JON M. HUNTSMAN, JR.
Governor

GARY R. HERBERT
Lieutenant Governor

State of Utah

Department of Natural Resources

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas & Mining

JOHN R. BAZA
Division Director

July 13, 2005

Chuck Semborski, Environmental Supervisor
Energy West Mining Company
P.O. Box 310
Huntington, Utah 84528

Subject: Additional Bond Required for Rilda Canyon Facilities in the Amount of $1,113,000, PacifiCorp, Deer Creek Mine, C/015/0018, Outgoing File

Dear Mr. Semborski:

The current bond posted for the Deer Creek Mine is $3,000,000.

- Reclamation cost estimate for Current Deer Creek Mine (without the Rilda Canyon Facility) is $2,444,000 in 2005 dollars.
- Proposed Rilda Canyon facilities is $1,166,647.49 in 2005 dollars.
- Entire Bond (including Rilda Canyon Facility) is $4,113,000 escalated to 2008 dollars ($3,610,710.49 in 2005 dollars); a rider of $1,113,000 must be added to the current bond (see attached reclamation cost estimates).

The amount of $4,113,000 in 2008 dollars must be posted prior to the approval of the Rilda Canyon Facilities (i.e. a rider in the amount of $1,113,000).

If you have any questions, please feel free to call me at (801) 538-5268.

Sincerely,

/S/

Pamela Grubaugh-Littig
Permit Supervisor

an
Enclosure
cc: Scott Childs, Interwest Mining
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Bonding Calculations
Deer Creek Mine - including Rilda Canyon Portal Facilities

Rilda Canyon Portal Facilities

Direct Costs		
Subtotal Demolition	$233,793.00	
Subtotal Earthwork	$621,075.00	
Subtotal Revegetation	$65,201.00	
Direct Cost Total	$920,069.00	
Indirect Costs		
Mob/Demob	$92,006.90	10.0%
Contingency	$46,003.45	5.0%
Engineering Redesign	$23,001.73	2.5%
Main Office Expense	$62,564.69	6.8%
Project Mainagement Fee	$23,001.73	2.5%
Indirect Cost Total	$246,578.49	26.8%
Rilda Canyon Portal Facilities Total Costs in 2005 Dollars	$1,166,647.49	
Deer Creek Mine Total Costs in 2003 Dollars	$2,311,837.00	(Refer to the approved 2003 bond
Escalation factor	2.82%	in Volume 2, Part 4)
Number of years	2	
Escalation	$132,226.00	
Deer Creek Mine Costs in 2005 Dollars	$2,444,063.00	
Total Mine Complex Costs in 2005 Dollars	$3,610,710.49	
Escalation factor	4.44%	
Number of years	3	
Escalation	$502,617.00	
Total Mine Complex Costs in 2008 Dollars	$4,113,327.49	
Bond Amount (rounded to nearest $1,000)	**$4,113,000.00**	

Ref.	Description	Cost
1A	Sediment Pond 1A	$660
1B	Runoff Collection Tank 1B	$9,668
1C	Parking Lot 1C	$36,194
1D	Retaining Structures 1D	$8,329
1E	Parking Garage 1E	$10,316
1F	Office/Bathhouse/Warehouse 1F	$55,019
1G	Non-CoalCoal-Waste Storage 1G	$9,668
1H	Oil Storage 1H	$2,128
1I	Fuel Storage 1I	$14,076
1J	Rock Dust Storage 1J	$4,431
1K	Storage Sheds 1K	$12,598
1L	Lift Station 1L	$3,712
1M	Mine Ventilation Fan 1M	$10,054
1N	Power Supply 1N	$7,319
1O	Water Treatment Building 1O	$10,885
1P	Water Tank 1P	$11,075
1Q	Septic Tanks 1Q	$2,547
1R	Drainage System 1R	$14,714
2A	Portals 2 A	$10,400
	Total	$233,793

