU-C	Inc in MU-C							
Number of Header Houses per Wellfield	6	5	10	11	18	5	9	7	13	9	3	0	0	7	5	18	20	0	0	4	3	15	43	10	6	9
Length of Piping per Header House (ft)	13800	13800	13800	13800	13800	13800	13800	13800	13800	13800	13800	13800	13800	13800	13800	13800	13800	13800	13800	13800	13800	13800	13800	13800	13800	13800
*Based on 46 wells per header house with 300 ft pipeline per well																										
Approximate Total Length of Piping (ft)	82800	69000	138000	151800	248400	69000	124200	96600	179400	124200	41400	0	0	96600	69000	248400	276000	0	0	55200	41400	207000	593400	138000	82800	124200
A. Removal and Loading																										
Wellfield Piping Removal Unit Cost ($/ft of pipe)	$1.54	$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	$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	$127,784	$106,486	$212,973	$234,270	$383,351	$106,486	$191,675	$149,081	$276,864	$191,675	$63,892	$0	$0	$149,081	$106,486	$383,351	$425,945	$0	$0	$85,189	$63,892	$319,459	$915,782	$212,973	$127,784	$191,675
B. Transport and Disposal Costs (NRC-Licensed Facility)																										
Average Diameter of Piping (inches)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Chipped Volume Reduction (ft3/ft)	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011
Chipped Volume per Wellfield (ft^3)	888	740	1480	1628	2663	740	1332	1036	1923	1332	444	0	0	1036	740	2663	2959	0	0	592	444	2219	6362	1480	888	1332
Volume for Disposal Assuming 10% Void Space (ft^3)	977	814	1628	1790	2930	814	1465	1139	2116	1465	488	0	0	1139	814	2930	3255	0	0	651	488	2441	6998	1628	977	1465
Transportation and Disposal Unit Cost ($/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	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77
Subtotal Wellfield Piping Transport and Disposal Costs	$5,637	$4,697	$9,393	$10,328	$16,905	$4,697	$8,453	$6,572	$12,209	$8,453	$2,816	$0	$0	$6,572	$4,697	$16,905	$18,781	$0	$0	$3,756	$2,816	$14,084	$40,377	$9,393	$5,637	$8,453
Subtotal Wellfield Piping Costs per Wellfield	$133,421	$111,183	$222,366	$244,598	$400,256	$111,183	$200,128	$155,653	$289,073	$200,128	$66,708	$0	$0	$155,653	$111,183	$400,256	$444,726	$0	$0	$88,945	$66,708	$333,543	$956,159	$222,366	$133,421	$200,128
Total Wellfield Piping Costs	**$5,247,785**																									

II. Well Pumps and Tubing	Mine Unit 1	Mine Unit 2	Mine Unit 3/3 Ext	Mine Unit 4/4A	Mine Unit 15	Mine Unit 15A	Mine Unit K	K-North	Mine Unit 9	Mine Unit 10	Mine Unit 10-Ext	Mine Unit 27	Mine Unit 21	Mine Unit 7	A-Wellfield	B-Wellfield	C-Wellfield	C-22 Pattern	C Haul Drifts	D-Wellfield	D-Extension	E-Wellfield	F-Wellfield	H-Wellfield	I-Wellfield	J-Wellfield
*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												Inc in MU-C	Inc in MU-C		Inc in MU-D					
Number of Production Wells	83	137	232	191	432	0	168	99	258	196	113	0	0	134	0	133	199	0	0	91	0	143	487	128	127	121
Number of Injection Wells	162	284	305	387	856	0	279	174	397	338	153	0	0	247	1	194	257	0	0	140	0	230	738	310	233	239
Number of Monitor Wells	47	50	40	90	83	42	51	53	69	49	66	85	0	62	7	64	85	0	0	50	0	59	119	82	34	59
1. Pump Volume																										
Number of Production Wells with Pumps	50	82	139	114	259	0	101	59	155	118	68	0	0	80	0	133	199	0	0	91	0	143	487	128	127	121
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	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43
Pump Volume per Wellfield (ft^3)	21.6	35.5	60.3	49.5	112.3	0.0	43.7	25.7	67.1	50.9	29.4	0.0	0.0	34.8	0.0	57.6	86.0	0.0	0.0	39.4	0.0	61.7	211.0	55.2	54.8	52.4
2. Tubing Volume																										
Average Tubing Length per Well (ft)	475	825	725	825	425	475	925	839	925	875	905	775	575	800	475	425	525	525	525	575	575	525	625	475	625	515
*Based on average well depth minus 25 ft																										
Tubing Length per Wellfield (ft)	138,700	387,750	418,325	550,275	582,675	19,950	460,650	273,514	669,700	510,125	300,460	65,875	0	354,400	3,800	166,175	283,500	0	0	161,575	0	226,275	840,000	246,525	245,625	215,785
Diameter of Production Well Fiberglass Tubing (inches)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Diameter of Injection Well HDPE Tubing (inches)	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
Chipped Volume Reduction (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	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011
Chipped Volume per Wellfield (ft^3)	1487	4157	4485	5900	6247	214	4939	2932	7180	5469	3221	706	0	3800	41	1782	3040	0	0	1732	0	2426	9006	2643	2633	2314
Volume of Pump and Tubing (ft^3)	1509	4192	4545	5950	6359	214	4983	2958	7247	5520	3250	706	0	3835	41	1840	3126	0	0	1771	0	2488	9217	2698	2688	2366
Volume for Disposal Assuming Void Space (ft^3)	1659	4612	5000	6544	6995	235	5481	3254	7972	6072	3575	777	0	4218	45	2024	3439	0	0	1949	0	2736	10139	2968	2957	2603
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	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77
Subtotal Pump and Tubing Transport and Disposal Costs Per Wellfield	$9,572	$26,610	$28,849	$37,757	$40,359	$1,356	$31,624	$18,775	$45,997	$35,034	$20,627	$4,483	$0	$24,337	$260	$11,678	$19,842	$0	$0	$11,245	$0	$15,786	$58,500	$17,125	$17,061	$15,019
Total Pump and Tubing Disposal Costs	**$491,896**																									

III. Buried Trunkline (Includes $ for fiber optic cable removal)	Mine Unit 1	Mine Unit 2	Mine Unit 3/3 Ext	Mine Unit 4/4A	Mine Unit 15	Mine Unit 15A	Mine Unit K	K-North	Mine Unit 9	Mine Unit 10	Mine Unit 10-Ext	Mine Unit 27	Mine Unit 21	Mine Unit 7	A-Wellfield	B-Wellfield	C-Wellfield	C-22 Pattern	C Haul Drifts	D-Wellfield	D-Extension	E-Wellfield	F-Wellfield	H-Wellfield	I-Wellfield	J-Wellfield
Assumptions:																Inc in MU-A		Inc in MU-C	Inc in MU-C			Inc in MU-D				
Length of Trunkline Trench (ft)	5075	7600	4790	12565	19085	7500	12000	17198	11565	9050	2095	0	0	5400	6500	0	5900	0	0	12000	5500	0	11700	13200	10750	2500
A. Removal and Loading																										
Main Pipeline Removal Unit Cost ($/ft of trench)	$3.09	$3.09	$3.09	$3.09	$3.09	$3.09	$3.09	$3.09	$3.09	$3.09	$3.09	$3.09	$3.09	$3.09	$3.09	$3.09	$3.09	$3.09	$3.09	$3.09	$3.09	$3.09	$3.09	$3.09	$3.09	$3.09
Subtotal Trunkline Removal and Loading Costs	$15,664	$23,458	$14,785	$38,783	$58,907	$23,149	$37,039	$53,083	$35,696	$27,933	$6,466	$0	$0	$16,667	$20,063	$0	$18,211	$0	$0	$37,039	$16,976	$0	$36,113	$40,743	$33,181	$7,716
B. Transport and Disposal Costs (NRC-Licensed Facility)																										
1. 3" HDPE Trunkline																										
Piping Length (ft)	5075	7600	4790	12565	0	0	0	0	0	0	0	0	0	0	6500	0	5900	0	0	12000	5500	0	11700	13200	10750	0
Chipped Volume per foot of pipe (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	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	151	0	137	0	0	279	128	0	272	307	250	0
2. 6" HDPE Trunkline																										
Piping Length (ft)	2410	10000	4820	7320	28170	2320	2288	3466	4800	6850	3500	0	0	0	0	0	0	0	0	0	11000	0	0	0	3000	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	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834
Chipped Volume (ft^3)	201	834	402	610	2349	193	191	289	400	571	292	0	0	0	0	0	0	0	0	0	917	0	0	0	250	0
3. 8" HDPE Trunkline																										
Piping Length (ft)	4100	0	1100	4240	4000	6266	1104	948	15980	5000	2500	0	0	4000	0	0	0	0	0	0	0	0	0	0	0	0
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	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	0	0	0	0	0	0	0	0	0	0	0	0
4. 10" HDPE Trunkline																										
Piping Length (ft)	0	5200	3660	4680	6000	1400	0	1028	2800	2000	1000	0	0	2000	13000	0	0	0	0	0	0	0	0	0	750	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	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	0	0	439	2854	0	0	0	0	0	0	0	0	0	165	439
5. 12" HDPE Trunkline																										
Piping Length (ft)	1460	0	0	5270	0	1080	0	2866	4110	0	0	0	0	0	0	0	11800	0	0	24000	0	0	0	0	0	2000
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	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	0	0	0	0	0	3644	0	0	7411	0	0	0	0	0	618
6. 14" HDPE Trunkline																										
Piping Length (ft)	740	0	0	0	0	6200	0	0	1830	0	0	0	0	4000	0	0	0	0	0	0	0	0	23400	26400	8500	0
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	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	0	0	0	0	0	0	0	0	8712	9829	3165	0
7. 16" HDPE Trunkline																										
Piping Length (ft)	1440	0	0	3620	0	0	2010	2210	1420	0	0	0	0	0	0	0	0	0	0	0	0	0	23400	26400	8500	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	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	0	0	0	0	0	0	0	0	11381.40381	12840.55814	4134.270613	0
8. 18" HDPE Trunkline																										
Piping Length (ft)	0	0	0	0	24170	0	2086	18600	7640	6550	3100	0	0	0	0	0	0	0	0	0	0	0	0	0	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	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Cameco Resources
Smith Ranch Highland Uranium Project
2015-2016 Surety Estimate Update

