



August 5, 2013

**ATTN: Document Control Desk**

Mr. Drew Persinko, Deputy Director  
Decommissioning and Uranium Recovery Licensing Directorate  
Division of Waste Management and Environmental Protection  
Office of Federal and State Materials and  
Environmental Management Programs  
Mailstop T8 F5  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

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CERTIFIED MAIL #7010 1870 0002 1233 7905

RE: NRC License SUA-1548, Docket No. 40-8964  
Gas Hills ISR Project, 2013-14 Surety Estimate Update

Dear Mr. Persinko:

Pursuant to License Condition 9.5 of Source Material License SUA-1548, Power Resources, Inc. d/b/a/ Cameco Resources (Cameco) is herein submitting the 2013-14 Surety Estimate Update for the Gas Hills ISR Project. The estimate results in a proposed surety amount of \$2,782,000, which covers costs associated with demolition and disposal of existing facilities, well and drill hole abandonment and other miscellaneous surface reclamation costs.

If you have questions or need additional information, please feel free to contact me directly at (307) 316-7586 or [scott\\_bakken@cameco.com](mailto:scott_bakken@cameco.com).

Sincerely,

A handwritten signature in black ink, appearing to read "Scott A. Bakken".

Scott A. Bakken  
Manager, SHEQ Systems & Compliance

SB/sb

Att: Gas Hills ISR Project, 2013-14 Surety Estimate Update

cc: D. Mandeville, USNRC w/Att

ec: CR-Cheyenne

**2013-2014 RECLAMATION SURETY ESTIMATE**

WDEQ Permit No. 687 Annual Report / NRC SUA-1548

Gas Hills ISR Project - Cameco Resources

**Total Reclamation Cost Estimate**

PART I.	BUILDING DEMOLITION AND DISPOSAL COST	\$1,537,329
PART II.	WELLS + HOLES ABANDONMENT COST - REV	\$304,643
PART III.	MISCELLANEOUS SURFACE RECLAMATION COST	\$383,368
SUBTOTAL RECLAMATION COST ESTIMATE		\$2,225,340
CONTRACTOR PROFIT & OVERHEAD (10%) <sup>1</sup>		\$222,534
CONTINGENCY (15%) <sup>2</sup>		\$333,801
TOTAL		\$2,781,675
<b>TOTAL CALCULATED SURETY (IN 2013 DOLLARS<sup>3</sup>), rounded up</b>		<b>\$2,782,000</b>

<sup>1</sup>, Per WDEQ/LQD Guideline No. 12, Section 12(b)<sup>2</sup>, Per WDEQ/LQD Guideline No. 12, Section 12(a) and (c-h), Section 13 and NRC License Condition 9.5 (SUA-1548)<sup>3</sup>, Costs reflect both WDEQ & NRC requirements. No salvage value assumed.

**2013-2014 RECLAMATION SURETY ESTIMATE**  
**WDEQ Permit No. 687 Annual Report / NRC SUA-1548**  
**Gas Hills ISR Project - Cameco Resources**