Ref.	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
Rilda Canyon Portal Facilities																				
	Sediment Pond 1A																			
	Structure's Demolition Cost																			
		Excavator 1.5 CY	01590 200 0200	633.99	/day									0.25	1	day		0.25	day	$158
		Eq. Op., Medium Equipment (Eqm	Eqmd	$52.00	HR									2	1	hr		2	hr	$104
		CLAB	Clab	$41.55	HR									2	1	hr		2	hr	$83
		Foreman Average, Outside	Foreman	$57.30	HR									2	1	hr		2	hr	$115
	Transportation Cost Non Steel Truck	Truck dump 16 ton payload	01590 200 5300	435.96	/day									0.25	1	day		0.25	day	$109
	Transportation Cost Non Steel Drive	Truck Driver, Heavy	Trhv	$42.00	HR									2	1	hr		2	hr	$84
	Disposal Cost Non Steel	Nielson Construction	Neilson Con.	7	/TON							1				ton		1	ton	$7
																				$500

Ref.	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
Rilda Canyon Portal Facilities																				
	Runoff Collection Tank 1B																			
	Structure's Demolition Cost																			
		Excavator 1.5 CY	01590 200 0200	633.99	/day									2	2	day		4	day	$2,536
		Hammer Hydraulic 500 to 1,200 ft-lb	01590 400 2860	73.03	/day						83			2	1	day		2	day	$146
		Attachment Bucket Thumb	01590 200 0342	115.75	/day									2	1	day		2	day	$232
		Eq. Op., Medium Equipment (Eqmd)	Eqmd	$52.00	HR									16	2	hr		32	hr	$1,664
		CLAB	Clab	$41.55	HR									24	3	hr		72	hr	$2,992
		Foreman Average, Outside	Foreman	$57.30	HR									24	1	hr		24	hr	$1,375
		Torch Equipment	01590 400 6350	2.21	/HR									24	1	hr		24	hr	$53
		Torch Operating	01590 400 6360	8.91	/HR									24	1	hr		24	hr	$214
	Transportation Cost Non Steel Truck	Truck dump 16 ton payload	01590 200 5300	435.96	/day									0.5	1	day		0.5	day	$218
	Transportation Cost Non Steel Drive	Truck Driver, Heavy	Trhv	$42.00	HR									4	1	hr		4	hr	$168
	Disposal Cost Non Steel	Nielson Construction	Nielson Con.	7	/TON							10				ton		10	ton	$70
	Subtotal																			$9,668

Ref.	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
Rilda Canyon Portal Facilities																				
	Parking Lot 1C																			
	Structure's Demolition Cost																			
		Tractor Loader 7 to 8 CY	01590 200 4810	1083.76	/day									7	2	day		14	day	$15,173
		Eq. Op., Medium Equipment (Eqmd)	Eqmd	$52.00	HR									56	2	HR		112	hr	$5,824
		Truck dump 16 ton payload	01590 200 5300	435.96	/day									7	2	day		14	day	$8,103
		Truck Driver, Heavy	Trhv	$42.00	HR									56	2	HR		112	hr	$4,704
		300 H. P. (D8)	01590 200 4310	1047.28	/day									3	1	day		3	hr	$3,142
		Eq. Op., Medium Equipment (Eqmd)	Eqmd	$52.00	HR									24	1	HR		24	hr	$1,248
	Rubble's Weight (exclude steel)	Nielson Construction	Neilson Con.	7	/TON							5550				tons				
		Truck dump 16 ton payload	01590 200 5300	435.96	/day															
		Truck Driver, Heavy	Trhv	$42.00	HR															

Note: Estimated entire yard asphalted 4" thick (229,600 sf)

Ref.	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
Rilda Canyon Portal Facilities																				
	Retaining Structures 1D																			
	Structure's Demolition Cost																			
		Excavator 1.5 CY	01590 200 0200	633.99	/day									2	1	day		2	day	$1,268
		Eq. Op., Medium Equipment (Eqmd)	Eqmd	$52.00	HR									16	1	hr		16	hr	$832
		300 H. P. (D8)	01590 200 4310	1047.28	/day									2	1	day		2	day	$2,095
		Eq. Op., Medium Equipment (Eqmd)	Eqmd	$52.00	HR									16	1	hr		16	hr	$832
		CLAB	Clab	$41.55	HR									16	2	hr		32	hr	$1,330
		Foreman Average, Outside	Foreman	$57.30	HR									16	1	hr		16	hr	$917
		Torch Equipment	01590 400 6350	2.21	/HR									16	1	hr		16	hr	$35
		Torch Operating	01590 400 6360	8.91	/HR									16	1	hr		16	hr	$143
	Transportation Cost Non Steel Truck	Truck dump 16 ton payload	01590 200 5300	435.96	/day									1	1	day		1	day	$436
	Transportation Cost Non Steel Drive	Truck Driver, Heavy	Trhv	$42.00	HR									8	1	hr		8	hr	$336
	Disposal Cost Non Steel	Nielson Construction	Neilson Con.	7	/TON							15				ton		15	ton	$105
	Total																			$7,226