Wellfield Buildings and Equipment Removal and Disposal	**Mine Unit 1**	**Mine Unit 2**	**Mine Unit 3/3 Ext**	**Mine Unit 4/4A**	**Mine Unit 15**	**Mine Unit 15A**	**Mine Unit K**	**K-North**	**Mine Unit 9**	**Mine Unit 10**	**Mine Unit 10-Ext**	**Mine Unit 27**	**Mine Unit 21**	**Mine Unit 7**	**A-Wellfield**	**B-Wellfield**	**C-Wellfield**	**C-22 Pattern**	**C abandoned UG workings**	**D-Wellfield**	**D-Extension**	**E-Wellfield**	**F-Wellfield**	**H-Wellfield**	**I-Wellfield**	**J-Wellfield**
Total Chipped Volume (ft^3)	2325	2153	1472	5918	19108	4028	2608	14057	10617	5748	2773	0	0	2494	3006	0	3781	0	0	7691	1045	0	20366	22977	7964	1057
Volume for Disposal Assuming Void Space (ft^3)	2558	2368	1620	6509	21019	4431	2869	15463	11678	6323	3050	0	0	2743	3306	0	4159	0	0	8460	1150	0	22403	25275	8761	1162
Transportation and Disposal Unit Cost ($/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	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77	$5.77
Subtotal Trunkline Transport and Disposal Costs	$14,759	$13,663	$9,347	$37,555	$121,275	$25,566	$16,553	$89,218	$67,379	$36,482	$17,598	$0	$0	$15,826	$19,075	$0	$23,996	$0	$0	$48,812	$6,635	$0	$129,260	$145,831	$50,549	$6,704
Trunkline Decommissioning Costs per Wellfield	$30,423	$37,121	$24,132	$76,338	$180,182	$48,715	$53,592	$142,301	$103,075	$64,415	$24,064	$0	$0	$32,493	$39,138	$0	$42,207	$0	$0	$85,851	$23,611	$0	$165,373	$186,574	$83,730	$14,420
Total Trunkline Decommissioning Costs	**$1,457,755**																									
	Mine Unit 1	**Mine Unit 2**	**Mine Unit 3/3 Ext**	**Mine Unit 4/4A**	**Mine Unit 15**	**Mine Unit 15A**	**Mine Unit K**	**K-North**	**Mine Unit 9**	**Mine Unit 10**	**Mine Unit 10-Ext**	**Mine Unit 27**	**Mine Unit 21**	**Mine Unit 7**	**A-Wellfield**	**B-Wellfield**	**C-Wellfield**	**C-22 Pattern**	**C Haul Drifts**	**D-Wellfield**	**D-Extension**	**E-Wellfield**	**F-Wellfield**	**H-Wellfield**	**I-Wellfield**	**J-Wellfield**
IV. Wellhead Cover Removal																		Inc in MU-C	Inc in MU-C							
Number of Wells	245	420	537	577	1288	0	447	273	655	534	266	0	0	381	1	327	455	0	0	231	0	372	1225	437	359	360
Well Head Removal, Decontamination, and Disposal Cost	$11.70	$11.70	$11.70	$11.70	$11.70	$11.70	$11.70	$11.70	$11.70	$11.70	$11.70	$11.70	$11.70	$11.70	$11.70	$11.70	$11.70	$11.70	$11.70	$11.70	$11.70	$11.70	$11.70	$11.70	$11.70	$11.70
Subtotal Wellhead Removal Costs	$2,866	$4,913	$6,281	$6,749	$15,065	$0	$5,228	$3,193	$7,661	$6,246	$3,111	$0	$0	$4,456	$12	$3,825	$5,322	$0	$0	$2,702	$0	$4,351	$14,328	$5,111	$4,199	$4,211
Total Well Head Removal and Disposal Costs	**$109,830**																									
V. Header Houses (Includes Booster Stations)	**Mine Unit 1**	**Mine Unit 2**	**Mine Unit 3/3 Ext**	**Mine Unit 4/4A**	**Mine Unit 15**	**Mine Unit 15A**	**Mine Unit K**	**K-North**	**Mine Unit 9**	**Mine Unit 10**	**Mine Unit 10-Ext**	**Mine Unit 27**	**Mine Unit 21**	**Mine Unit 7**	**A-Wellfield**	**B-Wellfield**	**C-Wellfield**	**C-22 Pattern**	**C Haul Drifts**	**D-Wellfield**	**D-Extension**	**E-Wellfield**	**F-Wellfield**	**H-Wellfield**	**I-Wellfield**	**J-Wellfield**
Booster Houses	0	0	1	1	6	0	3	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0
Total Quantity	6	5	11	12	24	5	12	7	14	9	4	0	0	7	5	18	21	0	0	4	3	15	43	11	6	9
Average Header House Volume (ft^3)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
A. Removal																										
Total Volume (ft^3)	9600	8000	17600	19200	38400	8000	19200	11200	22400	14400	6400	0	0	11200	8000	28800	33600	0	0	6400	4800	24000	68800	17600	9600	14400
Demolition Cost	$0.293	$0.293	$0.293	$0.293	$0.293	$0.293	$0.293	$0.293	$0.293	$0.293	$0.293	$0.293	$0.293	$0.293	$0.293	$0.293	$0.293	$0.293	$0.293	$0.293	$0.293	$0.293	$0.293	$0.293	$0.293	$0.293
Subtotal Building Demolition Costs	$2,809	$2,341	$5,150	$5,618	$11,236	$2,341	$5,618	$3,277	$6,554	$4,213	$1,873	$0	$0	$3,277	$2,341	$8,427	$9,831	$0	$0	$1,873	$1,404	$7,022	$20,131	$5,150	$2,809	$4,213
B. Survey and Decontamination																										
Cost per Header House	$634	$634	$634	$634	$634	$634	$634	$634	$634	$634	$634	$634	$634	$634	$634	$634	$634	$634	$634	$634	$634	$634	$634	$634	$634	$634
Subtotal Survey and Decontamination Costs	$3,802	$3,168	$6,970	$7,603	$15,207	$3,168	$7,603	$4,435	$8,871	$5,703	$2,534	$0	$0	$4,435	$3,168	$11,405	$13,306	$0	$0	$2,534	$1,901	$9,504	$27,246	$6,970	$3,802	$5,703
C. Disposal																										
Total Volume for Disposal - Incl. 33% Factor (cy)	117	98	215	235	469	98	235	137	274	176	78	0	0	137	98	352	411	0	0	78	59	293	841	215	117	176
Volume for Disposal Assuming Void Space (cy)	129	108	237	258	516	108	258	151	301	194	86	0	0	151	108	387	452	0	0	86	65	323	925	237	129	194
Disposal Cost, Landfill (cy)	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17
Subtotal Off-Site County Landfill Disposal Costs	$5,440	$4,554	$9,994	$10,879	$21,758	$4,554	$10,879	$6,367	$12,692	$8,180	$3,626	$0	$0	$6,367	$4,554	$16,319	$19,059	$0	$0	$3,626	$2,741	$13,620	$39,004	$9,994	$5,440	$8,180
Headerhouse Soil Removal Volume (assumes 10'Wx20'Lx2.5'D)	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500
11e.(2) Disposal Cost (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	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80
Subtotal 11e.(2) Disposal Costs	$17,414	$14,512	$31,926	$34,829	$69,658	$14,512	$34,829	$20,317	$40,634	$26,122	$11,610	$0	$0	$20,317	$14,512	$52,243	$60,951	$0	$0	$11,610	$8,707	$43,536	$124,804	$31,926	$17,414	$26,122
Subtotal Header House Removal and Disposal Costs per Wellfield	$29,465	$24,575	$54,040	$58,929	$117,859	$24,575	$58,929	$34,396	$68,751	$44,218	$19,643	$0	$0	$34,396	$24,575	$88,394	$103,147	$0	$0	$19,643	$14,753	$73,682	$211,185	$54,040	$29,465	$44,218
Total Header House Removal and Disposal Costs	**$1,232,878**																									
TOTAL REMOVAL AND DISPOSAL COSTS PER WELLFIELD	$205,747	$204,402	$335,668	$424,371	$753,721	$185,829	$349,501	$354,318	$514,557	$350,041	$134,153	$4,483	$0	$251,335	$175,168	$504,153	$615,244	$0	$0	$208,386	$105,072	$427,362	$1,405,545	$485,216	$267,876	$277,996
TOTAL WELLFIELD BUILDINGS AND EQUIPMENT REMOVAL	**$8,540,144**																									

Cameco Resources
Smith Ranch Highland Uranium Project
2015-2016 Surety Estimate Update

Wellfield and Satellite Surface Reclamation	Mine Unit 1	Mine Unit 2	Mine Unit 3/ 3 Ext	Mine Unit 4/4A	Mine Unit 15	Mine Unit 15A	Mine Unit K	K-North	Mine Unit 9	Mine Unit 10	Mine Unit 10-Ext	Mine Unit 27	Mine Unit 21	Mine Unit 7	Mine Unit-A/B	Mine Unit-C	Mine Unit-D	Mine Unit-E	Mine Unit-F	Mine Unit-H	D-Extension	Mine Unit-I	Mine Unit-J
I. Wellfield Pattern Area, and Road Reclamation																							
Area (acres)	50.9	104.3	99.8	125.1	117.3	44.5	83.3	65.4	88.7	99.5	23.5	0.0	0.0	68.4	37.9	63.9	14.9	44.6	157.6	56.1	9.3	52.7	52.7
*Assume wellfield pattern area X 2																							
Discing/Seeding Unit Cost ($/acre)	$330	$330	$330	$330	$330	$330	$330	$330	$330	$330	$330	$330	$330	$330	$330	$330	$330	$330	$330	$330	$330	$330	$330
Subtotal Pattern Area and Road Reclamation Costs	$16,790	$34,412	$32,947	$41,290	$38,702	$14,698	$27,482	$21,589	$29,264	$32,842	$7,762	$0	$0	$22,579	$12,500	$21,094	$4,924	$14,725	$52,001	$18,526	$3,056	$17,378	$17,404
Total Wellfield Area Reclamation Costs	**$481,965**																						
II. Wellfield Road Reclamation																							
Road Construction																							
Length of Wellfield Roads (1000 ft)	6.2	10.1	11.2	92.4	19.8	13.6	9.6	2.8	12.7	16.2	2.9	0	0	16.2	12.8	11.3	2.4	13.3	18	15.7	5	5	5
Wellfield Road Reclamation Unit Cost ($/1000 ft)	$1,184	$1,184	$1,184	$1,184	$1,184	$1,184	$1,184	$1,184	$1,184	$1,184	$1,184	$1,184	$1,184	$1,184	$1,184	$1,184	$1,184	$1,184	$1,184	$1,184	$1,184	$1,184	$1,184
Subtotal Wellfield Road Reclamation Costs	$7,343	$11,961	$13,264	$109,430	$23,449	$16,107	$11,369	$3,316	$15,041	$19,186	$3,434	$0	$0	$19,186	$15,159	$13,383	$2,842	$15,751	$21,317	$18,594	$5,922	$5,922	$5,922
Total Wellfield Road Reclamation Costs	**$357,898**																						
III. Laydown area reclamation																							
Area of Disturbance (acres)	1	1	2	2	1	1	2	2	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1
Average Depth of Stripped Topsoil (ft)	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
Surface Grade: Level Ground																							
Average Length of Topsoil Haul (ft)	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500
A. Ripping Overburden with Dozer																							
Ripping Cost (per acre)	$1,230	$1,230	$1,230	$1,230	$1,230	$1,230	$1,230	$1,230	$1,230	$1,230	$1,230	$1,230	$1,230	$1,230	$1,230	$1,230	$1,230	$1,230	$1,230	$1,230	$1,230	$1,230	$1,230
Subtotal Ripping Costs	$1,230	$1,230	$2,459	$2,459	$1,230	$1,230	$1,845	$1,845	$1,230	$1,230	$1,230	$0	$0	$1,230	$1,230	$1,230	$1,230	$1,230	$1,230	$1,230	$1,230	$1,230	$1,230
B. Topsoil Application with Scraper																							
Volume of Topsoil Removed (cy)	1,081	1,081	2,162	2,162	1,081	1,081	1,621	1,621	1,081	1,081	1,081	0	0	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081
Moving Materials (0% Grade)	$1.07	$1.07	$1.07	$1.07	$1.07	$1.07	$1.07	$1.07	$1.07	$1.07	$1.07	$1.07	$1.07	$1.07	$1.07	$1.07	$1.07	$1.07	$1.07	$1.07	$1.07	$1.07	$1.07
Subtotal Topsoil Application Costs	$1,155	$1,155	$2,309	$2,309	$1,155	$1,155	$1,732	$1,732	$1,155	$1,155	$1,155	$0	$0	$1,155	$1,155	$1,155	$1,155	$1,155	$1,155	$1,155	$1,155	$1,155	$1,155
C. Discing and Seeding																							
Discing/Seeding Unit Cost ($/acre)	$330	$330	$330	$330	$330	$330	$330	$330	$330	$330	$330	$330	$330	$330	$330	$330	$330	$330	$330	$330	$330	$330	$330
Subtotal Discing/Seeding Costs	$330	$330	$660	$660	$330	$330	$495	$495	$330	$330	$330	$0	$0	$330	$330	$330	$330	$330	$330	$330	$330	$330	$330
Subtotal Surface Reclamation Costs per WF laydown area	$2,715	$2,715	$5,428	$5,428	$2,715	$2,715	$4,072	$4,072	$2,715	$2,715	$2,715	$0	$0	$2,715	$2,715	$2,715	$2,715	$2,715	$2,715	$2,715	$2,715	$2,715	$2,715
Total Wellfield Laydown Area Reclamation Costs	$65,155														$24,435								
SUBTOTAL SURFACE RECLAMATION COSTS PER WELLFIELD	**$26,848**	**$49,088**	**$51,639**	**$156,148**	**$64,866**	**$33,520**	**$42,923**	**$28,977**	**$47,020**	**$54,743**	**$13,911**	**$0**	**$0**	**$44,480**	**$30,374**	**$37,192**	**$10,481**	**$33,191**	**$76,033**	**$39,835**	**$11,693**	**$26,015**	**$26,041**
TOTAL WELLFIELD SURFACE RECLAMATION COSTS	**$905,018**																						
IV. Fence Removal																							
Length of Fencing (ft)	16,487	11,580	7,388	26,009	7,074	0	23,271	23,271	21,887	21,595	9,661	19,732	0	8,674	13,720	18,694	14,060	18,426	29,540	9,680	0	9,977	10,000
Fence Removal Costs	$0.42	$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	$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	$10,872	$2,957	$0	$9,727	$9,727	$9,149	$9,027	$4,038	$8,248	$0	$3,626	$5,735	$7,814	$5,877	$7,702	$12,348	$4,046	$0	$4,170	$4,180
Total Fence Removal Costs	**$134,063**																						
V. Satellite Area Reclamation	**SR-1**	**SR-2**	**REY**	Satellite No.1	Satellite No.2	Satellite No.3	Se Plant																
Assumptions:																							
Area of Disturbance (acres)	2.70	5.00	5.00	1.00	3.00	2.50	2.00																
Average Depth of Stripped Topsoil (ft)	1	1	1	1	0.67	0.67	0.67																
Surface Grade: Level Ground																							
Average Length of Topsoil Haul (ft)	1000	500	500	1000	500	500	500																
A. Ripping Overburden with Dozer																							
Ripping Cost (per acre)	$1,229.72	$1,229.72	$1,229.72	$1,229.72	$1,229.72	$1,229.72	$1,229.72																
Subtotal Ripping Costs	$3,320	$6,149	$6,149	$1,230	$3,689	$3,074	$2,459																
B. Topsoil Application with Scraper																							
Volume of Topsoil Removed (cy)	4356	8067	8067	1613	3243	2702	2162																
Moving Materials (0% Grade)	$1.28	$1.28	$1.28	$1.28	$1.28	$1.28	$1.28																
Subtotal Topsoil Application Costs	$5,558	$10,293	$10,293	$2,059	$4,138	$3,448	$2,759																
C. Discing and Seeding																							
Discing/Seeding Unit Cost ($/acre)	$330	$330	$330	$330	$330	$330	$330																
Subtotal Discing/Seeding Costs	$891	$1,650	$1,650	$330	$990	$825	$660																
Subtotal Surface Reclamation Costs per Location	$9,769	$18,092	$18,092	$3,619	$8,817	$7,347	$5,878																
Total Satellite Building Area Reclamation Costs	**$71,614**																						
TOTAL WELLFIELD AND SATELLITE SURFACE RECLMAATION COSTS	**$1,110,695**																						

