

Surety Estimate Changes 2016 vs. 2015		2016	<i>2015 Bond Estimate</i>	Difference	Notes: Revisions to MU3 North and South pore volume to reflect update mine plan and flare factor revisions for MU1 and MU2 . Updated costs Revisions to MU3 North and South mine plan reduced total number of wells. Revisions to MU3 North and South mine plan reduced total number of wellfield buildings. Revisions to Guideline 12 seeding costs, adjusted roads to actual lengths. Guideline 12 and actual adjusted costs. Guideline 12 and actual adjusted costs. Guideline 12 and actual adjusted costs.
I.& II	Groundwater Restoration (I GWR-WF + II GWR-SITE)	\$15,302,605	\$17,402,083	(\$2,099,478)	
III.	Well & Drill Hole Abandonment (III WA Sheet)	\$3,672,049	\$3,975,975	(\$303,926)	
IV.	Wellfield Buildings & Equipment Removal & Disposal (IV WF BLDGS)	\$872,913	\$1,011,435	(\$138,522)	
V	Wellfield & Satellite Surface Reclamation (V WF REC)	\$126,237	\$227,898	(\$101,660)	
VI	Equipment Removal and Disposal (VI EQUIP)	\$224,588	\$221,812	\$2,776	
VII.	Building Demolition and Disposal (VII BLDGS)	\$639,765	\$753,723	(\$113,958)	
VIII	Miscellaneous Reclamation (VIII MISC REC)	\$518,705	\$527,299	(\$8,594)	
Subtotal Restoration and Reclamation Cost Estimate		\$21,356,863	\$24,120,225	(\$2,763,362)	
	Contractor Profit & Overhead ¹ 10%		Calc'd with Master Costs		
	Contingency ² 15%	\$3,203,529	\$3,618,034	(\$414,505)	
	TOTAL ³ ,rounded down	\$24,560,000	\$27,738,300	(\$3,178,300)	Difference

Attachment A

2016 Surety Estimate

North Butte Uranium ISR LQD Permit No. 632 / NRC License SUA 1548

Cameco Resources

Total Restoration and Reclamation Cost Estimate			2016	2015 Bond Estimate
I.& II	Groundwater Restoration (I GWR-WF + II GWR-SITE Sheets)		\$15,302,605	\$17,402,083
III.	Well & Drill Hole Abandonment (III WA Sheet)		\$3,672,049	\$3,975,975
IV.	Wellfield Buildings & Equipment Removal & Disposal (IV WF BLDGS Sheet)		\$872,913	\$1,011,435
V	Wellfield & Satellite Surface Reclamation (V WF REC Sheet)		\$126,237	\$227,898
VI	Equipment Removal and Disposal (VI EQUIP Sheet)		\$224,588	\$221,812
VII.	Building Demolition and Disposal (VII BLDGS Sheet)		\$639,765	\$753,723
VIII	Miscellaneous Reclamation (VIII MISC REC Sheet)		\$518,705	\$527,299
Subtotal Restoration and Reclamation Cost Estimate			\$21,356,863	\$24,120,225
Contractor Profit & Overhead ¹ 10%			Calc'd with Master Costs	
Contingency ² 15%			\$3,203,529	\$3,618,034
TOTAL³, rounded down			\$24,560,000	\$27,738,300

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.

Table __, cont'd.
2016 Surety Estimate
North Butte Uranium ISR LQD Permit No. 632 / NRC License SUA 1548
Cameco Resources

I. GROUND WATER RESTORATION - WELLFIELD	Mine Unit 1	Mine Unit 2	Mine Unit 3N	Mine Unit 3S
A. Ground Water Sweep (GWS) Costs				
Estimated PV's	1	1	1	1
Total K-gals for GWS	64,127	79,415	33,443	36,390
Bleed to Deep Disposal Well (%)	100%	100%	100%	100%
<u>Groundwater Sweep Unit Cost (\$/kgal)</u>	\$2.35	\$2.35	\$2.35	\$2.35
Subtotal Ground Water Sweep Costs per Wellfield	\$150,791	\$186,740	\$78,640	\$85,570
Total Ground Water Sweep Costs	\$501,741			
B. Reverse Osmosis Costs				
Estimated PV's	4.5	4.5	4.5	4.5
Total K-gals for RO	288,572	357,368	150,494	163,756
<u>Wellfield Pumping Cost</u>	\$0.22	\$0.22	\$0.22	\$0.22
<u>Reverse Osmosis Unit Cost (\$/kgal)</u>	\$0.66	\$0.66	\$0.66	\$0.66
Bleed to Deep Disposal Well (%)	20%	20%	20%	20%
Brine Volume for Disposal	57,714	71,474	30,099	32,751
<u>DDW Disposal Cost(\$/kgal)</u>	\$1.35	\$1.35	\$1.35	\$1.35
Permeate Volume for Re-Use	230,858	285,895	120,395	131,005
<u>Satellite Pumping Cost (\$/kgal)</u>	\$0.78	\$0.78	\$0.78	\$0.78
Subtotal Reverse Osmosis Costs per Wellfield	\$511,985	\$634,043	\$267,006	\$290,536
Total Reverse Osmosis Costs	\$1,703,569			
C. Reverse Osmosis with Chemical Reductant Costs				
Estimated PV's	3.5	3.5	3.5	3.5
Total kgals for RO	224,445	277,953	117,051	127,366
<u>Wellfield Pumping Cost</u>	\$0.22	\$0.22	\$0.22	\$0.22
<u>Reverse Osmosis with Chemical Reductant Unit Cost (\$/kgal)</u>	\$0.76	\$0.76	\$0.76	\$0.76
Bleed to Deep Disposal Well (%)	20%	20%	20%	20%
Brine Volume for Disposal (kgal)	44,889	55,591	23,410	25,473
<u>DDW Disposal Cost(\$/kgal)</u>	\$1.35	\$1.35	\$1.35	\$1.35
Permeate Volume for Re-Use	179,556	222,362	93,641	101,893
<u>Satellite Pumping Cost (\$/kgal)</u>	\$0.78	\$0.78	\$0.78	\$0.78
Subtotal RO with Chemical Reductant Costs per Wellfield	\$421,485	\$521,968	\$219,810	\$239,180
Total Reverse Osmosis with Chemical Reductant Costs	\$1,402,443			
D. Mechanical Integrity Testing (MIT) Costs				
Pre-Restoration, Restoration and Stability Period (yrs)	4.0	6.0	7.0	4.0
Number of Injection Wells	303	240	109	120
Number of MITs per Well	0.8	1.2	1.4	0.8
<u>MIT Costs per Injection Well</u>	\$141	\$141	\$141	\$141
Number of Production Well	193	185	53	59
<u>MIT Costs per Production Well</u>	\$217	\$217	\$217	\$217
Subtotal MIT Costs per Wellfield	\$67,527	\$88,582	\$37,528	\$23,722
Total Wellfield MIT Costs	\$217,359			

Table __, cont'd.
2016 Surety Estimate
North Butte Uranium ISR LQD Permit No. 632 / NRC License SUA 1548
Cameco Resources

I. GROUND WATER RESTORATION - WELLFIELD	Mine Unit 1	Mine Unit 2	Mine Unit 3N	Mine Unit 3S
F. Monitoring and Sampling Costs				
1 Pre-Restoration Monitoring				
a. Excursion Monitoring (M, MO and MU wells, twice per month)				
# of Wells	33	31	21	22
Total # samples	0	744	1512	528
UCL Parameters (\$/sample)	\$30	\$30	\$30	\$30
Subtotal Pre-Restoration Monitoring Costs per Mine Unit	\$0.00	\$22,320	\$45,360	\$15,840
Total Pre-Restoration Monitoring Costs	\$83,520			
2. Restoration Monitoring				
a. Sampling Prior to Start-up (MP Wells)				
# of Wells	16	18	6	7
Modified Guideline 8 (\$/sample)	\$372	\$372	\$372	\$372
b. Restoration Progress Monitoring (MP Wells, every 2 months)				
# of Wells	16	18	6	0
Total # samples	288	432	108	0
Restoration Progress Parameters (\$/sample)	\$50	\$50	\$50	\$50
c. Excursion Monitoring (M, MO and MU wells, every 2 months)				
# of Wells	33	31	21	0
Total # samples	594	744	378	0
UCL Parameters (\$/sample)	\$30	\$30	\$30	\$30
Subtotal Restoration Monitoring Costs per Mine Unit	\$38,172	\$50,616	\$18,972	\$2,604
Total Restoration Monitoring Costs	\$110,364			
3 Stability Monitoring				
a. Beginning of stability (MP wells)				
# of Wells	16	18	6	7
Modified Guideline 8 (\$/sample)	\$372	\$372	\$372	\$372
b. Quarterly sampling (MP wells)				
# of Wells	16	18	6	7
Total # samples	64	72	24	28
Modified Guideline 8 (\$/sample)	\$372	\$372	\$372	\$372
c. Monitor Well Sampling (M wells, every 2 months)				
# of Wells	23	24	17	17
Total # samples	138	144	102	102
UCL Parameters (\$/sample)	\$30	\$30	\$30	\$30
Subtotal Stability Monitoring Costs per Mine Unit	\$33,900	\$37,800	\$14,220	\$16,080
Total Stability Monitoring Costs	\$102,000			
4 Other Laboratory Costs				
Radon, Bioassay, etc.	\$138,600			
Subtotal Monitoring and Sampling Costs per Mine Unit	\$210,672	\$110,736	\$78,552	\$34,524
Total Monitoring and Sampling Costs	\$434,484			

Table __, cont'd.
 2016 Surety Estimate
 North Butte Uranium ISR LQD Permit No. 632 / NRC License SUA 1548
 Cameco Resources

I. GROUND WATER RESTORATION - WELLFIELD	Mine Unit 1	Mine Unit 2	Mine Unit 3N	Mine Unit 3S
G. Header House Heating Costs				
Number of Header Houses per Unit(s)	10	9	2	3
Pre-Restoration and Restoration Period (yrs)	3.0	5.0	6.0	3.0
Electrical Heating Costs (\$/yr)	\$3,834	\$3,834	\$3,834	\$3,834
Subtotal Header House Heating Cost per Wellfield	\$115,020	\$172,530	\$46,008	\$34,506
Total Header House Heating Costs	\$368,064			
TOTAL RESTORATION COST PER WELLFIELD	\$1,477,480	\$1,714,599	\$727,543	\$708,038
TOTAL WELLFIELD RESTORATION COST	\$4,627,660			

Table __, cont'd.