**Part I. Building Demolition and Disposal**

	Carol Shop	Tire Shop	Change House	Air Comp Building	Water Treat Building	BaCl Building
<b>I. Demolition Costs</b>						
<b>A. Building</b>						
Volume of Building , CF (l x w x h, G/L12 App. K)	1,977,851	54,560	18,600	6,240	6,600	6,600
Demolition Unit Cost (G/L12, App.K, \$ / CF) <sup>a</sup>	\$0.278	\$0.278	\$0.278	\$0.278	\$0.278	\$0.278
<b>Subtotal Building Demolition Costs</b>	<b>\$549,843</b>	<b>\$15,168</b>	<b>\$5,171</b>	<b>\$1,735</b>	<b>\$1,835</b>	<b>\$1,835</b>
<b>B. Concrete Floor</b>						
Area of Concrete Floor, SF	56,985	2,480	1,860	520	600	864
Demolition Unit Cost (G/L 12, App.K, \$ / SF)	\$5.31	\$5.31	\$5.31	\$5.31	\$5.31	\$5.31
<b>Subtotal Concrete Floor Demolition Costs</b>	<b>\$302,590</b>	<b>\$13,169</b>	<b>\$9,877</b>	<b>\$2,761</b>	<b>\$3,186</b>	<b>\$4,588</b>
<b>C. Concrete Footing</b>						
Length of Concrete Footing , ft	1,221	204	184	48	60	48
Demolition Unit Cost (G/L 12, App.K, \$ / lf.)	\$19.78	\$19.78	\$19.78	\$19.78	\$19.78	\$19.78
<b>Subtotal Concrete Footing Demolition Costs</b>	<b>\$24,151</b>	<b>\$4,035</b>	<b>\$3,640</b>	<b>\$949</b>	<b>\$1,187</b>	<b>\$949</b>
Demolition Unit Cost per Building	\$876,584	\$32,372	\$18,688	\$5,445	\$6,208	\$7,372
<b>Subtotal Building Demolition</b>						<b>\$946,669</b>
<b>II. Disposal Costs</b>						
<b>A. Building</b>						
Landfill Disposal Cost (G/L 12, App. K)						
Building Construction & Demolition Debris Waste volume, CY Assume (8" thick walls x length wall 1 x height wall 1) + (Vol. all walls, exterior + interior walls)	2,711	181	128	40	41	41
<i>Cost to Haul to Landfill:</i>						
Total trips @ 12 CY each	226	15	11	3	3	3
Dump truck (G/L 12 App. J)	\$77.78	\$77.78	\$77.78	\$77.78	\$77.78	\$77.78
Transportation (2 trips per 12-hr day)	\$105,435	\$7,021	\$4,989	\$1,560	\$1,612	\$1,612
Disposal Unit Cost (G/L 12, App.K, \$/ton)	\$78.56	\$78.56	\$78.56	\$78.56	\$78.56	\$78.56
Convert C&D waste volume to tons ( 0.24 tons / CY) <sup>b</sup>	651	43	31	10	10	10
<b>Subtotal Building Disposal</b>	<b>\$156,551</b>	<b>\$10,425</b>	<b>\$7,408</b>	<b>\$2,317</b>	<b>\$2,394</b>	<b>\$2,394</b>
<b>B. Concrete Floor</b>						
Area of Concrete Floor, SF	56,985	2,480	1,860	520	600	864
Average Thickness of Concrete Floor , ft	0.833	0.5	0.5	0.5	0.5	0.5
Volume of Concrete Floor, CF	47,469	1,240	930	260	300	432
Volume of Concrete Floor, CY	1,758	46	34	10	11	16
Tons of Concrete (assume 150 lbs / CF) <sup>c</sup>	3,560	93	70	20	23	32
<i>Cost to Haul to Landfill:</i>						
Total trips @ 12 CY each	147	4	3	1	1	1
Dump truck (G/L 12 App. J)	\$77.78	\$77.78	\$77.78	\$77.78	\$77.78	\$77.78
Transportation (2 trips per 12-hr day)	\$68,372	\$1,786	\$1,340	\$374	\$432	\$622
Disposal Unit Cost (G/L 12, App.K, \$/ton)	\$78.56	\$78.56	\$78.56	\$78.56	\$78.56	\$78.56
<b>Subtotal Concrete Floor Disposal</b>	<b>\$348,057</b>	<b>\$9,092</b>	<b>\$6,819</b>	<b>\$1,906</b>	<b>\$2,200</b>	<b>\$3,168</b>
<b>C. Concrete Footing</b>						
Length of Concrete Footing , ft	1,221	204	184	92	97	94
Average Depth of Concrete Footing , ft	4	3	3	3	3	3
Average Width of Concrete Footing , ft	0.75	0.75	0.75	0.75	0.75	0.75
Volume of Concrete Footing, CF	3663	459	414	207	218.25	211.5
Volume of Concrete Footing, CY	136	17	15	8	8	8
Tons of Concrete (assume 150 lbs / CF) <sup>c</sup>	275	34	31	16	16	16
<i>Cost to Haul to Landfill:</i>						
Total trips @ 12 CY each	11	1	1	1	1	1
Dump truck (G/L 12 App. J)	\$77.78	\$77.78	\$77.78	\$77.78	\$77.78	\$77.78
Transportation (2 trips per 12-hr day)	\$5,276	\$661	\$596	\$298	\$314	\$305
Disposal Unit Cost (G/L 12, App.K, \$/ton)	\$78.56	\$78.56	\$78.56	\$78.56	\$78.56	\$78.56
<b>Subtotal Concrete Footing Disposal Costs</b>	<b>\$26,858</b>	<b>\$3,366</b>	<b>\$3,036</b>	<b>\$1,518</b>	<b>\$1,600</b>	<b>\$1,551</b>
<b>Subtotal Disposal Costs per Building</b>	<b>\$531,466</b>	<b>\$22,883</b>	<b>\$17,263</b>	<b>\$5,741</b>	<b>\$6,194</b>	<b>\$7,113</b>
<b>Total Building Disposal</b>						<b>\$590,660</b>
<b>SUBTOTAL DEMOLITION + DISPOSAL COSTS PER BUILDING</b>	<b>\$1,408,050</b>	<b>\$55,255</b>	<b>\$35,951</b>	<b>\$11,186</b>	<b>\$12,402</b>	<b>\$14,485</b>
<b>TOTAL BUILDING DEMOLITION + DISPOSAL COSTS</b>						<b>\$1,537,329</b>