Cameco Resources
Smith Ranch Highland Uranium Project
2015-2016 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	CPP Lab Addition	CPP Control Room / Change Rooms	CPP Lab	CPP Maintenance Shop Addition	Sodium Hydroxide Addition	HUP Plant	Satellite No. 1	Satellite No. 2	Satellite No. 3	Selenium Plant
I. Removal and Loading Costs																			
A. Tankage																			
Number of Tanks	23	36	2	23	15	3	3	10	0	0	0	0	0	1	39	8	14	18	9
Volume of Tank Construction Material (ft^3)	900	1340	300	920	260	164	164	397	0	0	0	0	0	32.5	1629	162	290	397	290
Tank Removal Cost	$124.03	$124.03	$124.03	$124.03	$124.03	$124.03	$124.03	$124.03	$124.03	$124.03	$124.03	$124.03	$124.03	$124.03	$124.03	$124.03	$124.03	$124.03	$124.03
Subtotal Tankage Removal and Loading Costs	$111,629	$166,203	$37,210	$114,109	$32,248	$20,341	$20,341	$49,179	$0	$0	$0	$0	$0	$4,031	$202,048	$20,093	$35,969	$49,241	$35,969
B. PVC/Steel Pipe																			
PVC Pipe Footage	4800	6000	350	7000	1500	0	0	4000	0	100	50	100	0	0	12996	1000	4000	4000	4000
Average PVC Pipe Diameter (inches)	3	3	2	3	3	3	0	3	3	2	2	2	0	0	3	3	3	3	3
Shredded PVC Pipe Volume Reduction (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	0.023	0.023	0.023	0.023	0.023	0.023
Volume of Shredded PVC Pipe (ft^3)	112	140	8	163	35	0	0	93	0	2	1	2	0	0	303	23	93	93	93
Steel Pipe Footage	1100	1,000	300	250	0	80	0	0	0	25	50	25	15	25	645	0	0	0	0
Average Steel Pipe Diameter (inches)	6	0	0	6	0	8	0	0	0	0.5	0.5	0.5	0.5	0.5	2	0	0	0	0
Volume (ft^3)	216	0	0	49	0	30	0	0	0	1	1	1	1	1	15	0	0	0	0
Pipe Removal Cost	$8.05	$8.05	$8.05	$8.05	$8.05	$8.05	$8.05	$8.05	$8.05	$8.05	$8.05	$8.05	$8.05	$8.05	$8.05	$8.05	$8.05	$8.05	$8.05
Subtotal PVC/Steel Pipe Removal and Loading Costs	$47,471	$56,322	$5,230	$58,333	$12,069	$644	$0	$32,184	$0	$1,006	$805	$1,006	$121	$201	$109,755	$8,046	$32,184	$32,184	$32,184
C. Pumps																			
Number of Pumps	23	67	6	23	12	2	0	13	0	0	0	0	0	2	52	10	14	13	14
Average Volume (ft^3/pump)	4.93	4.93	0	4.93	4.93	4.93	4.93	4.93	4.93	4.93	4.93	4.93	4.93	4.93	4.93	4.93	4.93	4.93	4.93
Volume of Pumps (ft^3)	113	330	0	113	59	10	0	64	0	0	0	0	0	10	256.36	49.3	69.02	64.09	69.02
Pump Removal Cost	$96	$96	$96	$96	$96	$96	$96	$96	$96	$96	$96	$96	$96	$96	$96	$96	$96	$96	$96
Subtotal Pump Removal and Loading Costs	$10,851.06	$31,688.92	$0.00	$10,851.06	$5,665.60	$960.27	$0.00	$6,145.73	$0.00	$0.00	$0.00	$0.00	$0.00	$960.27	$24,617.49	$4,734.13	$6,627.79	$6,154.37	$6,627.79
D. Dryer																			
Dryer Volume (ft^3)	0	0	1,000	0	0	0	0	0	0	0	0	0	0	0	885	0	0	0	0
Dryer Removal Costs	$14.13	$14.13	$14.13	$14.13	$14.13	$14.13	$14.13	$14.13	$14.13	$14.13	$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	$14,134	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$12,509	$0	$0	$0	$0
E. RO Units																			
Number of RO Units (500 gpm)																			
Current	1	0	0	1	0	0	0	0.25	0	0	0	0	0	0	0	0	2.5	0	0
Planned	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Degasser Units																			
Current	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Planned	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RO/Degasser Average Volume (ft3/Unit)	250	250	250	250	250	250	250	250	0	250	250	250	250	250	250	250	250	250	250
RO and Degasser Removal Cost	$4.69	$4.69	$4.69	$4.69	$4.69	$4.69	$4.69	$4.69	$4.69	$4.69	$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	$1,172.17	$0.00	$0.00	$2,344.35	$0.00	$0.00	$0.00	$293.04	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$2,930.44	$0.00	$1,172.17
Subtotal Equipment Removal and Loading Costs per Facility	$171,123	$254,213	$56,574	$185,638	$49,983	$21,945	$20,341	$87,801	$0	$1,006	$805	$1,006	$121	$5,192	$348,929	$32,873	$77,711	$87,579	$75,953
Total Equipment Removal and Loading Costs	**$1,478,792**																		
II. Transportation and Disposal Costs (NRC-Licensed Facility)																			
A. Tankage																			
Volume of Tank Construction Material (ft^3)	900	1340	300	920	260	164	164	397	0	0	0	0	0	33	0	162	290	397	290
Volume for Disposal Assuming Void Space (ft^3)	990	1474	330	1012	286	180	180	436	0	0	0	0	0	36	0	178	319	437	319
Transportation and Disposal Unit Cost ($/ft3)	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32
Subtotal Tankage Transportation and Disposal Costs	$7,250	$10,795	$2,417	$7,411	$2,095	$1,318	$1,318	$3,193	$0	$0	$0	$0	$0	$264	$0	$1,304	$2,336	$3,200	$2,336
B. PVC / Steel Pipe																			
Volume of Shredded PVC Pipe (ft^3)	111.8	139.7	8.2	163.0	34.9	0.0	0.0	93.1	0.0	2.3	1.2	2.3	0.0	0.0	0	23	93	93	93
Volume for Disposal Assuming Void Space (ft^3)	123	154	9	179	38	0	0	102	0	3	1	3	0	0	0	25	102	102	102
Volume of Steel Pipe (ft^3)	216	0	0	49.075	0	30	0	0	0	1	1	1	1	1	0	0	0	0	0
Volume for Disposal Assuming Void Space (ft^3)	238	0	0	54	0	33	0	0	0	1	1	1	1	1	0	0	0	0	0
Transportation and Disposal Unit Cost ($/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	$5.77	$5.77	$5.77	$5.77	$5.77
Subtotal PVC Pipe Transportation and Disposal Costs	$2,083	$889	$52	$1,344	$219	$190	$0	$589	$0	$23	$12	$23	$6	$6	$0	$144	$589	$589	$589
C. Pumps																			
Volume of Pumps (ft^3)	113	330	0	113	59	10	0	64	0	0	0	0	0	10	0	49	69	64	69
Volume for Disposal Assuming Void Space (ft^3)	124	363	0	124	65	11	0	70	0	0	0	0	0	11	0	54	76	70	76
Transportation and Disposal Unit Cost ($/ft3)	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32
Subtotal Pump Transportation and Disposal Costs	$908	$2,658	$0	$908	$476	$81	$0	$513	$0	$0	$0	$0	$0	$81	$0	$395	$557	$513	$557
D. Dryer																			
Dryer Volume (ft^3)	0	0	1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Volume for Disposal Assuming Dryer Remains Intact (ft^3)	0	0	1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Transportation and Disposal Unit Cost ($/ft3)	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32
Total Dryer Transportation and Disposal Costs	$0	$0	$7,323	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
E. RO/Degasser Units																			
Volume of RO Units (ft^3)	250	0	0	500	0	0	0	62.5	0	0	0	0	0	0	0	0	625	0	250
Volume for Disposal Assuming Volume Reduction (ft^3)	275	0	0	550	0	0	0	68.75	0	0	0	0	0	0	0	0	687.5	0	275
Transportation and Disposal Unit Costs	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32	$7.32
Subtotal RO Unit Transportation and Disposal Costs	$2,014	$0	$0	$4,028	$0	$0	$0	$503	$0	$0	$0	$0	$0	$0	$0	$0	$5,035	$0	$2,014
Subtotal Equipment Transportation and Disposal Costs per Facility	$12,255	$14,342	$9,792	$13,691	$2,790	$1,589	$1,318	$4,798	$0	$23	$12	$23	$6	$351	$0	$1,843	$8,517	$4,302	$5,496
Total Equipment Transportation and Disposal Costs	**$81,148**																		
III. Health and Safety Costs																			
Radiation Safety costs — Accounted for on GWR-SITE																			
Total Health and Safety Costs																			
SUBTOTAL EQUIPMENT REMOVAL AND DISPOSAL COSTS PER FACILITY	$183,378	$268,555	$66,366	$199,329	$52,773	$23,534	$21,659	$92,600	$0	$1,029	$817	$1,029	$127	$5,543	$348,929	$34,716	$86,228	$91,881	$81,449
TOTAL EQUIPMENT REMOVAL AND DISPOSAL COSTS	**$1,559,941**																		

Cameco Resources
Smith Ranch Highland Uranium Project
2015-2016 Surety Estimate Update