2016 Surety Estimate

North Butte Uranium ISR LQD Permit No. 632 / NRC License SUA 1548

Cameco Resources

II. GROUND WATER RESTORATION - SITE WIDE			
	Satellite No. 1	Satellite No. 2	DDW Fed BY-2
A. Building Utility Costs			
Assumptions:			
Electricity Unit Cost (\$/yr)	\$31,203	\$31,203	\$5,027
Propane (\$/yr)	\$44,861	\$44,861	\$0
Natural Gas (\$/yr)	\$0	\$0	\$0
Number of Years	6		6
Subtotal Utility Cost per Building	\$456,385	\$0	\$30,163
Total Building Utility Costs	\$486,548		
B. Booster Pump Operation Costs			
Restoration Period (yrs)	0		
<u>Booster Pump Operating Cost (\$/yr)</u>	\$41,243		
Total Booster Pump Operating Cost	\$0		
C. Infrastructure, Equipment Maintenance, Replacement and Repair Costs (Est. based on SR actual)			
Annual Maintenance Cost (\$/yr)	\$23,000	*Based on SRH Surety for one Facility	
Restoration Period (yrs)	6		
Total Cost	\$138,000		
D. Deep Disposal Well MIT Costs			
<u>Five-year MIT Costs for Disposal Wells</u>	\$17,051		
Number of DDWs	2		
Number of MITs per DDW	2		
Total DDW MIT Cost	\$68,205		
E. Capital Costs			
Reverse Osmosis Unit (3 x 250-gpm @ \$250K each)	\$750,000		
Deep Disposal Well (1 @ \$3.72M each)	\$3,720,000		
Total Capital Costs	\$4,470,000		
F. Vehicle Operation Costs			
Number of Pickup Trucks (Gasoline)	3		
<u>Truck Cost (\$/hr)</u>	\$20.67		
Average Operating Time (hrs/yr)	1000		
Restoration and Stability Period (yrs)	7		
Total Vehicle Operation Cost	\$434,049		

Table __, cont'd.
 2016 Surety Estimate
 North Butte Uranium ISR LQD Permit No. 632 / NRC License SUA 1548
 Cameco Resources

II. GROUND WATER RESTORATION - SITE WIDE			
G. Labor Costs			
Assumptions:			
Qty. Restoration Managers		1	
\$/hr		\$57.18	
Qty. Environmental Techs/HPTs		1	
\$/hr		\$35.74	
Qty. Operators/Laborers		6	
\$/hr		\$37.16	
Qty. Maintenance Technicians		1	
\$/hr		\$32.88	
Hrs/yr		2080	
Restoration and Stability Period (yrs)		7	
	Total Labor Cost	\$5,078,144	
TOTAL SITE-WIDE RESTORATION COSTS		\$10,674,945	

Table __, cont'd.
2016 Surety Estimate
North Butte Uranium ISR LQD Permit No. 632 / NRC License SUA 1548
 Cameco Resources

III. WELL AND DRILL HOLE ABANDONMENT	Mine Unit 1	Mine Unit 2	Mine Unit 3N	Mine Unit 3S	Mine Unit 4	Water Wells	Misc Wells
A. Well Abandonment (Wellfields)							
1 Sealing Costs							
Total # of Wells per Wellfield	530	457	184	202	0	3	57
Well Average Depth (ft)	680	750	750	750	0	750	650
Well Abandonment (Sealing) Costs (\$/ft)	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75	\$2.75
Subtotal Sealing Costs per Wellfield	\$991,100	\$942,563	\$379,500	\$416,625	\$0	\$6,188	\$101,888
2 Casing Removal and Disposal Costs							
Total # of Wells per Wellfield	530	457	184	202	0	3	57
Total # of Wells for Casing Removal and Disposal	530	457	184	202	0	3	57
Remove and Dispose Casing (\$/well)	\$33	\$33	\$33	\$33	\$33	\$33	\$33
Subtotal Casing Removal and Disposal Costs per Wellfield	\$17,490	\$15,081	\$6,072	\$6,666	\$0	\$99	\$1,881
Subtotal Well Abandonment Costs per Wellfield	\$1,008,590	\$957,644	\$385,572	\$423,291	\$0	\$6,287	\$103,769
Total Well Abandonment Costs	\$2,885,152						
B. Removal of Contaminated Soil Around Wells							
# of Production and Injection Wells	496	425	162	179	0		
Remove Contaminated Soil Around Wells (\$/well)	\$83.69	\$83.69	\$83.69	\$83.69	\$83.69		
Subtotal Contaminated Soil Removal/Disposal per Wellfield	\$41,509	\$35,567	\$13,557	\$14,980	\$0		
Total Contaminated Soil Removal/Disposal Costs	\$105,613						
C. Drill Hole Abandonment							
1 Drill Hole Plug and Abandonment							
Projected # of Drill Holes							
2016-17	300						
Total # of Drill Holes	300						
Average Depth of Fallback (feet)	200						
Total Footage Requiring Abandonment (ft)	60,000						
Hole Abandonment (\$/ft)	\$3.30						
Subtotal Plug and Abandonment Costs	\$198,000						
2 Incidental Costs							
Mobilization	\$1,100						
Total # of Drill Holes	300						
Site Location (\$/hole)	\$11						
Capping (\$/hole)	\$11						
Small Site Grading and Seeding (\$/site)	\$55						
Subtotal Incidental Costs	\$24,200						
3 Subsurface Retained Abandonment Cost							
Reclamation Cost per hole (Equipment, materials, labor)	\$77						
40% of Reclamation Costs (GL 12 Appendix L, footnote 6)	\$31						
Plugged and Abandoned Boreholes - Surface Cost 40% (2012)	537						
Plugged and Abandoned Boreholes - Surface Cost 40% (2013)	63						
Plugged and Abandoned Boreholes - Surface Cost 40% (2014)	214						
Plugged and Abandoned Boreholes - Surface Cost 40% (2015)	0						
Subtotal Subsurface Retained Abandonment Cost	\$25,071						
Total Delineation Hole Abandonment	\$247,271						
D. Waste Disposal Well Abandonment	DDW Fed BY-2	DDW NB No. 3					
1 Plug & Abandon per WDEQ-WQD UIC Permit #11-468	\$217,007	\$217,007					
Total Waste Disposal Well Abandonment Costs	\$434,014						
TOTAL WELL + DRILL HOLE ABANDONMENT COSTS	\$3,672,049						

Table __, cont'd.
2016 Surety Estimate
North Butte Uranium ISR LQD Permit No. 632 / NRC License SUA 1548
Cameco Resources

IV. WELLFIELD BUILDINGS & EQUIPMENT REMOVAL + DISPOSAL	Mine Unit 1	Mine Unit 2	Mine Unit 3N	Mine Unit 3S
A. Wellfield Piping				
Number of Header Houses per Wellfield	10	9	2	3
Approximate Length of Piping per Header House (ft)	13,800	13,800	13,800	13,800
*average 46 wells per with 300 ft pipeline/well)				
Approximate Total Length of Piping (ft)	138,000	124,200	27,600	41,400
1 Removal and Loading				
<u>Wellfield Piping Removal Unit Cost (\$/ft of pipe)</u>	\$1.57	\$1.57	\$1.57	\$1.57
Subtotal Wellfield Piping Removal and Loading Costs	\$216,007	\$194,407	\$43,201	\$64,802
2 Transport and Disposal Costs (NRC-Licensed Facility)				
Average Diameter of Piping (inches)	2	2	2	2
<u>Chipped Volume Reduction (ft³/ft)</u>	0.011	0.011	0.011	0.011
Chipped Volume per Wellfield (ft ³)	1480	1332	296	444
Volume for Disposal Assuming 10% Void Space (ft ³)	1628	1465	326	488
<u>Transportation and Disposal Unit Cost (\$/ft³)</u>	\$5.77	\$5.77	\$5.77	\$5.77
Subtotal Wellfield Piping Transport and Disposal Costs	\$9,390	\$8,451	\$1,878	\$2,817
Subtotal Wellfield Piping Costs per Wellfield	\$225,398	\$202,858	\$45,080	\$67,619
Total Wellfield Piping Costs	\$540,954			
B. Well Pumps and Downhole Tubing				
Assumptions: pump and tubing removal costs included under groundwater restoration labor				
60% of production/injection wells contain pumps and/or tubing				
1 Pump and Tubing Transportation and Disposal				
Number of Production Wells	193	185	53	59
Number of Injection Wells	303	240	109	120
Number of Monitor Wells	33	31	21	22
a. Pump Volume				
Number of Production Wells with Pumps	193	185	53	59
<u>Pump Volume (ft³)</u>	0.43	0.43	0.43	0.43
Pump Volume per Wellfield (ft ³)	83.6	80.1	23.0	25.6
b. Tubing Volume				
Average Tubing Length per Well (ft)	655	725	725	725
*Average tubing length/wellfield based on average well depth minus 25 ft				
Number of Production Wells with Tubing	116	111	32	35
Number of Injection Wells with Tubing	182	144	65	72
Tubing Length per Wellfield (ft)	216,543	207,350	85,695	93,815
Diameter of Production Well Fiberglass Tubing (inches)	2	2	2	2
Diameter of Injection Well HDPE Tubing (inches)	1.25	1.25	1.25	1.25
<u>Chipped Volume Reduction (ft³/ft)</u>	0.011	0.011	0.011	0.011
Chipped Volume per Wellfield (ft ³)	2322	2223	919	1006
Volume of Pump and Tubing (ft ³)	2405	2303	942	1031
Volume for Disposal Assuming Void Space (ft ³)	2646	2534	1036	1135
<u>Transportation and Disposal Unit Cost (\$/ft³)</u>	\$5.77	\$5.77	\$5.77	\$5.77
Subtotal Pump and Tubing Transport and Disposal Costs Per Wellfield	\$15,266	\$14,618	\$5,977	\$6,546
Total Pump and Tubing Transport and Disposal Costs	\$42,406			
C. Wellhead Cover Removal				
Number of Production and Injection Wells	496	425	162	179
<u>Well Head Removal, Decontamination, and Disposal Cost</u>	\$12	\$12	\$12	\$12
Subtotal Wellhead Removal Costs	\$5,848	\$5,011	\$1,910	\$2,110
Total Wellhead Cover Removal Costs	\$14,879			
D. Header Houses				
Total Quantity	10	9	2	3
Average Header House Volume (ft ³)	1600	1600	1600	1600
1 Removal				
Total Volume (ft ³)	16000	14400	3200	4800
<u>Demolition Cost</u>	\$0.293	\$0.293	\$0.293	\$0.293