Ref.	Description	Materials	Means Reference	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
Rilda Canyon Portal Facilities																				
	Parking Garage 1E																			
	Structure's Demolition Cost																			
		Excavator 1.5 CY	01590 200 0200	633.99	/day									1	1	day		1	day	$634
		Attachment Bucket Thumb	01590 200 0342	115.75	/day									1	1	day		1	day	$116
		Eq. Op., Medium Equipment (Eqmd)	Eqmd	$52.00	HR									8	1	hr		8	hr	$416
		Excavator 1.5 CY	01590 200 0200	633.99	/day									5	1	day		5	day	$3,170
		Hammer Hydraulic 500 to 1,200 ft-lb	01590 400 2860	73.03	/day									5	1	day		5	day	$365
		Eq. Op., Medium Equipment (Eqmd)	Eqmd	$52.00	HR									40	1	hr		40	hr	$2,080
		Tractor Loader 7 to 8 CY	01590 200 4810	1083.76	/day									1	1	day		1	day	$1,084
		Eq. Op., Medium Equipment (Eqmd)	Eqmd	$52.00	HR									8	1	hr		8	hr	$416
		CLAB	Clab	$41.55	HR									8	2	hr		16	hr	$665
		Foreman Average, Outside	Foreman	$57.30	HR									8	1	hr		8	hr	$458
		Truck dump 16 ton payload	01590 200 5300	435.96	/day									1	1	day		1	day	$436
		Truck Driver, Heavy	Trhv	$42.00	HR									8	1	hr		8	hr	$336
		Nielson Construction	Neilson Con.	7	/TON							20						20	ton	$140
	Steel's Weight																			
	Total																			$10,316

Ref.	Description	Materials	Means Reference	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
Rilda Canyon Portal Facilities																				
	Office/Bathhouse/Warehouse 1F																			
	Structure's Demolition Cost																			
		Excavator 1.5 CY	01590 200 0200	633.99	/day									7	1	day		7	day	$4,438
		Attachment Bucket Thumb	01590 200 0342	115.75	/day									7	1	day		7	day	$810
		Eq. Op., Medium Equipment (Eqmd)	Eqmd	$52.00	HR									56	1	hr		56	hr	$2,912
		Excavator 1.5 CY	01590 200 0200	633.99	/day									7	1	day		7	day	$4,438
		Hammer Hydraulic 500 to 1,200 ft-lb	01590 400 2860	73.03	/day									7	1	day		7	hr	$511
		Eq. Op., Medium Equipment (Eqmd)	Eqmd	$52.00	HR									56	1	day		56	hr	$2,912
		Tractor Loader 7 to 8 CY	01590 200 4810	1083.76	/day									7	1	day		7	hr	$7,586
		Eq. Op., Medium Equipment (Eqmd)	Eqmd	$52.00	HR									56	1	hr		56		$2,912
		CLAB	Clab	$41.55	HR									56	3	hr		168		$6,980
		Foreman Average, Outside	Foreman	$57.30	HR									56	1	hr		56		$3,209
	Transportation Cost Non Steel Truck	Truck dump 16 ton payload	01590 200 5300	435.96	/day									7	3	day		21	day	$9,155
	Transportation Cost Non Steel Drive	Truck Driver, Heavy	Thv	$42.00	HR									56	3	hr		168	hr	$7,056
	Disposal Cost Non Steel	Nielson Construction	Neilson Con.	7	/TON							300				ton		300	ton	$2,100
	Total																			$55,010