	CPP IX Plant	Central Plant	Dryer Building	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	DDW SRHUP #10 Buildings	DDW REY-1 Buildings	DDW WellHead Buildings	Satellite SR-1	Yellowcake Warehouse	Satellite SR-2	Satellite Reynolds	Construction Shop	CPP Lab Addition	DDW SRHUP #7 Buildings	CPP Control Room / Change Rooms	CPP Lab	CPP Maintenance Shop Addition	Sodium Hydroxide Addition	HUP Plant	Dryer Building
Building Demolition and Disposal	165 x 70	165 x 100	100 x 35										15x30	20x24	20x24	9 ea 8x8	160X120	63 x 63	160X120	160X120	50X80	25X40	20x24	32 x 32	32 x 32	25X40	20 x 20		
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	4,662	0	0	0	1,000	704	0	1,024	0	0	131,000	20,000
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	$0.88	$0.88	$0.88	$0.88	$0.88	$0.88	$0.88	$0.88	$0.88	$0.88
Subtotal Wall Decontamination Costs	$8,238	$11,556	$6,635	$0	$1,012	$506	$4,241	$10,545	$0	$0	$0	$0	$633	$619	$619	$0	$0	$4,097	$0	$0	$0	$879	$619	$0	$900	$0	$0	$115,118	$17,575
B. Concrete Floor Decontamination																													
Area to be Decontaminated (ft^2)	11,550	16,500	3,500	0	1,678	839	7,028	17,477	0	0	0	0	450	480	392	0	19200	3969	19200	0	0	0	480	1024	0	1000	800	17820	0
HCl Acid Wash, including labor ($/ft2)	$0.53	$0.53	$0.53	$0.53	$0.53	$0.53	$0.53	$0.53	$0.53	$0.53	$0.53	$0.53	$0.53	$0.53	$0.53	$0.53	$0.53	$0.53	$0.53	$0.53	$0.53	$0.53	$0.53	$0.53	$0.53	$0.53	$0.53	$0.53	$0.53
Subtotal Concrete Floor Decontamination Costs	$6,169	$8,814	$1,870	$0	$896	$448	$3,754	$9,335	$0	$0	$0	$0	$240	$256	$209	$0	$10,256	$2,120	$10,256	$0	$0	$0	$256	$547	$0	$534	$427	$9,519	$0
C. Deep Well Injection Costs																													
Total kgals for Injection (1 gal used per ft2)	20.925	29.65	11.05	0	2.83	1.415	11.854	29.477	0	0	0	0	1.17	1.184	1.096	0	19.2	8.631	19.2	0	0	1	1.184	1.024	1.024	1	0.8	148.82	20
Deep Well Injection Unit Cost ($/kgals)	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19
Subtotal Deep Well Injection Costs	$25	$35	$13	$0	$3	$2	$14	$35	$0	$0	$0	$0	$1	$1	$1	$0	$23	$10	$23	$0	$0	$1	$1	$1	$1	$1	$1	$176	$24
Subtotal Decontamination Costs per Building	$14,432	$20,405	$8,518	$0	$1,911	$956	$8,009	$19,915	$0	$0	$0	$0	$874	$876	$829	$0	$10,279	$6,227	$10,279	$0	$0	$880	$876	$548	$901	$535	$428	$124,813	$17,599
Total Decontamination Costs	**$274,263**																												
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	0	20	10	10	10	10	10	20	24	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	3,600	4,800	3,920	5,760	460,800	79,380	460,800	0	80,000	10,000	4,800	10,240	10,240	10,000	16,000	794,000	30,720
Demolition Cost	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29
Subtotal Building Demolition Costs	$101,386	$168,977	$35,844	$35,112	$4,910	$2,455	$51,410	$92,048	$2,434	$0	$0	$0	$1,053	$1,404	$1,147	$1,685	$134,830	$23,227	$134,830	$0	$23,408	$2,926	$1,404	$2,996	$2,996	$2,926	$4,682	$232,324	$8,989
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	0	4,000	0	480	1,000	0	1,000	800	23,760	500
Demolition Cost	$0.84	$0.84	$0.84	$0.84	$0.84	$0.84	$0.84	$0.84	$0.84	$0.84	$0.84	$0.84	$0.84	$0.84	$0.84	$0.84	$0.84	$0.84	$0.84	$0.84	$0.84	$0.84	$0.84	$0.84	$0.84	$0.84	$0.84	$0.84	$0.84
Subtotal Concrete Floor Demolition Costs	$8,820	$13,794	$2,926	$6,688	$1,403	$701	$5,875	$14,611	$696	$334	$314	$334	$376	$401	$328	$375	$16,051	$3,318	$16,051	$0	$3,344	$0	$401	$836	$0	$836	$669	$19,863	$418
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	0	253	0	88	0	0	63	57	617	89
Demolition Cost	$17.24	$17.24	$17.24	$17.24	$17.24	$17.24	$17.24	$17.24	$17.24	$17.24	$17.24	$17.24	$17.24	$17.24	$17.24	$17.24	$17.24	$17.24	$17.24	$17.24	$17.24	$17.24	$17.24	$17.24	$17.24	$17.24	$17.24	$17.24	$17.24
Subtotal Concrete Footing Demolition Costs	$7,082	$8,857	$4,079	$6,167	$2,824	$1,997	$5,780	$9,115	$1,989	$1,379	$1,335	$1,379	$1,463	$1,511	$1,365	$1,459	$9,554	$4,344	$9,554	$0	$4,361	$0	$1,511	$0	$0	$1,090	$975	$10,628	$1,542
Subtotal Demolition Costs per Building	$117,288	$191,628	$42,849	$47,967	$9,137	$5,153	$63,065	$115,774	$5,119	$1,713	$1,649	$1,713	$2,892	$3,316	$2,840	$3,519	$160,435	$30,889	$160,435	$0	$31,113	$2,926	$3,316	$3,832	$2,996	$4,852	$6,326	$262,815	$10,949
Total Demolition Costs	**$1,946,619**																												
III. Disposal Costs																													
A. Building																													
Volume of Building (cy)	12,833	21,389	4,537	4,444	621	311	6,507	11,651	308	0	0	0	133	178	145	213	17,067	2,940	17,067	0	2,963	370	178	379	379	370	593	29,407	1,138
Off-site County Facility																													
Percentage (%)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Total Volume for Disposal - Incl. 33% Factor (cy)																													
Volume for Disposal (cubic yards)	4235	7058	1497	1467	205	103	2147	3845	102	0	0	0	44	59	48	70	5632	970	5632	0	978	122	59	125	125	122	196	9704	375
Disposal Unit Cost ($/cy)	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$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	$0	$41,230	$5,154	$2,474	$5,277	$5,277	$5,154	$8,246	$409,204	$15,832
B. Concrete Floor																													
Area of Concrete Floor (ft^2)	10,550	16,500	3,500	8,000	1,678	839	7,028	17,477	832	400	375	400	450	480	392	448	19,200	3,969	19,200	0	4,000	0	480	1,000	0	1,000	800	23,760	500
Average Thickness of Concrete Floor (ft)	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	1.75	0.5	0.5	0.75	0.75	0.75
Volume of Concrete Floor (ft^3)	7912.5	12375	2625	6000	1258.5	629.25	5271	13107.75	624	300	281.25	300	337.5	360	294	336	14400	2976.75	14400	0	3000	0	360	1750	0	500	600	17820	375
Volume of Concrete Floor (cy)	293	458	97	222	47	23	195	485	23	11	10	11	13	13	11	12	533	110	533	0	111	0	13	65	0	19	22	660	14
1. Off-site County disposal																													
Percentage (%)	75%	75%	75%	100%	100%	100%	100%	75%	100%	100%	100%	100%	75%	75%	75%	100%	75%	75%	75%	75%	100%	90%	75%	90%	75%	90%	75%	75%	75%
Volume for Disposal (cy)	220	344	73	222	47	23	195	364	23	11	10	11	9	10	8	12	400	83	400	0	111	0	10	58	0	17	17	495	10
Disposal Unit Cost ($/cy)	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$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	$0	$4,685	$0	$422	$2,460	$0	$703	$703	$20,873	$439
2. NRC-Licensed Facility																													
Percentage (%)	25%	25%	25%	0%	0%	0%	0%	25%	0%	0%	0%	0%	25%	25%	25%	0%	25%	25%	25%	25%	0%	10%	25%	10%	25%	10%	25%	25%	25%
Volume for Disposal (ft^3)	20	31	7	0	0	0	0	33	0	0	0	0	1	1	1	0	36	7	36	0	0	0	1	2	0	1	2	45	1
Transportation and Disposal Unit Cost ($/ft^3)	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80
Subtotal NRC-Licensed Facility Disposal Costs	$115	$180	$38	$0	$0	$0	$0	$190	$0	$0	$0	$0	$5	$5	$4	$0	$209	$43	$209	$0	$0	$0	$5	$10	$0	$3	$9	$259	$5
Subtotal Concrete Floor Disposal Costs	$9,383	$14,675	$3,113	$9,370	$1,965	$983	$8,232	$15,543	$975	$469	$439	$469	$400	$427	$348	$525	$17,076	$3,530	$17,076	$0	$4,685	$0	$427	$2,470	$0	$706	$712	$21,132	$444
C. Concrete Footing																													
Length of Concrete Footing (ft)	411	514	237	358	164	116	335	529	115	80	77	80	85	88	79	85	554	252	554	0	253	0	88	0	0	63	113	617	89
Average Depth of Concrete Footing (ft)	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	0	4	4	0	4	5.75	4	4
Average Width of Concrete Footing (ft)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0	1	0.75	1	1
Volume of Concrete Footing (ft^3)	1643	2055	947	1431	655	463	1341	2115	462	320	310	320	339	351	317	339	2217	1008	2217	0	1012	0	351	0	0	253	488	2466	358
Volume of Concrete Footing (cy)	61	76	35	53	24	17	50	78	17	12	11	12	13	13	12	13	82	37	82	0	37	0	13	0	0	9	18	91	13
Disposal Unit Cost ($/cy)	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$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	$0	$1,580	$0	$547	$0	$0	$395	$762	$3,852	$559
Subtotal Disposal Costs per Building	$190,526	$315,511	$67,724	$73,449	$11,637	$6,031	$100,878	$180,974	$5,984	$969	$923	$969	$2,785	$3,448	$2,863	$4,023	$258,021	$46,014	$258,021	$0	$47,495	$5,154	$3,448	$7,747	$5,277	$6,255	$9,720	$434,188	$16,835
Total Disposal Costs	**$3,099,069**																												
IV. Health and Safety Costs																													
SUBTOTAL BUILDING DEMOLITION AND DISPOSAL COSTS	$322,246	$527,544	$119,091	$121,416	$22,685	$12,140	$171,952	$316,663	$11,103	$2,682	$2,572	$2,682	$6,551	$7,640	$6,532	$7,542	$428,735	$83,130	$428,735	$0	$78,608	$8,960	$7,640	$12,127	$9,174	$11,642	$16,474	$821,816	$45,383
TOTAL BUILDING DEMOLITION AND DISPOSAL COSTS	**$5,319,951**																												

Cameco Resources
Smith Ranch Highland Uranium Project
2015-2016 Surety Estimate Update