Table __, cont'd.
2016 Surety Estimate
North Butte Uranium ISR LQD Permit No. 632 / NRC License SUA 1548
Cameco Resources

IV. WELLFIELD BUILDINGS & EQUIPMENT REMOVAL + DISPOSAL	Mine Unit 1	Mine Unit 2	Mine Unit 3N	Mine Unit 3S
Subtotal Building Demolition Costs	\$4,682	\$4,213	\$936	\$1,404
2 Survey and Decontamination				
Cost per Header House	\$634	\$634	\$634	\$634
Subtotal Survey and Decontamination Costs	\$6,341	\$5,707	\$1,268	\$1,902
3 Disposal				
Total Volume for Disposal - Incl. 33% Factor (cy)	196	176	39	59
Volume for Disposal Assuming Void Space (cy)	215	194	43	65
Disposal Cost, Landfill (cy)	\$42.17	\$42.17	\$42.17	\$42.17
Subtotal County Landfill Disposal Costs	\$9,071	\$8,163	\$1,814	\$2,721
Header House Soil Removal Volume (assume 10'Wx20'Lx2.5'D)	500	501	502	503
11e.(2) Disposal Cost (ft ³)	\$5.80	\$5.80	\$5.80	\$5.80
Subtotal 11(e)2 Disposal Cost	\$29,024	\$26,174	\$5,828	\$8,759
Subtotal Header House Removal and Disposal Costs per Wellfield	\$49,117	\$44,257	\$9,847	\$14,787
Total Header House Removal and Disposal Costs	\$118,008			
TOTAL REMOVAL AND DISPOSAL COSTS PER WELLFIELD	\$716,248			
	Main			
	Trunkline			
	Trench			
E. Buried Trunkline				
Assumptions:				
Length of Trunkline Trench (ft)	7500			
Length of Waste Water Pipeline Trench (ft)	4600			
1 Removal and Loading				
Main Pipeline Removal Unit Cost (\$/ft of trench)	\$3.13			
Subtotal Trunkline Removal and Loading Costs	\$37,880			
2 Transport and Disposal Costs (NRC-Licensed Facility)				
a. 4" HDPE Trunkline (Wastewater Disposal Line)				
Piping Length (ft)	2,600			
Chipped Volume per Lft (ft ³ /ft)	0.0385			
Chipped Volume (ft ³)	100			
b. 10" HDPE Trunkline (Restoration) (x2)				
Piping Length (ft)	15,000			
Chipped Volume per Lft (ft ³ /ft)	0.220			
Chipped Volume (ft ³)	3,293			
c. 18" HDPE Trunkline (Prod/Inject) (x2)				
Piping Length (ft)	15,000			
Chipped Volume per Lft (ft ³ /ft)	0.616	approx		
Chipped Volume (ft ³)	9,233			
Total Trunkline Chipped Volume (ft ³)	12,626			
Volume for Disposal Assuming 10% Void Space (ft ³)	13,888			
Transportation and Disposal Unit Cost (\$/ft ³)	\$5.77			
Subtotal Trunkline Transport and Disposal Costs (NRC Licensed Facility)	\$80,133			
3 Transport and Disposal Cost (Landfill)				
a. 2" Steel Line (O ₂)				
Piping Length (ft)	7500			
b. 3" HDPE Trunkline (CO ₂)				
Piping Length (ft)	7500			
c. 1" Fiber Optics Line				
Length (ft)	7500			
Volume for Disposal Assuming 10% Void Space (cy)	917			
Disposal Cost, Landfill (cy)	\$42.17			
Subtotal Transport and Disposal Costs	\$38,653			
Subtotal Trunkline Decommissioning Costs per Wellfield	\$156,665			
Total Trunkline Decommissioning Costs	\$156,665			
TOTAL WELLFIELD BUILDINGS + EQUIPMENT REMOVAL	\$872,913			

Table __, cont'd.
2016 Surety Estimate
North Butte Uranium ISR LQD Permit No. 632 / NRC License SUA 1548
Cameco Resources

V. WELLFIELD & SATELLITE SURFACE RECLAMATION	Mine Unit 1	Mine Unit 2	Mine Unit 3N	Mine Unit 3S
A. Wellfield Pattern Area Reclamation				
Pattern Area (acres)	67	67	20	23
*Assumes wellfield pattern area X 2				
<u>Discing/Seeding Unit Cost (\$/acre)</u>	\$330	\$330	\$330	\$330
Subtotal Pattern Area Reclamation Costs per Wellfield	\$21,970	\$22,149	\$6,690	\$7,451
Total Wellfield Pattern Area Reclamation Costs	\$58,260			
1 Wellfield Road Reclamation				
Road Construction				
Length of Wellfield Roads (1000 ft)	8	4	5	6
<u>Wellfield Road Reclamation Unit Cost (\$/1000 ft)</u>	\$1,312	\$1,312	\$1,312	\$1,312
Subtotal Wellfield Road Reclamation Costs	\$10,810	\$5,701	\$6,559	\$7,871
Total Wellfield Road Reclamation Costs	\$30,940			
2 Wellfield Laydown Area Reclamation	Laydown Area	Staging Area		
Area of Disturbance (acres)	0.00	3.86		0
Average Depth of Stripped Topsoil (ft)	0.5	0.67		0.67
Surface Grade: Level Ground				
Average Length of Topsoil Haul (ft)	2000	500		500
a. Ripping Overburden with Dozer				
<u>Ripping Cost (per acre)</u>	\$1,367	\$1,367		
Subtotal Ripping Costs	\$0	\$5,278		
b. Topsoil Application with Scraper				
Volume of Topsoil Removed (cy)	0	4172		0
<u>Moving Materials (0% Grade)</u>	\$1.87	\$1.87		\$1.87
Subtotal Topsoil Application Costs	\$0	\$7,812	\$0	\$0
c. Discing and Seeding				
<u>Discing/Seeding Unit Cost (\$/acre)</u>	\$330	\$330		\$330
Subtotal Discing/Seeding Costs	\$0	\$1,274		\$0
Subtotal Surface Reclamation Costs per WF laydown area	\$0	\$14,363		\$0
Total Wellfield Laydown Area Reclamation Costs	\$14,363			
3 Wellfield Fence Removal				
Length of Fencing (ft)	9,800	5,400	6,300	0
Fence Removal Costs	\$0.42	\$0.42	\$0.42	\$0.42
Subtotal Fence Removal Costs per Wellfield	\$4,096	\$2,257	\$2,633	\$0
Subtotal Wellfield Fence Removal Costs	\$8,987			
Total Wellfield Surface Reclamation	\$112,551			
B. Satellite + Office Area Reclamation	Satellite No.1			
Assumptions:				
Area of Disturbance (acres)	3.9			
Average Depth of Stripped Topsoil (ft)	0.5			
Surface Grade: Level Ground				
Average Length of Topsoil Haul (ft)	2000			
1 Ripping Overburden with Dozer				
<u>Ripping Cost (per acre)</u>	\$1,367			
Subtotal Ripping Costs	\$5,264			
2 Topsoil Application with Scraper				
Volume of Topsoil Removed (cy)	3106			

V. WELLFIELD & SATELLITE SURFACE RECLAMATION	Mine Unit 1	Mine Unit 2	Mine Unit 3N	Mine Unit 3S
Moving Materials (0% Grade)	\$1.87			
Subtotal Topsoil Application Costs	\$5,814			
3 Discing and Seeding				
Discing/Seeding Unit Cost (\$/acre)	\$330			
Subtotal Discing/Seeding Costs	\$1,271			
Subtotal Surface Reclamation Costs per Satellite	\$12,349			
4 Satellite Area Fence Removal				
Length of Fencing (ft)	3,200			
Fence Removal Costs per foot	\$0.42			
Subtotal Fence Removal Costs per Satellite	\$1,338			
Total Satellite Area Reclamation	\$13,687			
Total Fence Removal	\$10,325			
TOTAL WELLFIELD + SATELLITE SURFACE RECLAMATION	\$126,237			

Table __, cont'd.