Ref.	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
Rilda Canyon Portal Facilities																				
	Non-CoalCoal-Waste Storage 1G																			
	Structure's Demolition Cost																			
		Excavator 1.5 CY	01590 200 0200	633.99	/day									2	1	day		2	day	$1,268
		Hammer Hydraulic 500 to 1,200 ft-lb	01590 400 2860	73.03	/day						100			2	1	day		2	day	$146
		Eq. Op., Medium Equipment (Eqmd)	Eqmd	$52.00	HR									16	1	hr		16	hr	$832
		Excavator 1.5 CY	01590 200 0200	633.99	/day									2	1	day		2	day	$1,268
		Attachment Bucket Thumb	01590 200 0342	115.75	/day									2	1	day		2	day	$232
		Eq. Op., Medium Equipment (Eqmd)	Eqmd	$52.00	HR									16	1	hr		16	hr	$832
		CLAB	Clab	$41.55	HR									16	1	hr		16	hr	$665
		Foreman Average, Outside	Foreman	$57.30	HR									16	1	hr		16	hr	$917
		Truck dump 16 ton payload	01590 200 5300	435.96	/day									2	2	day		4	day	$1,744
		Truck Driver, Heavy	Trhv	$42.00	HR									16	2	hr		32	hr	$1,344
		Nielson Construction	Neilson Con.	7	/TON							60				ton		60	ton	$420
	TOTAL																			

Ref.	Description	Materials	Means Reference	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
Rilda Canyon Portal Facilities																				
	Oil Storage 1H																			
	Structure's Demolition Cost																			
		Excavator 1.5 CY	01590 200 0200	633.99	/day									0.5	1	day		0.5	day	$317
		Hammer Hydraulic 500 to 1,200 ft-lb	01590 400 2860	73.03	/day						25			0.5	1	day		0.5	day	$37
		Eq. Op., Medium Equipment (Eqmd)	Eqmd	$52.00	HR									4	1	hr		4	hr	$208
		Tractor Loader 7 to 8 CY	01590 200 4810	1083.76	/day									0.5	1	day		0.5	day	$542
		Eq. Op., Medium Equipment (Eqmd)	Eqmd	$52.00	HR									4	1	hr		4	hr	$208
		CLAB	Clab	$41.55	HR									4	1	hr		4	hr	$166
		Foreman Average, Outside	Foreman	$57.30	HR									4	1	hr		4	hr	$229
	Transportation Cost Non Steel Truck	Truck dump 16 ton payload	01590 200 5300	435.96	/day									0.5	1	day		0.5	day	$218
	Transportation Cost Non Steel Drive	Truck Driver, Heavy	Trhv	$42.00	HR									4	1	hr		4	hr	$168
	Disposal Cost Non Steel	Nielson Construction	Nelson Con.	7	/TON							5				ton		5	ton	$35

Ref.	Description	Materials	Means Reference	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
Rilda Canyon Portal Facilities																				
	Fuel Storage 1l																			
	Structure's Demolition Cost																			
		Excavator 1.5 CY	01590 200 0200	633.99	/day									4	1	day		4	day	$2,536
		Hammer Hydraulic 500 to 1,200 ft-lb	01590 400 2860	73.03	/day						100			4	1	day		4	day	$292
		Eq. Op., Medium Equipment (Eqmd)	Eqmd	$52.00	HR									32	1	hr		32	hr	$1,664
		Tractor Loader 7 to 8 CY	01590 200 4810	1083.76	/day									4	1	day		4	day	$4,335
		Eq. Op., Medium Equipment (Eqmd)	Eqmd	$52.00	HR									32	1	hr		32	hr	$1,664
		CLAB	Clab	$41.55	HR									32	1	hr		32	hr	$1,330
		Foreman Average, Outside	Foreman	$57.30	HR									32	1	hr		32	hr	$1,834
	Transportation Cost Non Steel Truck	Truck dump 16 ton payload	01590 200 5300	435.96	/day									0.5	1	day		0.5	day	$218
	Transportation Cost Non Steel Drive	Truck Driver, Heavy	Trhv	$42.00	HR									4	1	hr		4	hr	$168
	Disposal Cost Non Steel	Nielson Construction	Neilson Con.	7	/TON							5				ton		5	ton	$35