	Satellite No. 1	Satellite No. 2	Satellite No. 3	Sat. No. 3 Fab Shop	Yellowcake Warehouse	South Warehouse	Suspended Walkway	Changehouse and Lab	Maintenance Building	mian Office	Process/Fire Water	Potable Water Building	Potable Water Tank Slab	Central Plant Tank Slabs	Selenium Plant	Exxon R&D RO Building	Exxon R&D Process Building	SRHUP #9 DDW	Vollman 33-27 DDW	Morton 1-20 DDW
Building Demolition and Disposal																				
I. Decontamination Costs																				
A. Wall Decontamination																				
Area to be Decontaminated (ft²)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4,000	0	0	0	0	0
HCl Acid Wash, including labor ($/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	$0.88
Subtotal Wall Decontamination Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,515	$0	$0	$0	$0	$0
B. Concrete Floor Decontamination																				
Area to be Decontaminated (ft²)	6000	9600	9600	0	0	0	0	0	0	0	0	0	0	0	9600	1260	1260	1260	1260	1260
HCl Acid Wash, including labor ($/ft2)	$0.53	$0.53	$0.53	$0.53	$0.53	$0.53	$0.53	$0.53	$0.53	$0.53	$0.53	$0.53	$0.53	$0.53	$0.53	$0.53	$0.53	$0.53	$0.53	0.535979164
Subtotal Concrete Floor Decontamination Costs	$3,205	$5,128	$5,128	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$5,128	$673	$673	$673	$673	675
C. Deep Well Injection Costs																				
Total kgals for Injection (1 gal used per ft2)	6	9.6	9.6	0	0	0	0	0	0	0	0	0	0	0	13.6	1.26	1.26	1.26	1.26	1.26
Deep Well Injection Unit Cost ($/kgals)	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	$1.19	1.127414695
Subtotal Deep Well Injection Costs	$7	$11	$11	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$16	$1	$1	$1	$1	1
Subtotal Decontamination Costs per Building	$3,212	$5,139	$5,139	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$8,659			$674	$674	676
Total Decontamination Costs																				
II. Demolition Costs																				
A. Building																				
Height of Building (ft)	24	25	25	25	14	19	0	14	13	12	21	35	0	0	25	12	12	12	12	12
Volume of Building (ft³)	192,000	320,000	320,000	37,560	91,000	333,000	5,600	73,000	27,000	72,000	16,500	6,300	0	0	320,000	15,120	15,120	15,120	15,120	15,120
Demolition Cost	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29
Subtotal Building Demolition Costs	$56,179	$93,632	$93,632	$10,990	$26,627	$97,436	$1,639	$21,360	$7,900	$21,067	$4,828	$1,843	$0	$0	$93,632	$4,424	$4,424	$4,424	$4,424	$4,424
B. Concrete Floor																				
Area of Concrete Floor (ft²)	8,000	12,800	12,800	0	6,500	18,000	0	5,400	2,100	6,000	800	180	1,256	7,854	12,800	12,801	12,802	1,260	1,260	1,260
Demolition Cost	$0.84	$0.84	$0.84	$0.84	$0.84	$0.84	$0.84	$0.84	$0.84	$0.84	$0.84	$0.84	$0.84	$0.84	$0.84	$0.84	$0.84	$0.84	$0.84	$0.84
Subtotal Concrete Floor Demolition Costs	$6,688	$10,701	$10,701	$0	$5,434	$15,048	$0	$4,514	$1,756	$5,016	$669	$150	$1,050	$6,566	$10,701	$10,702	$10,702	$1,053	$1,053	$1,053
C. Concrete Footing																				
Length of Concrete Footing (ft)	358	453	453	0	322	537	0	294	183	310	113	54	0	0	453	453	453	142	142	142
Demolition Cost	$17.24	$17.24	$17.24	$17.24	$17.24	$17.24	$17.24	$17.24	$17.24	$17.24	$17.24	$17.24	$17.24	$17.24	$17.24	$17.24	$17.24	$17.24	$17.24	$17.24
Subtotal Concrete Footing Demolition Costs	$6,167	$7,801	$7,801	$0	$5,559	$9,250	$0	$5,067	$3,160	$5,341	$1,950	$925	$0	$0	$7,801	$7,801	$7,801	$2,447	$2,447	$2,447
Subtotal Demolition Costs per Building	$69,034	$112,134	$112,134	$10,990	$37,620	$121,734	$1,639	$30,941	$0	$0	$7,447	$2,918	$1,050	$6,566	$112,134	$0	$0	$7,924	$7,924	$7,924
Total Demolition Costs																				
III. Disposal Costs																				
A. Building																				
Volume of Building (cy)	7,111	11,852	11,852	1,391	3,370	12,333	207	2,704	1,000	2,667	611	233	0	0	11,852	560	560	560	560	560
Off-site County Facility																				
Percentage (%)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Total Volume for Disposal - Incl. 33% Factor (cy)																				
Volume for Disposal (cubic yards)	2347	3911	3911	459	1112	4070	68	892	330	880	202	77	0	0	3911	185	185	185	185	185
Disposal Unit Cost ($/cy)	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17
Subtotal county facility off-Site Disposal Costs	$98,951	$164,919	$164,919	$19,357	$46,899	$171,618	$2,886	$37,622	$13,915	$37,107	$8,504	$3,247	$0	$0	$164,919	$7,792	$7,792	$7,792	$7,792	$7,792
B. Concrete Floor																				
Area of Concrete Floor (ft²)	8,000	12,800	12,800	0	6,500	18,000	0	5,400	2,100	6,000	800	180	1,256	7,854	12,800	12,801	12,802	1,260	1,260	1,260
Average Thickness of Concrete Floor (ft)	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Volume of Concrete Floor (ft³)	6000	9600	9600	0	4875	13500	0	4050	1575	4500	600	135	942	5890.5	9600	9600.75	9601.5	945	945	945
Volume of Concrete Floor (cy)	222	356	356	0	181	500	0	150	58	167	22	5	35	218	356	356	356	35	35	35
1. Off-site County disposal																				
Percentage (%)	75%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Volume for Disposal (cy)	167	356	356	0	181	500	0	150	58	167	22	5	35	218	356	356	356	35	35	35
Disposal Unit Cost ($/cy)	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17
Subtotal county facility off-Site Disposal Costs	$7,028	$14,993	$14,993	$0	$7,613	$21,083	$0	$6,325	$2,460	$7,028	$937	$211	$1,471	$9,199	$14,993	$14,994	$14,995	$1,476	$1,476	$1,476
2. NRC-Licensed Facility																				
Percentage (%)	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Volume for Disposal (ft³)	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Transportation and Disposal Unit Cost ($/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	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80
Subtotal NRC-Licensed Facility Disposal Costs	$87	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Subtotal Concrete Floor Disposal Costs	$7,115	$14,993	$14,993	$0	$7,613	$21,083	$0	$6,325	$2,460	$7,028	$937	$211	$1,471	$9,199	$14,993	$14,994	$14,995	$1,476	$1,476	$1,476
C. Concrete Footing																				
Length of Concrete Footing (ft)	358	453	453	0	322	537	0	294	183	310	113	54	0	0	453	453	453	142	142	142
Average Depth of Concrete Footing (ft)	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Average Width of Concrete Footing (ft)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Volume of Concrete Footing (ft³)	1431	1810	1810	0	1290	2147	0	1176	733	1239	453	215	0	0	1810	1810	1810	568	568	568
Volume of Concrete Footing (cy)	53	67	67	0	48	80	0	44	27	46	17	8	0	0	67	67	67	21	21	21
Disposal Unit Cost ($/cy)	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17	$42.17
Subtotal Concrete Footing Disposal Costs	$2,235	$2,827	$2,827	$0	$2,015	$3,352	$0	$1,836	$1,145	$1,936	$707	$335	$0	$0	$2,827	$2,827	$2,827	$887	$887	$887
Subtotal Disposal Costs per Building	$108,301	$182,739	$182,739	$19,357	$56,527	$196,053	$2,886	$45,783	$0	$0	$10,148	$3,793	$1,471	$9,199	$182,739	$0	$0	$10,155	$10,155	$10,155
Total Disposal Costs																				
IV. Health and Safety Costs																				
SUBTOTAL BUILDING DEMOLITION AND DISPOSAL COSTS	$180,547	$300,012	$300,012	$30,347	$94,147	$317,787	$4,525	$76,724	$0	$0	$17,595	$6,711	$2,521	$15,765	$303,532	$0	$0	$18,753	$18,753	$18,755
TOTAL BUILDING DEMOLITION AND DISPOSAL COSTS																				

Cameco Resources
Smith Ranch Highland Uranium Project
2015-2016 Surety Estimate Update

Miscellaneous Reclamation

I.	**CPP/Office Area/Pilot Plant/Maint. Shop/Chem. Storage/Yard Reclamation**	
	Concrete Pad= 0.3 acres	
	Total Area = 10.57 acres	
A.	Concrete Pad	
	Area of Concrete Pad (ft^2)	13068
	Demolition Cost	$0.84
	Average Thickness of Concrete Floor (ft)	0.50
	Volume of Concrete Floor (ft^3)	6,534
	Volume of Concrete Floor (cy)	242
	Concrete Disposal On Site ($/cy)	$9.49
	Subtotal Concrete Pad Demolition and Disposal Costs	$13,222
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	$1.28
	Subtotal Gravel Road Base Removal Costs	$8,234
C.	Ripping Overburden with Dozer	
	Overburden Surface Area (acres)	10.6
	Ripping Cost (per acre)	$1,229.72
	Subtotal Ripping Overburden Costs	$12,998
D.	Topsoil Application	
	Area of surface disturbance (ft^2)	460426
	Average thickness of topsoil (ft)	0.5
	Average haul distance (ft)	2000
	Surface grade (%)	
	Volume of Topsoil (cy)	8,526
	Moving Materials	$1.28
	Subtotal Topsoil Application Costs	$10,880
E.	Discing/Seeding	
	Surface Area (acres)	10.57
	Discing/Seeding Unit Cost ($/acre)	$330
	Subtotal Discing/Seeding Costs	$3,488
	Total CPP/Office/Yard Area Reclamation	**$48,822**
II.	**CPF/Office Area Reclamation (Highland)**	
	Concrete Pad= 0.3 acres	
	Total Area = 10 acres	
A.	Asphalt	
	Area of Asphalt (acres)	3.4
	Ripping Cost (per acre)	$853.88
	Average Thickness (ft)	0.50
	Moving Materials (0% Grade)	$1.068
	Volume of Asphalt (cy)	2,743
	Disposal Cost	$42.17
	Subtotal Asphalt Ripping and Disposal Costs	$130,132
B.	Ripping Overburden with Dozer	
	Overburden Surface Area (acres)	10.6
	Ripping Cost (per acre)	$1,229.72
	Subtotal Ripping Overburden Costs	$12,998
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)	$330
	Subtotal Discing/Seeding Costs	$4,290
		$151,421

III.	**Access Road Reclamation (includes culverts)**	**SR CPP Access Rd.**	**CPP to SAT 3**	**Access to WF**	**MU-15 Access**	**SR2 Access**	**Reynolds Access**	**Access SRHUP 7**	**Access SRHUP 10 from MU-4**	**Highland CPP/Office Area**	**Sat No. 1**	**Sat No. 3**	**Connecting Road**	**Sat No. 2 to Rancher Rd**
A.	Assumptions													
	Surface grade	1%	5%	5%	0%	5%	0%	0%	0%	5%	0%	0%	0%	0%
	Length of Road (ft)	5,173	15,827	15,557	10,560	8,500	2,500	1,500	2,500	13,200	15,840	5,280	10,560	2,640
	Width of Road (ft)	40	30	14	30	30	30	20	20	25	30	30	30	10
	Area of road (acres)	4.8	10.9	5.0	7.3	5.9	1.7	0.7	1.1	7.6	10.9	3.6	7.3	0.6
B.	Ripping and Hauling Asphalt													
	Assumptions													
	Average Haul Distance (feet)	500	500	500	500	500	500	500	500	5500	0	0	0	0
	Average Thickness of Asphalt (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	Ripping Cost (per acre)	$853.88	$853.88	$853.88	$853.88	$853.88	$853.88	$853.88	$853.88	$853.88	$853.88	$853.88	$853.88	$853.88
	Volume of Asphalt (cy)	3832	8793	4033	5867	4722	1389	556	926	6111	8800	2933	5867	489
	Moving Materials	$1.65	$1.65	$1.65	$1.65	$1.65	$1.65	$1.65	$1.65	$1.65	$1.65	$1.65	$1.65	$1.65
	Subtotal Ripping and Hauling Asphalt	$10,391	$23,844	$10,938	$15,909	$12,806	$3,766	$1,507	$2,511	$16,572	$23,864	$7,955	$15,909	$1,326
B.	Gravel Road Base Removal													
	Average haul distance (ft)	1000	1000	1000	1000	1000	1000	1000	1000	0	1000	1000	1000	0
	Gravel Road Base Width (ft)	30	20	10	20	20	20	20	20	0	14	14	14	0
	Gravel Road Base Area (acres)	3.56	7.27	3.57	4.85	3.90	1.15	0.69	1.15	0.00	5.09	1.70	3.39	0.00
	Average Road Base Depth (ft)	0.75	0.5	0.5	0.5	0.5	0	0	0	0	0	0	0	0
	Volume of Road Base (cy)	4311	5862	2881	3911	3148	0	0	0	0	0	0	0	0
	Moving Materials	$1.28	$1.28	$1.28	$1.28	$1.28	$1.28	$1.28	$1.28	$1.28	$1.28	$1.28	$1.28	$1.28
	Subtotal Gravel Road Base Removal Costs	$5,501	$7,480	$3,676	$4,991	$4,017	$0	$0	$0	$0	$0	$0	$0	$0
C.	Ripping Overburden with Dozer													
	Overburden Surface Area (acres)	4.8	10.9	5.0	7.3	5.9	1.7	0.7	1.1	0.0	10.9	3.6	7.3	0.6
	Ripping Cost (per Acre)	$1,229.72	$1,229.72	$1,229.72	$1,229.72	$1,229.72	$1,229.72	$1,229.72	$1,229.72	$1,229.72	$1,229.72	$1,229.72	$1,229.72	$1,229.72
	Subtotal Ripping Overburden Costs	$5,841	$13,404	$6,149	$8,943	$7,199	$2,117	$847	$1,412	$0	$13,415	$4,472	$8,943	$745
D.	Topsoil Application													
	Average haul distance (ft)	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
	Topsoil Surface Area (ft^2)	206920	474810	217798	316800	255000	75000	30000	50000	330000	475200	158400	316800	26400
	Depth of Topsoil (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	Volume of Topsoil (cy)	3832	8793	4033	5867	4722	1389	556	926	6111	8800	2933	5867	489
	Moving Materials	$1.28	$1.28	$1.28	$1.28	$1.28	$1.28	$1.28	$1.28	$1.28	$1.28	$1.28	$1.28	$1.28
	Subtotal Topsoil Application Costs	$4,889	$11,220	$5,146	$7,486	$6,026	$1,772	$709	$1,181	$7,798	$11,229	$3,743	$7,486	$624
E.	Discing/Seeding													
	Surface Area (acres)	4.8	10.9	5.0	7.3	5.9	1.7	0.7	1.1	7.6	10.9	3.6	7.3	0.6
	Discing/Seeding Unit Cost ($/acre)	$330	$330	$330	$330	$330	$330	$330	$330	$330	$330	$330	$330	$330
	Subtotal Discing/Seeding Costs	$1,568	$3,597	$1,650	$2,400	$1,932	$568	$227	$379	$2,500	$3,600	$1,200	$2,400	$200
	Multiplier for Projected Additions	0	0	1	0	0	0	0	0	0	0	0	0	0
	Subtotal Reclamation Costs per Access Road	$28,190	$59,545	$55,117	$39,729	$31,980	$8,223	$3,290	$5,483	$26,870	$52,108	$17,370	$34,738	$2,895
	Total Access Road Reclamation Costs	**$365,539**												

IV.	**Trunk Lines**	**Trunk Line #1 (CPP**	**Trunk Line #2 (CPP**	**Trunk Line #3 (MU-Included in MU 15**	**Trunk Line #4 (O-**	**Trunk Line (SR-**	**WF 4 to CPP -**	**Waste Transfer SR2**	**Waste Transfer SR1**	**SR-1 to Sat 2**	SAT2 to SAT1 / Mort	SAT3 to SAT2 PSR	H-WF Rest. Bypass	Vollman WW Pipeline	SRHUP 9 WW Pipelin	SAT3 to SAT2	Pipeline to Irrigator 1	SAT2 to PSR2
	Length of Trench (ft)	7750	8500	0	5500	2500	10000	12000	7000	39268	24000	22000	2200	13000	4000	10950	24000	5600
A.	Removal and Loading																	

Cameco Resources
Smith Ranch Highland Uranium Project
2015-2016 Surety Estimate Update