2016 Surety Estimate

North Butte Uranium ISR LQD Permit No. 632 / NRC License SUA 1548

Cameco Resources

VI. EQUIPMENT REMOVAL & LOADING	Satellite No. 1
A. Removal and Loading Costs	
1 Tankage	
Number of Tanks	20
Volume of Tank Construction Material (ft ³)	1190
Tank Removal Cost	\$124
Subtotal Tankage Removal and Loading Costs	\$147,518
2 PVC/Steel Pipe	
PVC Pipe Footage	6000
Average PVC Pipe Diameter (inches)	4
Shredded PVC Pipe Volume Reduction (ft3/ft)	0.038
Volume of Shredded PVC Pipe (ft ³)	231
Steel Pipe Footage	0
Average Steel Pipe Diameter (inches)	0
Volume (ft ³)	0
Pipe Removal Cost	\$8.04
Subtotal PVC/Steel Pipe Labor & Equipment Costs	\$48,254
3 Pumps	
Number of Pumps	16
Average Volume (ft ³ /pump)	5
Volume of Pumps (ft ³)	79
Pump Removal Cost	\$96
Subtotal Pump Removal and Loading Costs	\$7,572
4 RO Units	
Number of RO Units (500 gpm)	
Current	0
Planned	3
RO Average Volume (ft3/Unit)	250
RO Removal Cost	\$4.69
Subtotal RO Unit Removal and Loading Costs	\$3,515
Subtotal Equipment Removal and Loading Costs per Facility	\$206,860
B. Transportation and Disposal Costs (NRC-Licensed Facility)	
1 Tankage	
Volume of Tank Construction Material (ft ³)	1,190
Volume for Disposal Assuming Void Space (ft ³)	1,309
Transportation and Disposal Unit Cost (\$/ft3)	\$7.32
Subtotal Tankage Transportation and Disposal Costs	\$9,586

VI. EQUIPMENT REMOVAL & LOADING	Satellite No. 1
2 PVC / Steel Pipe	
Volume of Shredded PVC Pipe (ft ³)	231
Volume for Disposal Assuming Void Space (ft ³)	254
Volume of Steel Pipe (ft ³)	0
Volume for Disposal Assuming Void Space (ft ³)	0
<u>Transportation and Disposal Unit Cost (\$/ft3)</u>	\$5.77
Subtotal PVC Pipe Transportation and Disposal Costs	\$1,465
3 Pumps	
Volume of Pumps (ft ³)	79
Volume for Disposal Assuming Void Space (ft ³)	87
<u>Transportation and Disposal Unit Cost (\$/ft3)</u>	\$7.32
Subtotal Pump Transportation and Disposal Costs	\$635
4 Dryer	
Dryer Volume (ft ³)	0
Volume for Disposal Assuming Dryer Remains Intact (ft ³)	0
<u>Transportation and Disposal Unit Cost (\$/ft3)</u>	\$7.32
Subtotal Dryer Transportation and Disposal Costs	\$0
5 RO/Degasser Units	
Volume of RO/Degasser Units (ft ³)	750
Volume for Disposal Assuming Volume Reduction (ft ³)	825
<u>Transportation and Disposal Unit Costs</u>	\$7.32
Subtotal RO Unit Transportation and Disposal Costs	\$6,042
Subtotal Equipment Transportation + Disposal Costs per Facility	\$17,728
C. Health and Safety Costs	
Radiation Safety Equipment	
	Accounted for under "II.GWR SITE COSTS"
Total Health and Safety Costs	
SUBTOTAL EQUIPMENT REMOVAL + DISPOSAL PER FACILITY	\$224,588
TOTAL EQUIPMENT REMOVAL + DISPOSAL COSTS	\$224,588

Table __, cont'd.
 2016 Surety Estimate
 North Butte Uranium ISR LQD Permit No. 632 / NRC License SUA 1548
 Cameco Resources

	Satellite No. 1	DDW Fed BY-2	DDW NB No. 3	Bunkhouse No. 1	Tank & Pad (2)	O ₂ Tank Pad	Satellite CO ₂ Pad	Silo Pad	Acid Tank Pad
VII. BUILDING DEMOLITION + DISPOSAL									
A. Decontamination Costs									
1 Wall Decontamination									
Area to be Decontaminated (ft ²)	0	880	880	0	0	0	0	0	0
HCl Acid Wash, including labor (\$/ft ²)	\$0.95	\$0.95	\$0.95	\$0.95	\$0.95	\$0.95	\$0.95	\$0.95	\$0.95
Subtotal Wall Decontamination Costs	\$0	\$834	\$834	\$0	\$0	\$0	\$0	\$0	\$0
2 Concrete Floor Decontamination									
Area to be Decontaminated (ft ²)	17,164	480	480	0	0	0	0	0	0
HCl Acid Wash, including labor (\$/ft ²)	\$0.60	\$0.60	\$0.60	\$0.60	\$0.60	\$0.60	\$0.60	\$0.60	\$0.60
Subtotal Concrete Floor Decontamination Costs	\$10,366	\$290	\$290	\$0	\$0	\$0	\$0	\$0	\$0
3 Deep Well Injection Costs									
Total kgals for Injection (1 gal used per ft ²)	17.16	1.36	1.36	0	0	0	0	0	0
Deep Well Injection Unit Cost (\$/kgals)	\$1.35	\$1.35	\$1.35	\$1.35	\$1.35	\$1.35	\$1.35	\$1.35	\$1.35
Subtotal Deep Well Injection Costs	\$23	\$2	\$2	\$0	\$0	\$0	\$0	\$0	\$0
Subtotal Decontamination Costs per Building	\$10,389	\$1,126	\$1,126	\$0	\$0	\$0	\$0	\$0	\$0
Total Decontamination Costs	\$12,641								
B. Demolition Costs									
1 Building (Tanks)									
Volume of Building (ft ³)	538,158	4,800	4,800	2,496	100,000	0	0	0	0
Demolition Cost	\$0.29	\$0.29	\$0.29	\$0.29	\$0.29	\$0.29	\$0.29	\$0.29	\$0.29
Subtotal Building Demolition Costs	\$157,465	\$1,404	\$1,404	\$730	\$29,260	\$0	\$0	\$0	\$0
2 Concrete Floor									
Area of Concrete Floor (ft ²)	17,164	480	480	0	556	663	732	452	625
Demolition Cost	\$0.84	\$0.84	\$0.84	\$0.84	\$0.84	\$0.84	\$0.84	\$0.84	\$0.84
Subtotal Concrete Floor Demolition Costs	\$14,349	\$401	\$401	\$0	\$465	\$554	\$612	\$378	\$523
3 Concrete Footing									
Length of Concrete Footing (ft)	524	88	88	0	0	0	0	85	100
Demolition Cost	\$17	\$17	\$17	\$17	\$17	\$17	\$17	\$17	\$17
Subtotal Concrete Footing Demolition Costs	\$9,033	\$1,511	\$1,511	\$0	\$0	\$0	\$0	\$1,465	\$1,724
Subtotal Demolition Costs per Building	\$180,847	\$3,316	\$3,316	\$730	\$29,725	\$554	\$612	\$1,843	\$2,246
Total Demolition Costs	\$266,609								
C. Disposal Costs									
1 Building									
Volume of Building (cy)	19,932	178	178	92	3,704	0	0	0	0
Off-Site County Landfill									
Percentage (%)	100	100	100	100	100	100	100	100	100
Total Volume for Disposal - Incl. 33% Factor (cy)	6,577	59	59	31	1,222	0	0	0	0
Disposal Cost, Landfill (cy)	\$42	\$42	\$42	\$42	\$42	\$42	\$42	\$42	\$42
Subtotal County Facility Off-Site Bldg. Disposal Costs	\$277,351	\$2,474	\$2,474	\$1,286	\$51,537	\$0	\$0	\$0	\$0
2 Concrete Floor									
Area of Concrete Floor (ft ²)	17,164	480	480	0	556	663	732	452	625
Average Thickness of Concrete Floor (ft)	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Volume of Concrete Floor (ft ³)	12,873	360	360	0	417	497	549	339	469
Volume of Concrete Floor (cy)	477	13	13	0	15	18	20	13	17
a. On-Site Concrete Disposal									
Percentage (%)	75	75	100	100	100	100	100	100	100
Volume for Disposal (cy)	358	10	13	0	15	18	20	13	17
Concrete Disposal On Site (cy)	\$9.49	\$9.49	\$9.49	\$9.49	\$9.49	\$9.49	\$9.49	\$9.49	\$9.49
Subtotal Floor Off-Site County Facility Disposal Costs	\$3,395	\$95	\$127	\$0	\$147	\$175	\$193	\$119	\$165
b. NRC-Licensed Facility									
Percentage (%)	25	25	0	0	0	0	0	0	0
Volume for Disposal (ft ³)	3218	90	0	0	0	0	0	0	0
Transportation and Disposal Unit Cost (\$/ft ³)	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80
Subtotal NRC-Licensed Facility Disposal Costs	\$18,682	\$522	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Subtotal Concrete Floor Disposal Costs	\$22,076	\$617	\$127	\$0	\$147	\$175	\$193	\$119	\$165
3 Concrete Footing									
Length of Concrete Footing (ft)	524	88	88	0	0	0	0	85	100
Average Depth of Concrete Footing (ft)	4	4	4	4	4	4	4	4	4
Average Width of Concrete Footing (ft)	1	1	1	1	1	1	1	1	1
Volume of Concrete Footing (ft ³)	2,096	351	351	0	0	0	0	340	400
Volume of Concrete Footing (cy)	78	13	13	0	0	0	0	13	15
Concrete Disposal On Site (cy)	\$9.49	\$9.49	\$9.49	\$9.49	\$9.49	\$9.49	\$9.49	\$9.49	\$9.49
Subtotal Concrete Footing On-Site Disposal Costs	\$737	\$123	\$123	\$0	\$0	\$0	\$0	\$120	\$141
Subtotal Disposal Costs per Building	\$300,164	\$3,214	\$2,724	\$1,286	\$51,684	\$175	\$193	\$239	\$305
Total Disposal Costs	\$360,515								
D. Health and Safety Costs									
Accounted for under "II.GWR SITE COSTS"									
TOTAL BUILDING & MISCELLANEOUS DEMOLITION + DISPOSAL	\$639,765								

Table __, cont'd.