Ref.	Description	Materials	Means Reference	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
	Subtotal																			$11,177
Rilda Canyon Portal Facilities																				
	Rock Dust Storage 1J																			
	Structure's Demolition Cost																			
		Truck Mounted Crane 55 ton	01590 600 2600	802.79	/day									1	1	day		1	day	$803
		Eq. Op., Medium Equipment (Eqmd)	Eqmd	$52.00	HR									8	1	hr		8	hr	$416
		Excavator 1.5 CY	01590 200 0200	633.99	/day									1	1	day		1	day	$634
		Hammer Hydraulic 500 to 1,200 ft-lb	01590 400 2860	73.03	/day									1	1	day		1	day	$73
		Eq. Op., Medium Equipment (Eqmd)	Eqmd	$52.00	HR									8	1	hr		8	hr	$416
		CLAB	Clab	$41.55	HR									8	2	hr		16	hr	$665
		Foreman Average, Outside	Foreman	$57.30	HR									8	1	hr		8	hr	$458
		Torch Equipment	01590 400 6350	2.21	/HR									8	1	hr		8	hr	$18
		Torch Operating	01590 400 6360	8.91	/HR									8	1	hr		8	hr	$71
	Transportation Cost Non Steel Truck	Truck dump 16 ton payload	01590 200 5300	435.96	/day									1	1	day		1	day	$436
	Transportation Cost Non Steel Drive	Truck Driver, Heavy	Trhv	$42.00	HR									8	1	hr		8	hr	$336
	Disposal Cost Non Steel	Nielson Construction	Neilson Con.	7	/TON							15				ton		15	ton	$105
	Total																			$4,431

Ref.	Description	Materials	Means Reference	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
Rilda Canyon Portal Facilities																				
	Storage Sheds 1K																			
	Structure's Demolition Cost																			
		Excavator 1.5 CY	01590 200 0200	633.99	/day									2	1	day		2	day	$1,268
		Attachment Bucket Thumb	01590 200 0342	115.75	/day									2	1	day		2	day	$232
		Eq. Op., Medium Equipment (Eqmd)	Eqmd	$52.00	HR									16	1	hr		16	hr	$832
		Excavator 1.5 CY	01590 200 0200	633.99	/day									3	1	day		3	day	$1,902
		Hammer Hydraulic 500 to 1,200 ft-lb	01590 400 2860	73.03	/day						130			3	1	day		3	day	$219
		Eq. Op., Medium Equipment (Eqmd)	Eqmd	$52.00	HR									24	1	hr		24	hr	$1,248
		Tractor Loader 7 to 8 CY	01590 200 4810	1083.76	/day									2	1	day		2	day	$2,168
		Eq. Op., Medium Equipment (Eqmd)	Eqmd	$52.00	HR									16	1	hr		16	hr	$832
		CLAB	Clab	$41.55	HR									16	2	hr		32	hr	$1,330
		Foreman Average, Outside	Foreman	$57.30	HR									24	1	hr		24	hr	$1,375
	Transportation Cost Non Steel Truck	Truck dump 16 ton payload	01590 200 5300	435.96	/day									1	1	day		1	day	$436
	Transportation Cost Non Steel Drive	Truck Driver, Heavy	Trhv	$42.00	HR									8	1	hr		8	hr	$336
	Disposal Cost Non Steel	Nielson Construction	Neilson Con.	7	/TON							60				ton		60	ton	$420
	Total																			

Ref.	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
Rilda Canyon Portal Facilities																				
	Lift Station 1L																			
	Structure's Demolition Cost																			
		Truck Mounted Crane 55 ton	01590 600 2600	802.79	/day									1	1	day		1	day	$803
		Eq. Op., Medium Equipment (Eqmd)	Eqmd	$52.00	HR									8	1	hr		8	hr	$416
		Excavator 1.5 CY	01590 200 0200	633.99	/day									1	1	day		1	day	$634
		Hammer Hydraulic 500 to 1,200 ft-lb	01590 400 2860	73.03	/day						10			1	1	day		1	day	$73
		Eq. Op., Medium Equipment (Eqmd)	Eqmd	$52.00	HR									8	1	hr		8	hr	$416
		CLAB	Clab	$41.55	HR									8	1	hr		8	hr	$332
		Foreman Average, Outside	Foreman	$57.30	HR									8	1	hr		8	hr	$458
		Torch Equipment	01590 400 6350	2.21	/HR									8	1	hr		8	hr	$18
		Torch Operating	01590 400 6360	8.91	/HR									8	1	hr		8	hr	$71
	Transportation Cost Non Steel Truck	Truck dump 16 ton payload	01590 200 5300	435.96	/day									0.5	1	day		0.5	day	$218
	Transportation Cost Non Steel Drive	Truck Driver, Heavy	Trhv	$42.00	HR									4	1	hr		4	hr	$168
	Disposal Cost Non Steel	Nielson Construction	Nellson Con.	7	/TON							15				ton		15	ton	$105