Miscellaneous Reclamation																		
	Main Pipeline Removal Unit Cost ($/ft of trench)	$3.09	$3.09	$3.09	$3.09	$3.09	$3.09	$3.09	$3.09	$3.09	$3.09	$3.09	$3.09	$3.09	$3.09	$3.09	$3.09	$3.09
	Subtotal Trunkline Removal and Loading Costs	$23,921	$26,236	$0	$16,976	$7,716	$30,866	$37,039	$21,606	$121,203	$74,077	$67,904	$6,790	$40,125	$12,346	$33,798	$74,077	$17,285
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	0	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	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	0	0	0	0	0	0	0
	2. 3" HDPE Trunkline																	
	Piping Length (ft)	0	1	2	3	4	5	6	8	9	24000	0	2200	0	4000	0	0	0
	Chipped Volume Reduction (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	0.0233	0.0233	0.0233
	Chipped Volume (ft^3)	0	0	0	0	0	0	0	0	0	559	0	51	0	93	0	0	0
	3. 4" HDPE Trunkline																	
	Piping Length (ft)	0	0	0	0	15000	10000	12000	7000	0	0	22000	0	13000	0	0	6000	0
	Chipped Volume Reduction (ft3/ft)	0.0385	0.0385	0.0385	0.0385	0.0385	0.0385	0.0385	0.0385	0.0385	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
	Chipped Volume (ft^3)	0	0	0	0	577	385	462	269	0	0.00	846.10	0.00	499.97	0.00	0.00	230.75	0.00
	4. 6" HDPE Trunkline																	
	Piping Length (ft)	7750	17000	0	0	0	0	0	0	39268	0	0	0	0	0	10950	0	3500
	Chipped Volume Reduction (ft3/ft)	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.0834	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
	Chipped Volume (ft^3)	646	1,418	0	0	0	0	0	0	3,275	0.00	0.00	0.00	0.00	0.00	913.14	0.00	291.87
	5. 8" HDPE Trunkline																	
	Piping Length (ft)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24000	0
	Chipped Volume Recution (ft3/ft)	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
	Chipped Volume	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3391.25	0.00
	6. 12" HDPE Trunkline																	
	Piping Length (ft)	0	6000	0	0	0	0	0	0	0	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	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	0	0	0	0	0	0	0
	7 16" HDPE Trunkline																	
	Piping Length (ft)	15500	11000	0	15500	15500	0	0	0	0	0	0	0	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	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	0	0	0	0	0	0	0
	8. 18" HDPE Trunkline																	
	Piping Length (ft)	0	0	0	0	2320	0	0	0	0	0	0	0	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	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	0	0	0	0	0	0	0
	Total Volume Chipped (ft^3)	8,268	8,712	0	7,775	9,544	385	462	269	3,275	559	846	51	500	93	913	3,622	292
	Volume for Disposal Assuming Void Space (ft^3)	9,095	9,583	0	8,552	10,498	423	508	296	3,602	615	931	56	550	102	1,004	3,984	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	$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	$1,708	$20,783	$3,548	$5,372	$323	$3,173	$589	$5,793	$22,987	$1,852
C.	Discing/Seeding																	
	Width of Pipeline Trench (ft)	4	4	4	4	4	5	5	5	5	10	10	8	8	8	8	8	8
	Area of Pipeline Trench (acres)	0.7	0.8	0.0	0.5	0.2	1.1	1.4	0.8	4.5	5.5	5.1	0.4	2.4	0.7	2.0	4.4	1.0
	Discing/Seeding Unit Cost ($/acre)	$330	$330	$330	$330	$330	$330	$330	$330	$330	$330	$330	$330	$330	$330	$330	$330	$330
	Subtotal Discing/Seeding Costs	$235	$258	$0	$167	$76	$379	$455	$265	$1,487	$1,818	$1,667	$133	5788	$242	$664	$1,455	$339
	Subtotal Reclamation Costs per Pipeline	$76,632	$81,786	$0	$66,486	$68,363	$33,686	$40,425	$23,579	$143,473	$79,443	$74,943	$7,246	$44,086	$13,177	$40,255	$98,519	$19,476
	Total Pipeline Reclamation Costs	**$911,575**																
V.	**Settling Basin/Storage Ponds Reclamation**	**Storage Ponds**	**Settling Pond**	**HUP SW pond**	**HUP Lined Pond**													
A.	Soil Sampling and Monitoring																	
	Number of Soil Samples	15	15	**15**	**15**													
	$/Sample	$335	$335	**$335**	**$335**													
	Subtotal Soil Sampling and Monitoring Costs	$5,025	$5,025	**$5,025**	**$5,025**													
B.	Liner/Subsoil Removal and Disposal																	
	Thickness of clay liner (ft)	1	0.5	**0**	**0.5**													
	Thickness of contaminated subsoil (ft)	1	0.5	**1**	**1**													
	Width of Pond (ft)	200	252	**182.5**	**127**													
	Length of Pond (ft)	100	432	**182.5**	**127**													
	Depth of Pond (ft)	10	20	**10**	**10**													
	Surface area of pond (ft^2)	20000	108864	**33306.25**	**16129**													
	1. Removal and Loading																	
	Volume of Clay Liner (cy)	1481	4032	**0**	**896**													
	Clay Liner Removal and Loading Unit Cost ($/cy)	$4.02	$4.02	**$4.02**	**$4.02**													
	Subtotal Liner Removal and Loading Costs	$5,957	$16,212	**$0**	**$3,603**													
	2. Transportation and Disposal																	
	Volume of Clay Liner (ft^3)	1481	4032	**0**	**896**													
	Volume of Geotextile Liner (ft^2)	52	0	**0**	**27**													
	Volume of Geotextile Liner @ 40% void (ft^3)	87	0	**0**	**45**													
	Transportation and Disposal Unit Cost ($/$ft^3$)	$5.80	$5.80	**$5.80**	**$5.80**													
	Subtotal Liner Transportation and Disposal Costs	$9,103	$23,405	**$0**	**$5,201**													
	Subtotal Liner Removal and Disposal Costs	$15,060	$39,617	**$0**	**$8,804**													
C.	Grade and Contour																	
	Volume of Embankment Material (CY)	7,407	80,640	**12,336**	**5,974**													
	Average Grade (%)	0	0	**0**	**0**													
	Distance (ft)	50	100	**100**	**100**													
	Material Moving Unit Cost per WDEQ Guideline No.12, App.E ($/cy)	$0.155	$0.155	**$0.155**	**$0.155**													
	Subtotal Grade and Contour Costs	$1,149	$12,507	**$1,913**	**$927**													
D.	Topsoil Application																	
	Area of surface disturbance (ft^2)	20000	108899	**33306**	**16129**													
	Average thickness of topsoil (ft)	1	1	**1**	**1**													
	Average haul distance (ft)	1000	1000	**1000**	**1000**													
	Surface grade (%)	0%	3%	**0%**	**0%**													
	Volume of Topsoil (cy)	741	4,033	**1,234**	**597**													
	Topsoil Unit Cost per WDEQ Guideline No.12, App.C ($/cy)	$1.276	$1.276	**$1.276**	**$1.276**													
	Subtotal Topsoil Application Costs	$945	$5,146	**$1,574**	**$762**													
E.	Discing/Seeding																	
	Area of surface disturbance (acres)	0.5	2.5	**0.8**	**0.4**													
	Discing/Seeding Unit Cost ($/acre)	$330	$330	**$330**	**$330**													
	Subtotal Discing/Seeding Costs	$165	$825	**$251**	**$122**													
	Subtotal Reclamation Costs	$22,344	$63,120	**$8,763**	**$15,640**													
	Total Settling Basin/Ponds Reclamation Costs	**$109,867**																
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	$1															
	*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	$6,318															
F.	Transportation & Disposal to 11e.(2) Facility																	
	Volume of Subsoil for Disposal (cy)	242.5	242.5															
	Transportation and Disposal Unit Cost ($/cy)	$156.73	$156.73															
	Subtotal Byproduct Material Transportation & Disposal Costs	$38,007	$38,007															
	Subtotal Radium Pond Reclamation	$78,002	$78,002															
Total Settling Basin/Ponds Reclamation Costs		**$156,004**																
V.	**Purge Storage Reservoir Reclamation**	**PSR-1**	**PSR-2**															
A.	Soil Sampling and Monitoring																	
	Number of Soil Samples	10	10															
	$/Sample	$335	$335															

Cameco Resources
Smith Ranch Highland Uranium Project
2015-2016 Surety Estimate Update

Miscellaneous Reclamation			
	Subtotal Soil Sampling and Monitoring Costs	$3,350	$3,350
B.	Leachate Collection System Removal Costs	$5,000	$0
C.	Topsoil/Subsoil Application		
	Assumptions:		
	Average haul distance (ft)	1000	150
	Surface grade (%)	0	0
	Volume of Topsoil/Subsoil (cy)	83000	74000
	Topsoil/Subsoil Unit Cost per WDEQ Guideline No.12, App.C ($/cy)	$1.276	$0.000
	Topsoil/Subsoil Unit Cost per WDEQ Guideline No.12, App.E ($/cy)	$0.00	$0.34
	Subtotal Topsoil/Subsoil Application Costs per Reservoir	$105,908	$25,234
D.	Discing/Seeding		
	Surface Area (acres)	6	32
	Discing/Seeding Unit Cost ($/acre)	$330	$330
	Subtotal Discing/Seeding Costs	$1,980	$10,560
E.	Well Abandonment		
	Number of Wells	5	27 18 existing plus 9 planned
	Average Depth (ft)	60	100
	Abandonment Cost	$2.75	$2.75
	Small Site Grading and Seeding (<1000 sq. feet)	$55	$55
	Remove and Dispose Casing (top few feet)	$33	$33
	Monitoring Well Concrete Pedestal Disposal	$110	$110
	Subtotal Well Abandonment Cost	$1,815	$12,771
	Subtotal Reclamation Costs per Reservoir	$118,053	$51,915
	Total Purge Storage Reservoir Reclamation Costs	**$169,968**	
VI.	**Irrigation Area Reclamation**	**Irrigator No. 1A**	**Irrigator No. 2**
A.	Irrigation Equipment Removal Costs	$2,000	$2,000
B.	Plowing		
	Assumptions:		
	Plowing Unit Cost ($/acre)	$100	$100
	Irrigation Area (acres)	55	106
	Number of Cultivations	2	2
	Subtotal Plowing Costs	$11,000	$21,200
C.	Discing/Seeding		
	Discing/Seeding Unit Cost ($/acre)	$330	$330
	Subtotal Discing/Seeding Costs	$18,150	$34,980
	Subtotal Reclamation Costs per Irrigation Area	$31,150	$58,180
	Total Irrigation Area Reclamation Costs	**$89,330**	
VII.	**Potential Subsoil Mitigation for Purge Storage Reservoirs**	**PSR-1**	**PSR-2**
A.	Subsoil Removal and Loading		
	Surface Area (acres)	6	32
	Depth (inches)	6	6
	Volume for Removal (cy)	4,840	25,813
	Liner and Subsoil Removal Cost	$4.02	$4.02
	Subtotal Removal and Loading	$19,461	$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	$778,034	$4,149,447
	Total Purge Storage Reservoir Mitigation Costs	**$4,927,481**	
VIII.	**Revegetation of Exxon Reclaimed Lands**		
	Surface Area (acres)	217	
	Assumptions:		
	10% Reseeding potential areas of erosion ($/acre) 0.10 x 330	$33	
	Total Exxon Reclaimed Lands Revegetation Costs	**$716**	
IX.	**Potential Ground Water Mitigation for Casing Leak Investigation and PSR-2**		
A.	**PSR-2 Investigation Costs (analytical and possible new well installation)**	$200,000	*$200/sample x 6 wells, quarterly over **35 yrs**, plus 9 shallow well installations @ $3500/well.
B.	Ground Water Pump and Treat Costs		
	Area (ft2)	1,000,000	*PSR-2 recovery at 3 wells.
	Sand Thickness (ft)	20	
	Porosity (%)	20%	
	Affected ground water (kgal)	29,920	
	Wellfield Pumping Cost	$0.21	
	Reverse Osmosis Unit Cost ($/kgal)	$0.64	
	Bleed to Deep Disposal Well (%)	25%	
	Brine Volume for Disposal	7,480	
	DDW Disposal Cost($/kgal)	$1.19	
	Permeate Volume for Re-Use	22,440	
	Satellite Pumping Cost ($/kgal)	$0.75	
	Subtotal Ground Water Pump and Treat Costs	$50,998	
C.	Well Abandonment **(CLI Shallow Wells)**		
	# of Monitoring Wells (Current)	142	
	Average Well Depth (ft)	156	
	# of Monitoring Wells (Planned)	0	
	Average Well Depth (ft)	250	
	Total Well Depth (ft)	22,152	
	Well Abandonment ($/ft)	$2.75	
	Small Site Grading and Seeding ($/site)	$55.00	
	Remove and Dispose Casing ($/well)	$33.00	
	Concrete Pedestal Disposal ($/each)	$110.00	
	Subtotal Well Abandonment Costs	$89,034	
	Total CLI and PSR-2 Ground Water Mitigation Costs	**$340,032**	
X.	**Subsurface Release of Solutions Decommissioning Costs**		
	Number of trunkline failures	**18**	
	Average cubic yards of contaminated soil estimated per event	**8**	
	Removal cost of soil	**$160**	
	Subtotal of subsurface decommission costs	**$23,013.16**	
XI.	**Surface releases of Solutions Decomissioning Costs**		
	Total surface acreage impacted	**26**	
	Estimated % of soil contaminated	**20%**	
	Cubic yards of soil for removal assuming 3" depth	**2063**	
	Removal cost of soil per cy	**$160**	
	Subtotal of surface decommissioning costs	**$329,767.89**	
TOTAL MISCELLANEOUS RECLAMATION COSTS Highland		**$7,623,536**	