a - G/L 12 App. = WDEQ-LQD Guideline No. 12 , Appendix

b - Florida Dept. Environmental Protection: *Converting C&D Debris from Volume to Weight, a Fact Sheet for C&D Debris Facility Operators* [www.floridacenter.org/publications/C&Dconversion..html]

c - Avallone & Baumeister, eds., 1987: *Marks' Standard Handbook for Mechanical Engineers*, 9th ed., p. 185.

CF - cubic feet  
CY - cubic yards  
ft - feet  
in - inches  
lf. - linear feet  
SF - square feet  
QTY - quantity

2013-2014 RECLAMATION SURETY ESTIMATE  
WDEQ Permit No. 687 Annual Report / NRC SUA-1548  
Gas Hills ISR Project - Cameco Resources

Part II. Well & Hole Abandonment		Unit Cost	Units	Est. QTY	Total
<b>I. Monitoring Wells<sup>a</sup></b>					
Site Location <sup>a</sup>		\$10	well	109	\$1,090
Removal of surface steel casing, concrete apron		\$130	well	109	\$14,170
Sealing of wells using High Solids Bentonite Grout <sup>a</sup>	Avg. depth				
	550	\$2.50	linear foot	109	\$149,875
Concrete Cap for well hole, pre-cast		\$50.00	ea	109	\$5,450
Rough site grading		\$50	site	109	\$5,450
Surface Reclamation of Monitor Wells P&A'd 2008		\$50	well	12	\$600
<i>Cost to Haul to Landfill (well protective casings &amp; concrete):</i>					
Well Demolition Debris Waste volume, CY			CY	40	--
Total trips @ 12 CY each			trips	3.3	--
Transportation via Dump truck (G/L 12 App. K), 2 trips/12-hr day		\$77.78	hr	12	\$933
Convert C&D waste volume to tons ( 0.24 tons / CY) <sup>b</sup>			tons	9.5	
Disposal Unit Cost (G/L 12, App.K)		\$78.56	ton	--	\$749
Mobilization		\$1,000.00	Location	1.0	\$1,000
Scarify and Seed Staging Area		\$3,000.00	ac	0.08	\$240
Subtotal Monitoring Well Abandonment Costs					<b>\$178,317</b>
<b>II. Production Wells<sup>a</sup></b>					
Removal of the top few feet of casing per well		\$30	well	0	\$0
Sealing of wells using High Solids Bentonite Grout <sup>a</sup>	Avg. depth				
	0	\$2.50	lf.	0	\$0
Concrete well cap		\$10.00	ea	0	\$0
Subtotal Production Well Abandonment					<b>\$0</b>
<b>III. Water Supply Wells<sup>a, b</sup></b>					
Site Location <sup>a</sup>		\$10	well	2	\$20
Removal of the Top Few Feet of Casing		\$30	well	2	\$60
Sealing w/ 20% Solids (min) Bentonite Grout	Avg. depth				
	1600	\$2.50	lf	2	\$8,000
Concrete Well Cap		\$10.00	well	2	\$20
Pull Pump		\$0.40	ft.	2025	\$607.50
Subtotal Water Supply Wells Abandonment					<b>\$8,688</b>
<b>IV. Waste Disposal Well Abandonment</b>					
<b>A. Well Sealing</b>				<b>DDW #1</b>	<b>DDW #2</b>
Total Depth of Well (feet)				3794	5389
Sealing cost per foot (in UIC permit)				\$11.91	\$11.91
Subtotal Plugging Costs per Well (in UIC permit)				\$45,187	\$64,183
<b>B. Pump Dismantling and Decontamination</b>					
Number of Persons				2	2
Number of Pumps				2	2
Pumps/Day				0.5	0.5
Number of Days				4	4
\$/Day/Person				\$291.20	\$291.20
Subtotal Dismantling and Decon Costs per Well				\$2,329.60	\$2,329.60
<b>C. Tubing String Disposal (C&amp;D Landfill)</b>					
Length of Tubing String (ft)				3400	5100
Diameter of Tubing String (inches)				2.875	2.875
Volume of Tubing String (ft <sup>3</sup> )				79	119