2016 Surety Estimate

North Butte Uranium ISR LQD Permit No. 632 / NRC License SUA 1548

Cameco Resources

VIII. MISCELLANEOUS RECLAMATION	
A. Access Road Reclamation (includes culverts)	N. Uranium Road
1 Assumptions	
Surface grade	0%
Length of Road (ft)	11,000
Width of Road (ft)	24
Area of road (ft2)	264,000
2 Gravel Road Base Removal	
Average haul distance (ft)	1000
Gravel Road Base Width (ft)	24
Gravel Road Base Area (ft2)	264,000
Average Road Base Depth (ft)	0.5
Volume of Road Base (cy)	4,889
Moving Materials (0% Grade)	\$1.44
Subtotal Gravel Road Base Removal Costs	\$7,061
3 Ripping Overburden with Dozer	
Overburden Surface Area (acres)	6.1
Ripping Cost (per acre)	\$1,367
Subtotal Ripping Overburden Costs	\$8,287
4 Topsoil Application	
Average haul distance (ft)	1000
Topsoil Surface Area (ft ²)	264,000
Depth of Topsoil (ft)	0.5
Volume of Topsoil (cy)	4,889
Moving Materials (0% Grade)	\$1.44
Subtotal Topsoil Application Costs	\$7,061
5 Discing/Seeding	
Surface Area (acres)	6
Discing/Seeding Unit Cost (\$/acre)	\$330
Subtotal Discing/Seeding Costs	\$2,000
Subtotal Reclamation Costs per Access Road	\$24,409
Total Access Road Reclamation Costs	\$24,409
D. Surge Ponds Reclamation	Surge Ponds
1 Soil Sampling and Monitoring	
Number of Soil Samples	30
\$/Sample	\$372
Subtotal Soil Sampling and Monitoring Costs	\$11,160

Table __, cont'd.

2016 Surety Estimate

North Butte Uranium ISR LQD Permit No. 632 / NRC License SUA 1548

Cameco Resources

VIII. MISCELLANEOUS RECLAMATION	
2 Liner/Subsoil/Leak Detection Removal and Disposal	
Thickness of clay liner (ft)	0.25
Thickness of sludge (ft)	0.5
Width of Pond (ft)	280
Length of Pond (ft)	340
Surface area of pond (ft ²)	95,200
a. Removal and Loading	
Volume of Clay Liner and Sludge (cy)	2,644
Volume of Geotextile Liner (cy)	10
Liner and Sludge Removal and Loading Unit Cost (\$/cy)	\$4.02
Length of Piping (ft)	400
Wellfield Piping Removal Unit Cost (\$/ft of pipe)	\$1.57
Subtotal Removal and Loading Costs	\$11,294
b. Transportation and Disposal	
Volume of Clay Liner and Sludge (cy)	2,655
Transportation and Disposal Unit Cost (\$/cy), Clay liner	\$156.73
Volume of Geotextile Liner @ 40% void (cy)	17
Transportation and Disposal Unit Cost (\$/cy), Geotextile liner	\$156.73
Average Diameter of Piping (inches)	2
<u>Chipped Volume Reduction (ft³/ft)</u>	0.011
Chipped Volume (ft ³)	4.3
Volume for Disposal Assuming 10% Void Space (ft ³)	4.7
Transportation and Disposal Unit Cost (\$/ft ³)	\$5.77
Subtotal Liner Transportation and Disposal Costs	\$418,872
Subtotal Liner Removal and Disposal Costs	\$430,166
3 Topsoil Application	
Area of surface disturbance (ft ²)	95,200
Average thickness of topsoil (ft)	10
Average haul distance (ft)	1000
Surface grade (%)	0%
Volume of Topsoil (cy)	35,259
Topsoil Unit Cost per WDEQ Guideline No.12, App.C (\$/cy)	\$1.210
Subtotal Topsoil Application Costs	\$42,664
4 Revegetation	
Area of surface disturbance (acres)	3.2
Revegetation Unit Cost (\$/acre)	\$330
Subtotal Revegetation Costs	\$1,049
5 Fence Removal	
Length of Fencing (ft)	1,500
Fence Removal Costs per foot	\$0.42
Subtotal Fence Removal Costs	\$627

Table __, cont'd.
2016 Surety Estimate
North Butte Uranium ISR LQD Permit No. 632 / NRC License SUA 1548
Cameco Resources

VIII. MISCELLANEOUS RECLAMATION	
Total Surge Ponds Reclamation Costs	\$485,666
E. Remove Monitoring Stations	
Air Quality Monitoring Stations	6
Removal Unit Cost	\$1,073
Subtotal Air Quality Monitoring Stations	\$6,438
Total Removal of Monitoring Stations	\$6,438
F. Subsurface Release of Solutions Decommissioning Costs	
Number of trunkline failures	\$0
Typical Volume Soil Contaminated per event, cubic yards	0
Soil Removal cost, per cubic yard	\$160
Subtotal Subsurface Soil Decommission	\$0
G. Surface Releases of Solutions Decommissioning Costs	
Total Surface Area Affected, acres	0.17
Est. Portion Contaminated Soil, %	20%
Est. volume soil to be removed assuming 3" depth, cubic yards	\$14
Soil Removal cost, per cubic yard	\$160
Subtotal Surface Soil Decommission	\$2,192
TOTAL MISCELLANEOUS RECLAMATION	\$518,705

ATTACHMENT A: NORTH BUTTE WELLFIELD DATA
2016 Surety Estimate
Cameco Resources

	Mine Unit 1	Mine Unit 2	Mine Unit 3N	Mine Unit 3S
Pore Volume Calculations				
Patterns	193	185	53	59
Wellfield Area , ft2	1,450,012	1,461,827	441,532	491,792
Wellfield Area , acres	33.3	33.6	10.1	11.3
Avg. Completed Thickness	19.0	21.5	25.0	24.4
Porosity	0.27	0.27	0.27	0.27
Pore Volume, ft3 (rounded down)	7,454,000	8,493,000	2,980,000	3,243,000
Flare Factor	1.2	1.3	1.5	1.5
Affected Pore Volume, ft3 (rounded down)	8,572,000	10,617,000	4,471,000	4,865,000
Affected Pore Volume, K-gallons	64,127	79,415	33,443	36,390
Restoration Schedule (Based on Annual Water Balance/Schedule Update)				
Pre-Restoration Period , yrs	0	1.0	3.0	1.0
Restoration Period , yrs	3.0	4.0	3.0	2.0
Stability Period , yrs	1.0	1.0	1.0	1.0
Total # of Years	4.0	6.0	7.0	4
End of Restoration , yrs	6.0			
End of Stability , yrs	7.0			
Number of Header Houses per Wellfield				
Current	10	9	2	0
Planned	0	0	0	3
Total Estimated	10	9	2	3
Average Header House Volume , ft3	1600	1600	1600	1600
Number of Wells (In Service) per Wellfield				
Production Wells (P)				
Current	193	185	40	
Planned	0	0	13	59
Est. Total P-wells	193	185	53	59
MP-Wells , included under P-Wells	16	18	6	7
Injection Wells (I)				
Current	303	240	80	
Planned	0	0	29	120
Est. Total I-wells	303	240	109	120
Restoration Wells (R)				
Current	0	0	0	0
Planned	0	0	0	0
Est. Total R-wells	0	0	0	0
Monitor Wells (M, MO, MU, MT)				
M-Wells	23	24	17	17
MO-Wells	10	7	4	5
MU-Wells	0	0	0	0

ATTACHMENT A: NORTH BUTTE WELLFIELD DATA
2016 Surety Estimate
Cameco Resources

MT-Wells	0	0	0	0
Current	33	31	21	22
Planned	0	0	0	0
Est. Total M-wells	33	31	21	22
Other Wells (Pumping Wells, etc.)				
Current	1	1	1	1
Planned	0	0	0	0
Est. Total Other wells	1	1	1	1
Wellfield Refurbishment (I or P)				
Planned	0	0	0	0
Number of Wells per Wellfield	530	457	184	202
Total In-Service Wells	1373			
Well Completion Details				
Average Well Depth , ft	680	750	750	750
Average Diameter of Casing , inches	5	5	5	5
Wellfield Fencing				
Length of Fencing , ft	9,800	5400	6300	0