Cameco Resources
Smith Ranch Highland Uranium Project
2015-2016 Surety Estimate Update

	Mine Unit-1	Mine Unit-2	Mine Unit-3/ 3 Ext	Mine Unit- 4/4A	Mine Unit-15	Mine Unit-15A	Mine Unit K	Mine Unit K-North	Mine Unit 9	Mine Unit 10	10-Extension	Mine Unit 27	Mine Unit 21	Mine Unit 7	Mine Unit 8	A-Wellfield	B-Wellfield	C-Wellfield	C-22 Pattern	C abandoned UG workings	D-Wellfield	D-Extension	E-Wellfield	F-Wellfield	H-Wellfield	I-Wellfield	J-Wellfield
Pore Volume Calculations																											
Flare Factor	1.56	1.05	1.16	1.14	1.48	1.68	1.21	1.30	1.52	1.45	1.45	1.82	0	1.74	0	4.13	4.13	2.46	2	0	2.88	2.78	2.9	2.1	2.3	1.83	1.92
Wellfield Area (ft2)	1,108,034	2,271,426	2,174,453	2,725,270	2,554,278	970,206	1,813,644	1,424,902	1,931,533	2,167,666	512,063	641,495	0	1,490,217	0	148600	676550	1067056	325000	0	326750	201509	971941	3431990	1222583	1146959	1148680
Wellfield Area (acres)	25.44	52.14	49.92	62.56	58.64	22.27	41.64	32.71	44.34	49.76	11.76	0.00	0.00	34.21	0.00	3.41	15.53	24.5	7.46	0	7.5	4.63	22.31	78.79	28.07	26.33	26.37
Affected Ore Zone Area (ft2)	1,108,034	2,271,426	2,174,453	2,725,270	2,554,278	970,206	1,813,644	1,424,902	1,931,533	2,167,666	512,063	641,495	0	1,490,217	0	148600	676550	1067056	325000	0	326750	201509	971941	3431990	1222583	1146959	1148680
Avg. Completed Thickness	18.0	23.0	30.0	19.0	18.0	16.0	19.0	21.0	23.0	30.0	30.0	23.0	0.0	20.0	20.0	15	15	16	15	0	17	17	16	16	16	20	15
Porosity	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
Affected Volume (ft3)	31,113,595	54,854,938	75,670,964	59,029,348	68,045,966	26,079,137	41,695,676	38,899,825	67,526,394	94,293,471	22,274,741	26,852,981	0	51,859,552	0	9205770	41912273	41999324	9750000	0	15997680	9523315	45098062	1.15E+08	44991054	41978699	33081984
Kgallons per Pore Volume	62,837	110,785	152,825	119,216	137,426	52,669	84,209	78,562	136,376	190,435	44,986	54,232	0	104,736	0	18592	84646	84822	19691	0	32309	19233	91080	232890	90864	84780	66812
Restoration Schedule (Based on Annual Water Balance/Schedule Update)																											
Pre-Restoration Period (yrs)	0	0	5	0	3	7	8	8	10	11	17	0	0	14	0	0	0	0	0	0	0	0	0	4	0	0	4
Restoration Period (yrs)	0	6	8	4	6	4	8	7	9	9	3	0	0	5	0	0	0	2	0	0	3	2	8	12	8	8	8
Stability Period (yrs)	0	1	1	1	1	1	1	1	1	1	1	0	0	1	0	0	0	1	1	1	1	1	1	1	1	1	1
Total # of Years	0	7	14	5	10	12	17	16	20	21	21	0	0	20	0	0	0	3	1	1	4	3	9	17	9	9	13
End of Restoration (yrs)	20																										
End of Stability (yrs)	21																										
Number of Header Houses per Wellfield																											
Current	6	5	10	11	18	5	9	7	13	9	3	0	0	0	0	5	18	20	0	0	4	3	15	43	10	6	9
Planned	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Estimated	6	5	10	11	18	5	9	7	13	9	3	0	0	7	0	5	18	20	0	0	4	3	15	43	10	6	9
Average Header House Volume (ft3)	1600																										
Number of Wells (In Service) per Wellfield																											
Production Wells (P)						Inc in MU-15													Inc in MU-C	Inc in MU-C		Inc in MU-D					
Current	83	134	207	188	407	0	168	99	258	196	113	0	0	134	15	0	133	196	0	0	91	0	140	417	125	124	112
Planned	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Estimated	83	134	207	188	407	0	168	99	258	196	113	0	0	134	15	0	133	196	0	0	91	0	140	417	125	124	112
Injection Wells (I)																											
Current	162	281	280	384	831	0	279	174	397	338	153	0	0	247	29	1	194	254	0	0	140	0	227	668	307	230	230
Planned	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Estimated	162	281	280	384	831	0	279	174	397	338	153	0	0	247	29	1	194	254	0	0	140	0	227	668	307	230	230
Restoration Wells (R)																											
Current	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	0	0	0	0	0	14	0	0	0
Planned	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Estimated	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	0	0	0	0	0	14	0	0	0
Monitor Wells (M, MO, MU, etc.)																											
Current	47	50	40	90	83	42	51	53	69	49	66	85	0	62	82	7	64	85	0	0	50	0	59	119	82	34	59
Planned	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Estimated	47	50	40	90	83	42	51	53	69	49	66	85	0	62	82	7	64	85	0	0	50	0	59	119	82	34	59
Other Wells (Pumping Wells, etc.)																											
Current	0	3	3	2	3	0	0	1	7	1	1	3	0	2	2	0	1	2	0	0	5	0	0	41	2	0	3
Planned	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Estimated	0	3	3	2	3	0	0	1	7	1	1	3	0	2	2	0	1	2	0	0	5	0	0	41	2	0	3
Wellfield Refurbishment (I or P)																											
Planned	0	5	50	5	50	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	5	140	5	5	18
Number of In Service Wells per Wellfield	292	473	580	669	1374	42	498	327	731	584	333	88	0	445	128	8	392	560	0	0	286	0	431	1399	521	393	422
Total Number of Wells	10,976																										
Well Completion Details																											
Average Well Depth (ft)	500	850	750	850	450	500	950	864	950	900	930	800	600	825	668	500	450	550	550	550	600	600	550	650	500	650	540
Average Diameter of Casing (inches)	5	5	5	5	4.5	4.5	4.5	4.5	5	5	5	0	0	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Wellfield Fencing																											
Length of Fencing (ft)	16,487	11580	7388	26009	7074	0	23271	23271	21887	21595	9661	19732	0	8674	0	0	13720	18694	0	0	14060	0	18426	29540	9680	9977	10000

Cameco Resources
Smith Ranch Highland Uranium Project
2015-2016 Surety Estimate Update

Labor Costs	**2013 Rate**	**Esc Rate ($)**	**Net Benefits***	**Units**	**Source**
Environmental Manager/RSO	$46.00	$46.04	$65.75	hour	2013 MSEC rates plus CPI 2015 Ecsalation Factor
Restoration Manager	$40.00	$40.84	$57.18	hour	2013 MSEC rates plus CPI 2015 Ecsalation Factor
Environmental Tech/HPT	$25.50	$25.53	$35.74	hour	2013 MSEC rates plus CPI 2015 Ecsalation Factor
Operator/Laborer	$26.00	$26.55	$37.16	hour	2013 MSEC rates plus CPI 2015 Ecsalation Factor
Maintenance Tech	$23.00	$23.48	$32.88	hour	2013 MSEC rates plus CPI 2015 Ecsalation Factor
*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
Denver CPI (Half 2015)	238.1
June 2014 CPI (used in last	238.3
2015 Escalation Factor	1.000840

Utility Costs	**Rate ($)**	**Profit & Overhead**	**Units**	**Source**
Electrical Costs	$0.0678	included	kWhr	Actual Costs-2015
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	$66,705.65	included	year	Actual Costs-2015
Natural Gas - Satellite SR-1	$11,990.00	included	year	Actual Costs-2015
Propane - CPP/Main Office Area	$2,364.32	included	year	Actual Costs-2015
Propane - Satellite SR-2	$54,948.41	included	year	Actual Costs-2015
Natural Gas - Satellite No. 2/Selenium Treatment Plant	$23,174.81	included	year	Actual Costs-2015
Propane - Satellite No. 2/Selenium Treatment Plant	$0.00	included	year	Actual Costs-2015
Propane - Satellite No. 3	$48,722.70	included	year	Actual Costs-2015

Chemical & Materials Costs	**Rate ($)**	**Profit & Overhead**	**Units**	**Source**
Antiscalant for RO (Hypersperse)	$3.8400	included	pound	Actual Costs-2015
Antiscalant for RO (ScaleTrol)	$4.8400	included	pound	Actual Costs-2015
Sodium Tripolyphosphate	$1.0710	included	pound	Quote-2014 plus 2015 Escalator Factor
EDTA Tetrasodium Dihydrate	$1.7614	included	pound	Quote-2014 plus 2015 Escalator Factor
Sodium Sulfide	$0.5000	included	pound	Actual Costs-2015
Hydrochloric Acid	$0.1627	included	pound	Actual Costs-2015
Barium Chloride	$0.8600	included	pound	Actual Costs-2015
Iron Aggregate	$0.4635	included	pound	Actual Costs-2015
Silica Sand	$0.1392	included	pound	Actual Costs-2015
Pea Gravel	$0.0135	included	pound	Actual Costs-2015

Analytical Costs	**Rate ($)**	**Profit & Overhead**	**Units**	**Source***	
Guideline 8	$372.00	included	analysis	Actual Costs-2015	50
Excursion Parameters (UCL)	$30.00	included	analysis	Fee Schedule-2015	1.25
Restoration Progress Parameters (UCL + U + Se)	$50.00	included	analysis	Fee Schedule-2015	
Irrigator Fluid	$105.00	included	analysis	Actual Costs-2015	
Irrigator Vegetation	$270.00	included	analysis	Actual Costs-2015	
Irrigator Soil	$335.00	included	analysis	Actual Costs-2015	
Irrigator Soil Water	$150.00	included	analysis	Fee Schedule-2015	
Other Lab Costs (Radon, Bioassay, DDW, PWS, etc.)	$1,500.00	$1,650.00	analysis	Cost Estimate per month	* over life of mine plan
*All quotes, fee schedules and actual costs based on Energy Laboratories, Inc., Casper, WY					

Equipment Costs	**Rate ($)**	**Profit & Overhead***	**Units**	**Source**	date
Bandit 1290XP Trailer Mounted Brush Chipper	$34.36	$37.80	hour	Equipment Watch**	2014 plus 2015 Escalator Factor
Bobcat S250 Skid Steer Loader	$22.74	$25.01	hour	Equipment Watch	2014 plus 2015 Escalator Factor
Cat 320C L Trackhoe - 1.25 cu yd bucket	$69.50	$76.45	hour	Equipment Watch	2014 plus 2015 Escalator Factor
Cat 416E Backhoe	$27.19	$29.91	hour	Equipment Watch	2014 plus 2015 Escalator Factor
Cat 924H Loader - 2.4 cu yd bucket	$42.93	$47.22	hour	Equipment Watch	2014 plus 2015 Escalator Factor
Concrete Jaws Labounty - CP-60	$18.90	$20.79	hour	Equipment Watch	2013 plus 2015 Escalator = X 1.0197
GEHL DL-8 Rough Terrain Lift Truck	$46.82	$51.50	hour	Equipment Watch	2014 plus 2015 Escalator Factor
Manlift	$39.16	$43.08	hour	Equipment Watch	2014 plus 2015 Escalator Factor
MIT Unit	$30.68	$33.75	hour	Equipment Watch	2013 plus 2015 Escalator = X 1.0197
Pick-up Truck 3/4 ton 4X4	$18.81	$20.69	hour	Equipment Watch	2014 plus 2015 Escalator Factor
Pulling Unit***	$36.05	$39.66	hour	Equipment Watch	2013 plus 2015 Escalator = X 1.0197