**2013-2014 RECLAMATION SURETY ESTIMATE**  
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**Gas Hills ISR Project - Cameco Resources**

Transportation and Disposal Unit Cost (\$/ft <sup>3</sup> )			\$1.56	\$1.56	
Subtotal Tubing String Disposal Costs per Well			\$123.64	\$185.47	
Subtotal Waste Disposal Well Abandonment Costs per Well			\$47,639.78	\$66,698.06	
Subtotal Waste Disposal Well Abandonment Costs				<b>\$114,337.84</b>	
<b>IV. Exploratory / Delineation Drilling</b>					
<b>1. Plugging, Abandonment, &amp; Surface Reclamation for Proposed Holes</b>					
Site Location		\$10.00	site	0	\$0
Mobilization		\$1,000.00	Location	1	\$1,000
Final Site Grading and Seeding		\$50.00	site	0	\$0
Concrete Cap		\$10.00	each	0	\$0
Sealing w/ Bentonite Grout		\$3.00	lf.	0	\$0
2009 Holes 40% Reclamation Costs (GL 12 App L, Footnote 6)		\$20.00	site	22	\$440
2010 Holes 40% Reclamation Costs (GL 12 App L, Footnote 6)		\$20.00	site	26	\$520
2011 Holes 40% Reclamation Costs (GL 12 App L, Footnote 6)		\$20.00	site	37	\$740
Drilling Water Pond (48' l by 48' w by 4' d)		\$120.00	hr	5	\$600
Subtotal for Completed Drilling					<b>\$3,300</b>
<b>Total Well &amp; Exploration Hole Abandonment Cost</b>					<b>\$304,643</b>

- a - WDEQ-LQD Guideline No. 12, Appendix L
- b - Site Reclamation included in "Part III MISC SURF REC" table
- c - G/L 12, Appendix Q
- d - area estimate prepared for Gas Hills Drilling Notice of Intent letter to BLM Lander, 4/15/10.

**2013-2014 RECLAMATION SURETY ESTIMATE**  
**WDEQ Permit No. 687 Annual Report / NRC SUA-1548**  
**Gas Hills ISR Project - Cameco Resources**