ATTACHMENT B: NORTH BUTTE BUILDING DIMENSION CALCULATIONS

2016 Surety Estimate
 Cameco Resources

Dimensions: Satellite Plant & Office Trailers					
Satellite Bldg	High Eave, ft.	Low Eave, ft.	Width, ft.	Length,ft	Volume
Exterior					
Overall Building Dimensions	31	28	112	150	
Roof			112	150	
Vestibule	14	12	14	21	
Roof			14	21	
Support Spaces (office 1)		12	24	56	16,128
roof			24	56	
Support Spaces (office 2)		12	24	56	16,128
roof			24	56	
Support Spaces (bunkhouse)		12	8	26	2,496
roof			8	26	
Interior Wall Dim					
1st Floor space	14		21	28	
2nd Floor space	9		21	28	
Electrical Room	31			31	
Wellfield Service Room	28			31	
Restoration Area (long)	31			150	
2 Ofc Trailers - Interior Walls					
long walls (3)	8			23	
Center Wall (sm. Ofc.)(2)	8			11.6	
Center Wall (lg. ofc)(2)	8			11.8	
Bath	8		7.3	7.5	
Closet	8		4.1	2.5	
Bunkhouse					
long walls (3)	8			23	
Center Wall (sm. Ofc.)(2)	8			11.6	
Center Wall (lg. ofc)(2)	8			11.8	
Bath	8		7.3	7.5	
Closet	8		4.1	2.5	

ATTACHMENT B: NORTH BUTTE BUILDING DIMENSION CALCULATIONS

2016 Surety Estimate
 Cameco Resources

Surface Area: Satellite Plant & Office Trailers			Building Volume	
Satellite Exterior				
Building				
North	4,658	ft ²		
South	4,257	ft ²		
East	3,180	ft ²		
West	3,180	ft ²		
Subtotal	12,095	ft ²		
Vestibule				
side 1	263	ft ²		
ends	345	ft ²		
Subtotal	608	ft ²		
Support Spaces - 2 Offices				
Sides	1,344	ft ²	Volume based on average of 10" thick exterior walls	
Ends	576	ft ²		
2 Offc Subtotal	3,840	ft ²		
Support Spaces - Bunkhouse				
Sides	624	ft ²	Volume based on average of 10" thick exterior walls	
Ends	192	ft ²		
Subtotal	816			
Total Exterior Walls	17,360	ft²	14,466	ft³
Satellite Interior				
Office and Maint - 1st Flr				
Sides	588	ft ²		
Ends	784	ft ²		
Subtotal	1,372	ft ²		
Office and Maint - 2nd Flr				
Sides	378	ft ²		
Ends	504	ft ²		
Subtotal	882	ft ²		
Electrical Room				
Side	961	ft ²		
Ceiling				
Subtotal	961	ft ²		

ATTACHMENT B: NORTH BUTTE BUILDING DIMENSION CALCULATIONS

2016 Surety Estimate
Cameco Resources

Wellfield Service Room				
Side	868	ft ²		
Ceiling				
Subtotal	868	ft ²		
Ofc Trailers (2) Interior Spaces				
long walls (3)	552			
Center Wall (sm. Ofc.)(2)	186			
Center Wall (lg. ofc)(2)	188			
Bath - Wall 1	58			
Wall 2	60		Volume based on average of 6" thick interior walls	
Closet - wall 1	33			
wall 2	20			
Subtotal	2,194	ft ²		
Support Spaces (Bunkhouse)				
Room (78") (4)	26	feet		
Room (90") 1	7.5	feet		
Room (30") (6)	15	feet		
Room (36")	3	feet		
Room (57")	4.75	feet		
Subtotal	56	feet		
Total Interior Walls	6,333	ft	35,649	ft³
Roof and Floor				
Satellite Floor - Concrete	16,866	ft ²	14,055	
Vestibule Floor - Concrete	299	ft ²	249	
Office (1) Trailer Floor	1,344	ft ²	1,120	
Office 2 Trailer Floor	1,344	ft ²	1,120	
Bunkhouse	208	ft ²		
Subtotal Floor	20,060			

ATTACHMENT B: NORTH BUTTE BUILDING DIMENSION CALCULATIONS

2016 Surety Estimate
 Cameco Resources

Satellite Roof (All materials)	16,866	ft ²	16,866	
Office 1 Roof (All materials)	1,344	ft ²	1,120	
Office 2 Roof (All materials)	1,344	ft ²	1,120	
Bunkhouse	208	ft ²		
Vestibule Roof (All materials)	299	ft ²	199	
Subtotal Floor	20,060	ft ²		
Total Roof + Floor	40,120	ft²	35,649	ft³
Total Building Surface Area	63,813	ft²		
Building Volume (based on L x W x H)			534,300	ft ³
Vestibule Volume (based on L x W x H)			3,858	ft ³
Building Volume (based on thickness)				
Exterior Walls	14,466	ft ³		
Interior	35,649	ft ³		
Roof/Floor	19,305	ft ³		
Subtotal Building Volume	69,420	ft ³	2,571	cy
Concrete Floor	14,304	ft ³	530	cy
Total Building Volume	83,724	ft³		
Demolition volume	43,000	ft ³		

DDW Bldg Dimensions

Exterior	Height, ft	Width, ft	Length, ft
Main Building	10	20	24
Support Spaces			
Building Volume	4800	ft ³	
DDW Bldg Surface Area			
Ends	400	ft ²	200
Side 1	240	ft ²	120
Side 2	240	ft ²	120
Walls Area	880	ft ²	440
Roof	480	ft ²	400
Main Shop Floor	480	ft ²	480
Total Building Surface Area	1840	ft ²	1760
DDW Bldg Volume			
Main Plant	4800	ft ³	
Support Spaces	0	ft ³	
Total Building Volume	4800	ft ³	177.8 CY
Demolition volume	1000	ft ³	

ATTACHMENT C: UNIT COST CALCULATIONS
2016 Surety Estimate
Cameco Resources

	Qty	Units
ELECTRICAL POWER COSTS		
*Pumping Costs for Operating DDWs, RO, and Wellfield are included in GW Rest Costs (Based on SRH Actual Costs)		
Satellite - Typical		
Miscellaneous Pumps, Fans, Sumps, etc.	22.5	HP
Lighting	35.0625	kW (per square ft)
kW to HP Conversion Factor	0.746	
Electricity Cost	\$0.0710	per kWhr
Efficiency Factor	90%	
Operating Hours Per Year	8760	hours
Satellite Power Cost	\$31,203	per year
DDW - Typical		
Misc. Pumps, Fans, Sumps, etc.	2	HP
Lighting	0.49	kW
Heating (assume operation only 6 mos/yr)	12.5	kW
kW to HP Conversion Factor	0.746	kW/hp
Electricity Cost	\$0.0710	per kWhr
Efficiency Factor	90%	
Operating Hours Per Year	8760	hours
DDW Electrical Cost	\$5,027	per year
Header House Heating		
Heater Power Usage	12.5	kW
Days Used	180	days per year
Electricity Cost	\$0.0710	kWhr
Header House Heating Cost	\$3,834	per year
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	\$0.0710	kWhr
Efficiency	80%	
Wellfield Pumping Cost	\$0.221	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	\$0.0710	kWhr
Efficiency	90%	
Satellite Pumping Cost	\$0.785	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	\$0.0710	kWhr
Efficiency	80%	
Reagent		
Antiscalant Cost (Scaletrol)	\$4.72	per lb
Density of Water	8.34	lbs/gal
Specific Gravity (Scaletrol)	1.284	

ATTACHMENT C: UNIT COST CALCULATIONS
2016 Surety Estimate
Cameco Resources

	Qty	Units
Antiscalant Cost (Scaletrol)	\$50.54	per gal
Antiscalant Dose (ScaleTrol)	0.0000048	gal/gal
Deep Disposal Well Cost	\$1.35	per kgal
Total Groundwater Sweep Costs	\$2.35	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	\$0.0710	kWhr
Efficiency	90%	
Reagents		
Tripolyphosphate Usage Rate	0.00000130	lb/gal
Tripolyphosphate Cost	\$1.07	per lb
EDTA Usage Rate	0.00000315	lb/gal
EDTA Cost	\$1.76	per lb
Antiscalant Cost (Hypersperse)	\$3.76	per lb
Density of Water	8.34	lbs/gal
Specific Gravity (Hypersperse)	1.124	
Antiscalant Cost (Hypersperse)	\$35.25	per gal
Antiscalant Dose (Hypersperse)	0.0000036	gal/gal
Sodium Sulfide Usage Rate	0.000170	lb/gal
Sodium Sulfide Cost	\$0.610	per lb
RO Cost (without Reductant)	\$0.657	per kgal
RO Cost (with Reductant)	\$0.760	per kgal
MIT Costs for Production Wells		
Equipment		
Pulling Unit Hours	4	hrs/day
Pulling Unit Cost	\$38.89	\$/hour
MIT Unit Hours	8	hrs/day
MIT Unit Cost	\$33.13	\$/hour
Labor		
Required Hours	8	hrs/day
Required Laborers	1.5	per day
Labor Cost	\$37.16	\$/hour
Productivity	4	wells/day
MIT - Production Wells	\$217	per well
MIT Costs for Injection Wells		
Equipment		
Pulling Unit Hours	0	hrs/day
Pulling Unit Cost	\$38.89	\$/hour
MIT Unit Hours	8	hrs/day
MIT Unit Cost	\$33.13	\$/hour