*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

Cameco Resources
Smith Ranch Highland Uranium Project
2015-2016 Surety Estimate Update

Quoted Costs		**Rate ($)**	**Profit & Overhead**	**Units**	**Source**	
Deep Disposal Well - Plug & Abandonment Costs		$13.62	included	foot	2015 estimate plus 2015 Escalator Factor	
Deep Disposal Well - MIT Costs		$17,065	included	well	Ave Actual Costs-2015 plus 2015 Escalator Factor	
Well Replacements (Restoration)		$15,613	included	well	Actual Costs-2014 plus 2015 Escalator Factor	
Bellhole Refurbishment		$5,505	included	bellhole	Estimate cost 2014 plus 2015 Escalator Factor	
Header House Refurbishment		$10,008	included	header house	Estimate cost 2014 plus 2015 Escalator Factor	
WDEQ/LQD Guideline No. 12 Costs	**Appendix**	**Rate ($)**	**Profit & Overhead***	**Units**	**Source**	
Moving Materials: One-Way Distance 500 feet, 0% grade	Appendix C	$0.971	$1.068	bcy	Guideline-2/2016	
Moving Materials: One-Way Distance 1,000 feet, 0% grade	Appendix C	$1.160	$1.276	bcy	Guideline-2/2016	
Moving Materials: One-Way Distance 2,000 feet, 0% grade	Appendix C	$1.503	$1.653	bcy	Guideline-2/2016	
Moving Materials: One-Way Distance 50 feet, 0% grade	Appendix E	$0.141	$0.155	lcy	Guideline-2/2016	
Moving Materials: One-Way Distance 100 feet, 0% grade	Appendix E	$0.238	$0.262	lcy	Guideline-2/2016	
Moving Materials: One-Way Distance 150 feet, 0% grade	Appendix E	$0.310	$0.341	lcy	Guideline-2/2016	
Grading Operating Costs	Appendix G	$70.37	$77.41	acre	Guideline-2/2016	
Fencing Removal	Appendix H	$0.38	$0.42	foot	Guideline-2/2016	
Ripping Operating Costs (Asphalt)	Appendix I	$776.25	$853.88	acre	Guideline-2/2016	
Ripping Operating Costs (Overburden)	Appendix I1	$1,117.93	$1,229.72	acre	Guideline-2/2016	
Building Demolition - Mixture of Types	Appendix K	$0.266	$0.29	ft3	Guideline-2/2016	
Building Demo Disposal (Average)	Appendix K	$9.71	$10.68	cy	Guideline-2/2016	
Concrete (Floor) Demolition - 6" Thick with Rebar	Appendix K	$0.76	$0.84	ft2	Guideline-2/2016	
Concrete (Footing) Demolition - 2' Thick, 3' Wide	Appendix K	$15.67	$17.24	linear foot	Guideline-2/2016	
Concrete Disposal On-Site	Appendix K	$8.63	$9.49	cy	Guideline-2/2016	
Drill Hole Abandonment: Wet Exploration Holes >25 holes	Appendix L	$3.00	$3.30	foot	Guideline-2/2016	
Well Abandonment: Monitor, Production, and Injection Wells	Appendix L	$2.50	$2.75	foot	Guideline-2/2016	
Incidental Costs: Small Site Grading and Seeding (<1000 sq. feet)	Appendix L	$50	$55	site	Guideline-2/2016	
Incidental Costs: Capping	Appendix L	$10	$11	each	Guideline-2/2016	
Incidental Costs: Site Location	Appendix L	$10	$11	hole	Guideline-2/2016	
Incidental Costs: Remove Pump, Wiring, and Drop Pipe	Appendix L	$0.40	$0.44	foot	Guideline-2/2016	
Incidental Costs: Remove and Dispose Casing (top few feet)	Appendix L	$30	$33	well	Guideline-2/2016	
Incidental Costs: Monitoring Well Concrete Pedestal Disposal	Appendix L	$100	$110	each	Guideline-2/2016	
Mobilization Fee	Appendix L	$1,000	$1,100	Project	Guideline-2/2016	
Scarification Costs	Appendix P	$64.54	$70.99	acre	Guideline-2/2016	
Revegetation Costs-Total	Guideline 12A,II.-I	$300.00	$330.00	acre	Guideline-2/2016	
*Includes additional 10% Profit & Overhead per WDEQ/LQD Guidline No. 12, Section 12(b)						
Construction & Demolition Debris Transportation & Disposal Costs						
Building Volume for Disposal	0.33					
Void Factor (for disposal)	1.1					
	Disposal ($/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	$0.0678	kWhr
Efficiency	80%	
Wellfield Pumping Cost	$0.21	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	$0.0678	kWhr
Efficiency	90%	
Satellite Pumping Cost	$0.75	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	$0.0678	kWhr
Efficiency	90%	
Reagent		
Antiscalant Cost (Scaletrol)	$4.8400	per lb
Density of Water	8.34	lbs/gal
Specific Gravity (Scaletrol)	1.284	
Antiscalant Cost (Scaletrol)	$51.83	per gal
Antiscalant Dose (ScaleTrol)	0.0000048	gal/gal
Deep Disposal Well Cost	**$1.19**	**per kgal**
Total Groundwater Sweep Costs	**$2.15**	**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	0.0678	kWhr
Efficiency	90%	
PSR 2 & Irrigator Cost	**$0.42**	**per kgal**
Total Groundwater Sweep Costs (highland)	**$1.38**	**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	$0.0678	kWhr
Efficiency	90%	
Reagents		
Tripolyphosphate Usage Rate	0.00000130	lb/gal
Tripolyphosphate Cost	$1.0710	per lb
EDTA Usage Rate	0.00000315	lb/gal
EDTA Cost	$1.7614	per lb
Antiscalant Cost (Hypersperse)	$3.8400	per lb
Density of Water	8.34	lbs/gal
Specific Gravity (Hypersperse)	1.124	
Antiscalant Cost (Hypersperse)	$35.9968	per gal

Antiscalant Dose (Hypersperse)	0.0000036	gal/gal
Sodium Sulfide Usage Rate	0.00017	lb/gal
Sodium Sulfide Cost	$0.5000	per lb
RO Cost (without Reductant)	**$0.64**	**per kgal**
RO Cost (with Reductant)	**$0.72**	**per kgal**
MIT Costs for Production Wells		
Equipment		
Pulling Unit Hours	4	hrs/day
Pulling Unit Cost	$39.66	$/hour
MIT Unit Hours	8	hrs/day
MIT Unit Cost	$33.75	$/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	**$205.78**	**per well**
MIT Costs for Injection Wells		
Equipment		
Pulling Unit Hours	0	hrs/day
Pulling Unit Cost	$39.66	$/hour
MIT Unit Hours	8	hrs/day
MIT Unit Cost	$33.75	$/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	**$133.25**	**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	$0.8600	$/lb
Materials		
Iron	12,000	lb/column
Iron Cost	$0.4635	$/lb
Sand	18,000	lb/column
Sand Cost	$0.14	$/lb
Gravel	20,000	lb/column
Gravel Cost	$0.0135	$/lb
Disposal		
ByProduct for Disposal	63	yd^3/year
Disposal Cost (incl. Transport)	$157	per yd^3
Selenium Plant Operating Cost	**$153,974.79**	**per year**
Booster Pump Operating Cost Smith Ranch Highland		
Equipment		
Wellfield Pump Sizes	40	hp
Number of Pumps Running (avg.)	11	per year
Hours Running	24	per day
kW to HP Conversion Factor	0.746	
Cost of Electricity	$0.0678	kWhr
Efficiency	90%	
Booster Pump Operating Costs	**$216,612.14**	**per year**

WELL ABANDONMENT UNIT COSTS		
Removal of Contaminated Soil Around Wells		
Equipment		
Cat 416 Backhoe Time	0.25	hours
Cat 416 Backhoe Cost	$29.91	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	$76.45	per hour
Loader	1	per day
Loader Cost	$47.22	per hour
Pickup Truck	1	per day
Pickup Cost	$20.69	per hour
Chipper Cost	$37.80	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	
Production Pump Volume		
Length	66.0000	**inches**
Diameter	3.8000	**inches**

Removal of Contaminated Soil		
Equipment		
Cat 416 Backhoe Time	0.03	hours
Cat 416 Backhoe Cost	$29.89	per hour
Labor		
Radiation Technician	0.03	hours
Radiation Technician Cost	$35.74	per hour
Operator	0.03	hours
Operator Cost	$37.16	per hour
Disposal		
ByProduct Disposal	1	cubic yard
Disposal Cost (incl. Transport)	$156.73	per cubic yard
Removal of Contaminated Soil Cost	**$159.81**	**per cubic yard**

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	$76.45	per hour
Loader	1	per day
Loader Cost	$47.22	per hour
Pickup Truck	1	per day
Pickup Cost	$20.69	per hour
Chipper Cost	$37.80	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	**$3.09**	**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	$0.293	per cubic ft
Decontamination		
Acid Usage	4.1	pounds per wellhead cover
Acid Cost	$0.16	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	**$11.70**	**per well**
Header House Decontamination		
Decontamination		
Acid Usage	20	pounds per header house
Acid Cost	$0.16	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	$0.0678	kWhr
Header House Heating Cost	**$1,098**	**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)	$1.28	bcy
Cubic Yard to Cubic Feet Conversion	0.04	
Scarification of Road		
Scarification Costs	$71	per acre
Average Width	25	feet
Acre to Sq. Foot Conversion	2.29568E-05	
Grading Cost	$77	per acre
Topsoil Depth	0.67	feet
Discing/Seeding Costs	$330	
Linear Feet for Unit Cost	1000	feet
Wellfield Road Reclamation Cost	**$1,184.31**	**per 1000 feet**
EQUIPMENT COSTS		
Tank Removal		
Equipment		
Loader	$47.22	per hour
Trackhoe	$76.45	per hour
Manlift	$43.08	per hour
Pickup	$20.69	per hour
Lift Truck	$51.50	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	$43.08	per hour
Pickup	$20.69	per hour
Lift Truck	$51.50	per hour
Chipper	$37.80	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)	**$8.05**	**per ft**
Pump Removal		
Equipment		
Truck	$20.69	per hour
Skid Steer	$25.01	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	**$96.03**	**per ft^3**
Dryer Removal		
Equipment		
Truck	$20.69	per hour
Lift Truck	$51.50	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	$20.69	per hour
Lift Truck	$51.50	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	$0.16	per pound
Equipment		
Manlift	$43.08	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	$0.16	per pound
Labor		
Laborer	2	people
Laborer Cost	$32.88	per hour
Productivity	125	square feet per hour
Acid Wash Floors Cost	**$0.53**	**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	$0.0678	per kWhr
Efficiency Factor	90%	
Operating Hours Per Year	8760	hours
CPP Power Cost	**$31,791**	**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	$0.0678	per kWhr
Efficiency Factor	90%	
Operating Hours Per Year	8760	hours
SR 1 & SR 2 Power Costs	**$43,165**	**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	$0.0678	per kWhr
Efficiency Factor	90%	
Operating Hours Per Year	8760	hours
Reynolds Ranch Power Costs	**$43,165**	**per year**
*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	$0.0678	per kWhr
Efficiency Factor	90%	
Operating Hours Per Year	8760	hours

Satellite 2 Power Cost	**$29,797**	**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	$0.0678	per kWhr
Efficiency Factor	90%	
Operating Hours Per Year	8760	hours
Satellite 3 Power Cost	**$29,797**	**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	$0.0678	per kWhr
Efficiency Factor	90%	
Operating Hours Per Year	8760	hours
Selenium Power Cost	**$42,749**	**per year**
DDW - Typical		
Miscellaneous Pumps, Fans, Sumps, etc.	2.00000	HP
Lighting	0.48750	kW
Heating	12.50000	kW
kW to HP Conversion Factor	0.74600	kW (per square ft)
Electricity Cost	0.06780	per kWhr
Efficiency Factor	0.90000	
Operating Hours Per Year	8760.00000	hours
DDW Electrical Cost	**4799.11642**	**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	$0.0678	per kWhr
Efficiency Factor	90%	
Operating Hours Per Year	8760	hours
Maintenance Shop Power Costs	**$6,015**	**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	$0.0678	per kWhr
Efficiency Factor	90%	
Operating Hours Per Year	8760	hours
Fresh Water Pumphouse Power Costs	**$10,545**	**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	$0.0678	per kWhr
Efficiency Factor	90%	
Operating Hours Per Year	8760	hours
Office Building Power Costs	**$26,748**	**per year**
MISCELLANEOUS RECLAMATION AND RESTORATION COSTS		
Liner and Subsoil Removal Costs		
Equipment		
Trackhoe Cost	$ 76.45	per hour
Loader Cost	$ 47.22	per hour
Labor		
Operator	37.16	per hour
Productivity	40	cubic yards/hour
Total Removal	**$ 4.02**	**per cubic yard**