<b>Part III. Miscellaneous Surface Reclamation</b>		<b>Unit Cost</b>	<b>Units</b>	<b>Est. QTY</b>	<b>Total</b>
<b>I. Carol Shop/Office Area</b>					
<b>A. Topsoil Application</b>					
Topsoil Surface Area			acres	21	
Topsoil Average Depth			feet	0.5	
Topsoil Application (WDEQ Guideline No.12, App.C)	\$1,671		CY	16,940	\$28,307
Assume: level ground, average haul distance =			feet	2,000	
Concrete, asphalt, and building material used to backfill low areas;					
<b>B. Discing/Seeding (WDEQ Guideline No. 12, App. L)</b>					
1 acre (43,560)/Large Site (10,000) sq. ft.=4.36 x \$250	\$1,089		ac	21	\$22,869
<b>Subtotal Carol Shop/Office Area Reclamation</b>					<b>\$51,176</b>
<b>II. Carol Shop Road</b>					
<b>A. Gravel Road Base Removal</b>					
Road Length			miles	5	
Road average width			feet	50	
Width Gravel Road Base			feet	50	
Road Base Average Depth			feet	0.5	
Road Base Volume			CY	24,444	
Gravel Road Base Removal (WDEQ Guideline No.12, App.C)	\$1,289		CY	24,444	\$31,509
Assume: level ground, average haul distance =			feet	1,000	
<b>B. Ripping Overburden with D6<sup>1</sup></b>	\$250.00		ac	30	\$7,500
<b>C. Topsoil Application (WDEQ Guideline No.12, App.C)</b>	\$1,671		CY	24,444	\$40,847
Topsoil Surface Area			SF	1,320,000	
Topsoil Depth			feet	0.5	
Topsoil Volume			CY	24,444	
Assume: average haul distance =			feet	1,000	
<b>D. Discing/Seeding</b>	\$1,089		ac	30	\$32,670
<b>E. Culvert Removal</b>					
Culvert Removal (WDEQ Guideline No.12, App.J)	\$137.83		ea	40	\$5,513
Fill Removal/Drainage Reestablishment	\$500		ea	40	\$20,000
<b>Subtotal Carol Shop Road Reclamation</b>					<b>\$138,039</b>
<b>III. AML Road Reclamation</b>					
<b>A. Gravel Road Base Removal</b>					
Road Length			miles	4.3	
Road average width			feet	66.0	
Road surface area			ac	34.4	
Gravel Road Base Width			feet	66	
Average Road Base Depth			feet	0.5	
Road Base Volume			CY	27,749	
Gravel Road Base Removal (WDEQ Guideline No.12, App.C)	\$1,671		CY	27,749	\$46,369
Assume: level ground, average haul distance =			feet	1000	
<b>B. Other reclamation areas associated with the road</b>					
Topsoil Surface Area			ac	2.4	
Turnaround Area			ac	0.9	
Other reclamation areas			ac	3.3	
<b>C. Ripping Overburden with Dozer</b>					
Overburden Surface Area (acres)			ac	38	
Ripping Overburden with D6 <sup>1</sup>	\$250.00		ac	38	\$9,428
<b>D. Topsoil Application (WDEQ Guideline No.12, App.C)</b>					
Topsoil Surface Area	\$1,671		CY	30,419	\$50,831
Topsoil Depth			SF	1,642,648	
Topsoil Depth			feet	0.5	

**2013-2014 RECLAMATION SURETY ESTIMATE**  
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<b>Part III. Miscellaneous Surface Reclamation</b>		<b>Unit Cost</b>	<b>Units</b>	<b>Est. QTY</b>	<b>Total</b>
Topsoil Volume			CY	30,419	
Assume: Average haul distance =			feet	1,000	
<b>E. Discing/Seeding</b>		\$1,089	ac	38	\$41,066
<b>F. Culvert Removal</b>					
Culvert Removal (WDEQ Guideline No.12, App.J)		\$137.83	ea	20	\$2,757
Fill Removal/Drainage Reestablishment (\$/each)		\$500	ea	20	\$10,000
<b>Subtotal AML Road Reclamation</b>					<b>\$160,450</b>
<b>IV. Surface Reclamation Water Supply + Waste Disposal Injection Wells</b>					
<b>A. Well Sites (2 supply wells + 2 disposal injection wells)</b>					
Well Sites surface area			SF	261,232	
a. Ripping Overburden with D6 <sup>1</sup>		\$250.00	ac	6	\$1,500
b. Topsoil Application					
Topsoil Surface Area			SF	261,232	
Topsoil Depth			feet	0.5	
Topsoil Volume			CY	4,838	
Topsoil Application (WDEQ Guideline No.12, App.C)		\$1.67	CY	4,838	\$8,084
c. Discing/Seeding Surface		\$1,089	ac	6	\$6,534
Assume:					
Surface grade: Level ground					
Average haul distance (ft)					
<b>B. Access Road Reclamation</b>					
Road Length			feet	2,525	
Road average width			feet	20	
Road surface area			SF	50,500	
a. Gravel Road Base Removal					
Road Base Average Depth			feet	0.33	
Gravel Road Base Removal (WDEQ Guideline No.12, App.C)		\$1.67	CY	617	\$1,031
b. Ripping Overburden with D6 <sup>1</sup>		\$250.00	ac	1.16	\$290
c. Topsoil Application					
Topsoil Depth			feet	0.67	
Topsoil Volume			CY	1,253	
Topsoil Application (WDEQ Guideline No.12, App.C)		\$1.67	CY	1,253	\$2,094
d. Discing/Seeding		\$1,089	ac	1.16	\$1,263
<b>Subtotal Water Supply + Disposal Wells Surface Reclamation</b>					<b>\$20,797</b>
<b>V. Demolition, Removal of Monitoring Stations</b>					
Demol'n Surface Water Monitoring Stns (WDEQ Guideline No.12, App.N)		\$2,635.92	ea	3	\$7,908
Demolition Air Quality Monitoring Stns (WDEQ Guideline No.12, App.O)		\$999.80	ea	5	\$4,999
					<b>\$12,907</b>
<b>TOTAL MISCELLANEOUS SURFACE RECLAMATION COSTS</b>					<b>\$383,368</b>