ATTACHMENT C: UNIT COST CALCULATIONS
2016 Surety Estimate
Cameco Resources

	Qty	Units
Labor		
Required Hours	8	hrs/day
Required Laborers	1	per day
Labor Cost	\$37.16	\$/hour
Productivity	4	wells/day
MIT - Injection Wells	\$141	per well
Booster Pump Operating Cost		
Equipment		
Wellfield Pump Sizes	40	hp
Number of Pumps Running (avg.)	2	per year
Hours Running	24	per day
kW to HP Conversion Factor	0.746	
Cost of Electricity	\$0.0710	kWhr
Efficiency	90%	
Booster Pump Operating Costs	\$41,243	per year
WELL ABANDONMENT UNIT COSTS		
Removal of Contaminated Soil		
Equipment		
Cat 416 Backhoe Time: around well	0.25	hours
Cat 416 Backhoe Time: general	0.03	hours
Cat 416 Backhoe Cost	\$29.89	per hour
Labor		
Radiation Technician: around wells	0.25	hours
Radiation Technician: general	0.03	hours
Radiation Technician Cost	\$35.74	per hour
Operator: around wells	0.25	hours
Operator: general	0.03	hours
Operator Cost	\$37.16	per hour
Disposal		
By-Product Disposal: around wells	0.37	cubic yard
By-Product Disposal: general	1	cubic yard
Disposal Cost (incl. Transport)	\$156.73	per cubic yard
Removal of Contaminated Soil around Wells	\$84	per well
General Removal of Contaminated Soil	\$160	per cubic yard
DDW Pump Dismantling and Disposal		
Labor		
Number of Laborers	2	per day
Number of Pumps Dismantled	0.5	per day
Hours Per Day	8	hours
Laborers Cost	\$37.16	\$/hour
Disposal		
Volume of DDW Pump	240	ft ³
ByProduct Disposal	\$7.32	per ft ³
DDW Pump Dismantling and Disposal	\$2,947	per pump
WELLFIELD RECLAMATION COSTS		
Wellfield Piping Removal		
Equipment		
Trackhoe	1	per day
Trackhoe Cost	\$76.38	per hour
Loader	1	per day
Loader Cost	\$47.18	per hour
Pickup Truck	1	per day
Pickup Cost	\$20.67	per hour
Chipper Cost	\$37.76	per hour

ATTACHMENT C: UNIT COST CALCULATIONS
2016 Surety Estimate
Cameco Resources

	Qty	Units
Labor		
Backhoe Operator	\$37.16	per hour
Loader Operator	\$37.16	per hour
Laborer	\$37.16	per hour
Hours Per Day	8	per day
Productivity	1500	ft/day
Piping Removal Cost	\$1.57	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	
20" Pipe	0.7200	
Production Pump Volume		
Length	66	inches
Diameter	3.8	inches
Cubic Inch to Cubic Foot Conversion	0.0006	
Production Pump Volume	0.43	cubic feet
Trunk Line Removal		
Equipment		
Trackhoe	1	per day
Trackhoe Cost	\$76.38	per hour
Loader	1	per day
Loader Cost	\$47.18	per hour
Pickup Truck	1	per day
Pickup Cost	\$20.67	per hour
Chipper Cost	\$37.76	per hour
Labor		
Trackhoe Operator	\$37.16	per hour
Loader Operator	\$37.16	per hour
Laborer	\$37.16	per hour
Hours Per Day	8	per day
Productivity	750	ft/day
Buried Piping Removal Cost	\$3.13	per foot of pipe
Remove 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	\$0.186	per lbs
Labor		
Radiation Tech	\$35.74	per hour
Operator	\$37.16	per hour
Productivity	10	wellheads per hour
Disposal		
Void space	10%	
Transportation and Disposal Cost	\$2	per ft ³
Well Head Cover Removal	\$12	per well

ATTACHMENT C: UNIT COST CALCULATIONS
2016 Surety Estimate
Cameco Resources

	Qty	Units
Header House Decontamination		
Decontamination		
Acid Usage	20	pounds per header house
Acid Cost	\$0.186	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
WELLFIELD, SATELLITE, AND SURFACE RECLAMATION		
Wellfield Road Reclamation		
Gravel Road Base		
Average Depth	0.25	feet
Average Width	10	feet
Material Moved (0% Grade)	\$1.44	bcy
Cubic Yard to Cubic Feet Conversion	0.04	
Scarification of Road		
Scarification Costs	\$77	per acre
Average Width	25	feet
Acre to Sq. Foot Conversion	2.29568E-05	
Grading Cost	\$84	per acre
Topsoil Depth	0.67	feet
Discing/Seeding Costs	\$330	per acre
Linear Feet for Unit Cost	1000	feet
Wellfield Road Reclamation Cost	\$1,312	per 1000 feet
EQUIPMENT REMOVAL COSTS		
Tank Removal		
Equipment		
Loader	\$47.18	per hour
Trackhoe	\$76.38	per hour
Manlift	\$43.04	per hour
Pickup	\$20.67	per hour
Lift Truck	\$51.46	per hour
Labor		
Number of Operators	4	
Operator Cost	\$37.16	per hour
Hours Per Day	8	per day
Productivity	25	ft ³ /day
Tank Removal Cost	\$124	per ft³
Pipe Removal		
Equipment		
Manlift	\$43.04	per hour
Pickup	\$20.67	per hour
Lift Truck	\$51.46	per hour
Chipper	\$37.76	per hour
Labor		
Number of Operators	4	
Operator Cost	\$37.16	per hour
Hours Per Day	8	per day
Productivity	300	ft/day
Pipe Removal Cost (Inside Buildings)	\$8.04	per ft

ATTACHMENT C: UNIT COST CALCULATIONS
2016 Surety Estimate
Cameco Resources

	Qty	Units
Pump Removal		
Equipment		
Truck	\$20.67	per hour
Skid Steer	\$24.99	per hour
Labor		
Number of Operators	2	
Operator Cost	\$37.16	per hour
Hours Per Day	8	per day
Productivity	10	ft ³ /day
Pump Removal	\$96	per ft³
RO and Degasser Removal		
Equipment		
Truck	\$20.67	per hour
Lift Truck	\$51.46	per hour
Labor		
Number of Operators	2	
Operator Cost	\$37.16	per hour
Hours Per Day	8	per day
Productivity	250	ft ³ /day
RO and Degasser Removal Cost	\$4.69	per ft³
BUILDING REMOVAL COSTS		
Acid Wash Walls		
Acid		
Acid Usage	0.05	per square foot
Acid Cost	\$0.186	per pound
Equipment		
Manlift	\$43.04	per hour
Labor		
Laborer	2	people
Laborer Cost	\$37.16	per hour
Productivity	125	square feet per hour
Acid Wash Walls Cost	\$0.948	per square foot
Acid Wash Floors		
Acid		
Acid Usage	0.05	per square foot
Acid Cost	\$0.186	per pound
Labor		
Laborer	2	people
Laborer Cost	\$37.16	per hour
Productivity	125	square feet per hour
Acid Wash Floors Cost	\$0.604	per square foot
MISCELLANEOUS RECLAMATION AND RESTORATION COSTS		
Liner and Subsoil Removal Costs		
Equipment		
Trackhoe Cost	\$ 76.38	per hour
Loader Cost	\$47.18	per hour
Labor		
Operator	37.16	per hour
Productivity	40	cubic yards/hour
Total Removal	\$4.02	per cubic yard

ATTACHMENT D: Master Costs - November 2015
Surety Estimate 2015-2016 Update
Smith Ranch-Highland Uranium Project - Cameco Resources

Labor Costs	2013 Rate	Esc Rate (\$)	Net Benefits*	Units	Source	CPI Escalators (CPI-U, U.S. City Average)	
Radiation Safety Officer	\$46.00	\$46.04	\$65.75	hour	2013 MSEC rates plus CPI Half 2015	1988 CPI (average)	118.3
Restoration Manager	\$40.00	\$40.84	\$57.18	hour	2013 MSEC rates plus CPI Half 2015	June 2014 CPI (deep well estimate)	238.3
Operator/Laborer	\$26.00	\$26.55	\$37.16	hour	2013 MSEC rates plus CPI Half 2015	Denver CPI (HALF 2015)	238.1
Environmental Tech/HPT	\$30.00	\$25.53	\$35.74	hour	2013 MSEC rates plus CPI Half 2015	June 2014 CPI (used in last update)	238.3
Maintenance Tech	\$23.00	\$23.48	\$32.88	hour	2013 MSEC rates plus CPI Half 2015	2015 Escalation Factor	1.00
<i>*Includes additional 40% net benefits based on InfoMine USA cost data for Surface Metal and Industrial Mineral Mines - Western U.S. (Table 5)</i>							
Utility Costs		Rate (\$)	Profit & Overhead	Units	Source		
Electrical Costs		\$0.0710	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		
Propane - North Butte		\$44,861	included	year	Actual Costs-2015		
Chemical & Materials Costs		Rate (\$)	Profit & Overhead	Units	Source		
Antiscalant for RO (Hypersperse)		\$3.7600	included	pound	Actual Costs-2014		
Antiscalant for RO (ScaleTrol)		\$4.7200	included	pound	Actual Costs-2014		
Barium Chloride		\$0.8600	included	pound	Actual Costs-2014		
EDTA Tetrasodium Dihydrate		\$1.7600	included	pound	Quote-2014		
Hydrochloric Acid		\$0.1855	included	pound	Actual Costs-2014		
Iron Aggregate		\$0.4635	included	pound	Actual Costs-2014		
Pea Gravel		\$0.0135	included	pound	Actual Costs-2014		
Silica Sand		\$0.0600	included	pound	Actual Costs-2014		
Sodium Sulfide		\$0.6100	included	pound	Quote-2015		
Sodium Tripolyphosphate		\$1.0700	included	pound	Quote-2014		
Analytical Costs		Rate (\$)	Profit & Overhead	Units	Source*		
Guideline 8		\$372.00	included	analysis	Actual Costs 2014		
Excursion Parameters (UCL)		\$30.00	included	analysis	Fee Schedule-2014		
Restoration Progress Parameters (UCL + U + Se)		\$50.00	included	analysis	Fee Schedule-2014		
Irrigator Fluid		\$245.00	included	analysis	Actual Costs 2014		
Irrigator Vegetation		\$270.00	included	analysis	Actual Costs 2014		
Irrigator Soil		\$255.00	included	analysis	Actual Costs 2014		
Irrigator Soil Water		\$150.00	included	analysis	Fee Schedule-2014		
Other Lab Costs (Radon, Bioassay, DDW, PWS, etc.)		\$1,500.00	\$1,650.00	analysis	Cost Estimate per month		* over life of mine plan
<i>*Energy Laboratories, Inc., Casper, WY quotes, fee schedules and actual costs.</i>							