ac - acres

CF - cubic feet

CY - cubic yards

ea - each

ft - feet

lf. - linear feet

SF - square feet

QTY - quantity

<sup>1</sup> 8/23/2011 Letter from B. Wood; DEQ, re: 2010-2011 Annual Report

**2013-2014 RECLAMATION SURETY ESTIMATE**  
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<b>Mine Unit Data</b>	<b>Mine Unit 1</b>	<b>Mine Unit 2</b>	<b>Mine Unit 3</b>	<b>Mine Unit 4</b>	<b>Mine Unit 5</b>
Flare Factor	1.5				0
Wellfield Area (ft2)	1,526,400	0	0	0	0
Wellfield Area (acres)	35.04	0.00	0.00	0.00	0.00
Affected Ore Zone Area (ft2)	1,526,400	0	0	0	0
Avg. Completed Thickness	20.0	20.0	20.0	20.0	20.0
Porosity	0.27	0.27	0.27	0.27	0.27
Affected Volume (ft3)	45,792,000	0	0	0	0
Kgallons per Pore Volume	92,482	0	0	0	0
Number of Patterns in Unit(s)					
Current	0	0	0	0	0
Estimated next report	212	0	0	0	0
Total Estimated	212	0	0	0	0
Number of Wells in Unit(s)					
Production Wells					
Current	0	0	0	0	0
Estimated next report	0	0	0	0	0
Total Estimated	0	0	0	0	0
Injection Wells					
Current	0	0	0	0	0
Estimated next report	0	0	0	0	0
Total Estimated	0	0	0	0	0
Monitor Wells					
Current	0	0	0	0	0
Estimated next report	109	0	0	0	0
Total Estimated	109	0	0	0	0
M-Wells	0	0	0	0	0
MP-Wells	0	0	0	0	0
MO-Wells	0	0	0	0	0
MU-Wells	0	0	0	0	0
Trend Wells	0	0	0	0	0
Restoration Wells	0	0	0	0	0
Number of Wells per Wellfield	109	0	0	0	0
Misc. Monitor Wells					
Current	54	0	0	0	0
Estimated next report	0	0	0	0	0
Total Estimated	54	0	0	0	0
Total Number of Wells	163				
Average Well Depth (ft)	451				
Average Diameter of Casing (inches)	5				
Water Supply Wells					
Current	2	0	0	0	0
Estimated next report	0	0	0	0	0
Total Estimated	2	0	0	0	0



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Labor Costs	Rate (\$)	Net Benefits*	Units	Source**		
Laborer	\$26.00	\$36.40	hour	MSEC		
*Includes additional 40% net benefits based on InfoMine USA cost data for Surface Metal and Industrial Mineral Mines - Western U.S. (Table 5)						
**Mountain States Employers Council, 2012 Survey, Mining Industry Compensation & Benefits						
WDEQ/LQD Guideline No. 12 Costs	Appendix	Rate (\$)	Units	Source		
Moving Materials: One-Way Distance 500 feet, 0% grade	Appendix C	\$1.080	bcy	Guideline-10/2012		
Moving Materials: One-Way Distance 1,000 feet, 0% grade	Appendix C	\$1.289	bcy	Guideline-10/2012		
Moving Materials: One-Way Distance 2,000 feet, 0% grade	Appendix C	\$1.671	bcy	Guideline-10/2012		
Moving Materials: One-Way Distance 150 feet, 0% grade	Appendix E	\$0.351	lcy	Guideline-10/2012		
Grading Operating Costs	Appendix G	\$75.25	acre	Guideline-10/2012		
Fencing Removal	Appendix H	\$0.32	foot	Guideline-10/2012		
Ripping Operating Costs (Asphalt)	Appendix I	\$881.07	acre	Guideline-10/2012		
Ripping Operating Costs (Overburden)	Appendix I1	\$1,209.63	acre	Guideline-10/2012		
Dump Truck (10-12 cy)	Appendix J	\$77.78	hr	Guideline-10/2012		
Culvert Removal	Appendix J	\$137.83	each	Guideline-10/2012		
Building Demolition - Mixture of Types	Appendix K	\$0.278	ft3	Guideline-10/2012		
Building Demo Disposal (Average)	Appendix K	\$9.50	cy	Guideline-10/2012		
City Landfill Dump Charges	Appendix K	\$78.56	ton	Guideline-10/2012		
Concrete (Floor) Demolition - 6" Thick with Rebar	Appendix K	\$5.31	ft2	Guideline-10/2012		
Concrete (Footing) Demolition - 2' Thick, 3' Wide	Appendix K	\$19.78	linear foot	Guideline-10/2012		
Concrete Disposal On-Site	Appendix K	\$8.25	cy	Guideline-10/2012		
Drill Hole Abandonment: Wet Exploration Holes >25 holes	Appendix L	\$3.00	foot	Guideline-10/2012		
Well Abandonment: Monitor, Production, and Injection Wells	Appendix L	\$2.50	foot	Guideline-10/2012		
Incidental Costs: Small Site Grading and Seeding (<1000 sq. feet)	Appendix L	\$50	site	Guideline-10/2012		
Incidental Costs: Large Site / Access Road Grading and Seeding	Appendix L	\$3,000	acre	Guideline-10/2012		
Incidental Costs: Capping	Appendix L	\$10	each	Guideline-10/2012		
Incidental Costs: Site Location	Appendix L	\$10	site	Guideline-10/2012		
Incidental Costs: Remove Pump, Wiring, and Drop Pipe	Appendix L	\$0.40	foot	Guideline-10/2012		
Incidental Costs: Remove and Dispose Casing (top few feet)	Appendix L	\$30.00	well	Guideline-10/2012		
Incidental Costs: Monitoring Well Concrete Pedestal Disposal	Appendix L	\$100.00	each	Guideline-10/2012		
Incidental Costs: Mobilization	Appendix L	\$1,000.00	project	Guideline-10/2012		
Demolition and Removal of Surface Water Monitoring Station	Appendix N	\$2,635.92	station	Guideline-10/2012		
Demolition and Removal of Meteorological or Air Monitoring Site	Appendix O	\$999.80	site	Guideline-10/2012		
Scarification Costs	Appendix P	\$69.02	acre	Guideline-10/2012		
Revegetation Costs-Seed	Appendix Q	\$106.00	acre	Actual Costs-2013		
Revegetation Costs-Mulch	Appendix Q	\$91.88	acre	Actual Costs-2013		
Revegetation Costs-Fertilizer	Appendix Q	\$300.00	acre	Actual Costs-2013		
Revegetation Costs-Total	Appendix Q	\$497.88	acre	Actual Costs-2013		
Construction & Demolition Debris Transportation & Disposal Costs						
Building Volume for Disposal	0.33					
Void Factor (for disposal)	1.1					
	<b>Disposal (\$/ton)</b>	<b>C&amp;D (cy/ton)</b>	<b>Tranport (\$/load)</b>	<b>C&amp;D (cy/load)</b>	<b>Total (\$/cy)</b>	<b>Total (\$/ft3)</b>
C&D Debris (county landfill)	\$62.00	2	\$335.00	30	\$42.17	\$1.56
*Transportation and disposal costs based on actual costs from Smith Ranch-Highland (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.						