1.25

ATTACHMENT D: Master Costs - November 2015
Surety Estimate 2015-2016 Update
Smith Ranch-Highland Uranium Project - Cameco Resources

Equipment Costs		Rate (\$)	Profit + Overhead*	Units	Source	date
Bandit 1290XP Trailer Mounted Brush Chipper		\$34.33	\$37.76	hour	Equipment Watch**	2014
Bobcat S250 Skid Steer Loader		\$22.72	\$24.99	hour	Equipment Watch	2014
Cat 320C L Trackhoe - 1.25 cu yd bucket		\$69.44	\$76.38	hour	Equipment Watch	2014
Cat 416E Backhoe		\$27.17	\$29.89	hour	Equipment Watch	2014
Cat 924H Loader - 2.4 cu yd bucket		\$42.89	\$47.18	hour	Equipment Watch	2014
Concrete Jaws Labounty - CP-60		\$18.53	\$20.38	hour	2013 Equipment Watch + CPI Escalator	2014
GEHL DL-8 Rough Terrain Lift Truck		\$46.78	\$51.46	hour	Equipment Watch	2014
Manlift		\$39.13	\$43.04	hour	Equipment Watch	2014
MIT Unit		\$30.12	\$33.13	hour	2013 Equipment Watch + CPI Escalator	2014
Pick-up Truck 3/4 ton 4X4		\$18.79	\$20.67	hour	Equipment Watch	2014
Pulling Unit***		\$35.35	\$38.89	hour	2013 Equipment Watch + CPI Escalator	2014
<i>*Includes additional 10% Profit & Overhead per WDEQ/LQD Guideline No. 12, Section 12(b)</i>						
<i>**Equipment Watch Rental Rate Blue Book: Volume 1</i>						
<i>***1 3/4 Ton 4x4 Truck with Hoist</i>						
Quoted Costs		Rate (\$)	Profit & Overhead	Units	Source	
Deep Disposal Well - Plug & Abandonment Costs		\$14.03	included	foot	2014 estimate plus 3%	
Deep Disposal Well - MIT Costs		\$17,051	included	well	Ave Actual Costs-2015	
Well Replacements (Restoration)		\$15,600	included	well	Actual Costs-2014	
Bellhole Refurbishment		\$5,500	included	bellhole	Estimate cost 2014	
Header House Refurbishment		\$10,000	included	header house	Estimate Costs-2014	
WDEQ/LQD Guideline No. 12: Draft October 2015	Appendix	Rate (\$)	Profit & Overhead*	Units	Source	
Moving Materials w. Scraper: 1-Way Distance 500 feet, 0% grade	Appendix C	\$1.100	\$1.210	bcy	Guideline-Draft 10/2015	
Moving Materials w. Scraper: 1-Way Distance 1,000 feet, 0% grade	Appendix C	\$1.313	\$1.444	bcy	Guideline-Draft 10/2015	
Moving Materials w. Scraper: 1-Way Distance 2,000 feet, 0% grade	Appendix C	\$1.702	\$1.872	bcy	Guideline-Draft 10/2015	
Moving Materials w. Dozer: 1-Way Distance 50 feet, 0% grade	Appendix E	\$0.156	\$0.172	ley	Guideline-Draft 10/2015	
Moving Materials w. Dozer: 1-Way Distance 100 feet, 0% grade	Appendix E	\$0.263	\$0.289	ley	Guideline-Draft 10/2015	
Moving Materials w. Dozer: 1-Way Distance 150 feet, 0% grade	Appendix E	\$0.342	\$0.376	ley	Guideline-Draft 10/2015	
Grading Operating Costs	Appendix G	\$76.54	\$84.19	acre	Guideline-Draft 10/2015	
Fencing Removal	Appendix H	\$0.38	\$0.42	foot	Guideline-Draft 10/2015	
Ripping Operating Costs (Asphalt)	Appendix I	\$857.76	\$943.54	acre	Guideline-Draft 10/2015	
Ripping Operating Costs (Overburden)	Appendix I	\$1,243.07	\$1,367.38	acre	Guideline-Draft 10/2015	
Building Demolition - Mixture of Types	Appendix K	\$0.266	\$0.293	ft3	Guideline-Draft 10/2015	
Building Demo Disposal (Average)	Appendix K	\$9.71	\$10.68	cy	Guideline-Draft 10/2015	
Concrete (Floor) Demolition - 6" Thick with Rebar	Appendix K	\$0.76	\$0.84	ft2	Guideline-Draft 10/2015	
Concrete (Footing) Demolition - 2' Thick, 3' Wide	Appendix K	\$15.67	\$17.24	linear foot	Guideline-Draft 10/2015	
Concrete Disposal On-Site	Appendix K	\$8.63	\$9.49	cy	Guideline-Draft 10/2015	
Drill Hole Abandonment: Wet Exploration Holes >25 holes	Appendix L	\$3.00	\$3.30	foot	Guideline-Draft 10/2015	
Well Abandonment: Monitor, Production, and Injection Wells	Appendix L	\$2.50	\$2.75	foot	Guideline-Draft 10/2015	
Incidental Costs: Small Site Grading and Seeding (<1000 sq. feet)	Appendix L	\$50	\$55	site	Guideline-Draft 10/2015	
Incidental Costs: Capping	Appendix L	\$10	\$11	each	Guideline-Draft 10/2015	
Incidental Costs: Site Location	Appendix L	\$10	\$11	hole	Guideline-Draft 10/2015	
Incidental Costs: Remove Pump, Wiring, and Drop Pipe	Appendix L	\$0.40	\$0.44	foot	Guideline-Draft 10/2015	
Incidental Costs: Remove and Dispose Casing (top few feet)	Appendix L	\$30	\$33	well	Guideline-Draft 10/2015	
Incidental Costs: Monitoring Well Concrete Pedestal Disposal	Appendix L	\$100	\$110	each	Guideline-Draft 10/2015	
Mobilization Fee	Appendix L	\$1,000	\$1,100	Project	Guideline-Draft 10/2015	
Scarification Costs	Appendix P	\$70.20	\$77.22	acre	Guideline-Draft 10/2015	
Demolition and Removal of Meterological/Air Monitoring Station	Appendix O	\$975.48	\$1,073	each	Guideline-Draft 10/2015	
Revegetation Costs-Total	Guideline 12A.II.i.	\$300	\$330.00	acre	Guideline-Draft 10/2015	
<i>*Includes additional 10% Profit & Overhead per WDEQ/LQD Guideline No. 12, Section 12(b)</i>						

ATTACHMENT D: Master Costs - November 2015
Surety Estimate 2015-2016 Update
Smith Ranch-Highland Uranium Project - Cameco Resources

Construction & Demolition Debris Transportation & Disposal Costs						
Building Volume for Disposal	0.33					
Void Factor (for disposal)	1.1					
	Disposal (\$/ton)	C&D (cy/ton)	Transport (\$/load)	C&D (cy/load)	Total (\$/cy)	Total (\$/ft3)
C&D Debris (county landfill)	\$62.00	2	\$335	30	\$42.17	\$2
<i>*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.</i>						
11e.(2) Byproduct Material Transportation & Disposal						
Load Correction Factor: Soil, sand, etc.	1.1					
Load Correction Factor: Process materials, etc.	0.42					
White Mesa	Disposal (\$/ton)	Disposal (\$/cy)	Volume (cy)	Transport (\$/cy)	Total (\$/cy)	Total (\$/ft3)
Type I: Soil, sand, gravel, rock, concrete rubble, etc.	\$138.97	\$152.87	13.0	\$247.95	\$400.82	\$14.85
Type II: Process material, pumps, motors, etc.	\$160.08	\$67.23	24.7	\$130.50	\$197.73	\$7.32
Type II: Chipped piping	\$160.08	\$67.23	36.4	\$88.55	\$155.78	\$5.77
Pathfinder						
Type I: Soil, sand, rock, gravel, demolition masonry, concrete rubble	N/A	\$130.00	13.0	\$26.73	\$156.73	\$5.80
Type II: Other process waste, process equipment, etc.	N/A	\$378.00	24.7	\$14.07	\$392.07	\$14.52
Type II: Chipped piping	N/A	\$378.00	36.4	\$9.55	\$387.55	\$14.35
<i>*Transportation and disposal costs based on contract amounts as adjusted annually. Transportation and disposal costs include profit and overhead of service provider and include all unloading and decontamination fees, waste tax, fuel surcharges, etc. Transportation costs assume 1) one truck transports one 13-cy bin of Type I waste, 2) one truck transports one 24.7-cy bin of Type II process waste (including pumps, motors, etc.) and 3) one truck transports one 36.4-cy bin of Type II chipped piping waste.</i>						
Red Font - indicates unit cost has changed since 2014						