Ref.	Description	Materials	Means Reference	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
Rilda Canyon Portal Facilities																				
	Mine Ventilation Fan 1M																			
	Structure's Demolition Cost																			
		Truck Mounted Crane 55 ton	01590 600 2600	802.79	/day									3	1	day		3	day	$2,408
		Eq. Op., Medium Equipment (Eqmd)	Eqmd	$52.00	HR									24	1	hr		24	hr	$1,248
		Excavator 1.5 CY	01590 200 0200	633.99	/day									1	1	day		1	day	$634
		Hammer Hydraulic 500 to 1,200 ft-lb	01590 400 2860	73.03	/day						50			1	1	day		1	day	$73
		Eq. Op., Medium Equipment (Eqmd)	Eqmd	$52.00	HR									8	1	hr		8	hr	$416
		CLAB	Clab	$41.55	HR									24	1	hr		24	hr	$997
		Foreman Average, Outside	Foreman	$57.30	HR									24	1	hr		24	hr	$1,375
		Torch Equipment	01590 400 6350	2.21	/HR									24	1	hr		24	hr	$53
		Torch Operating	01590 400 6360	8.91	/HR									24	1	hr		24	hr	$214
	Transportation Cost Non Steel Truck	Truck dump 16 ton payload	01590 200 5300	435.96	/day									1	2	day		2	day	$872
	Transportation Cost Non Steel Drive	Truck Driver, Heavy	Trhv	$42.00	HR									16	2	hr		32	hr	$1,344
	Disposal Cost Non Steel	Nielson Construction	Nielson Con.	7	/TON							60				ton		60	ton	$420

Ref.	Description	Materials	Means Reference	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
Rilda Canyon Portal Facilities																				
	Power Supply 1N																			
	Structure's Demolition Cost																			
		Excavator 1.5 CY	01590 200 0200	633.99	/day									2	1	day		2	day	$1,268
		Hammer Hydraulic 500 to 1,200 ft-lb	01590 400 2860	73.03	/day						100			2	1	day		2	day	$146
		Eq. Op., Medium Equipment (Eqmd)	Eqmd	$52.00	HR									16	1	hr		16	hr	$832
		Tractor Loader 7 to 8 CY	01590 200 4810	1083.76	/day									2	1	day		2	day	$2,168
		Eq. Op., Medium Equipment (Eqmd)	Eqmd	$52.00	HR									16	1	hr		16	hr	$832
		CLAB	Clab	$41.55	HR									16	1	hr		16	hr	$665
		Foreman Average, Outside	Foreman	$57.30	HR									16	1	hr		16	hr	$917
	Transportation Cost Non Steel Truck	Truck dump 16 ton payload	01590 200 5300	435.96	/day									0.5	1	day		0.5	day	$218
	Transportation Cost Non Steel Drive	Truck Driver, Heavy	Trhv	$42.00	HR									4	1	hr		4	hr	$168
	Disposal Cost Non Steel	Nielson Construction	Neilson Con.	7	/TON							15				ton		15	ton	$105

Ref.	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
Rilda Canyon Portal Facilities																				
	Water Treatment Building 10																			
	Structure's Demolition Cost																			
		Excavator 1.5 CY	01590 200 0200	633.99	/day									3	1	day		3	day	$1,902
		Hammer Hydraulic 500 to 1,200 ft-lb	01590 400 2860	73.03	/day						40			3	1	day		3	day	$219
		Eq. Op., Medium Equipment (Eqmd)	Eqmd	$52.00	HR									24	1	hr		24	hr	$1,248
		Truck Mounted Crane 55 ton	01590 600 2600	802.79	/day									3	1	day		3	day	$2,408
		Eq. Op., Medium Equipment (Eqmd)	Eqmd	$52.00	HR									24	1	hr		24	hr	$1,248
		CLAB	Clab	$41.55	HR									24	2	hr		48	hr	$1,994
		Foreman Average, Outside	Foreman	$57.30	HR									24	1	hr		24	hr	$1,375
	Transportation Cost Non Steel Truck	Truck dump 16 ton payload	01590 200 5300	435.96	/day									0.5	1	day		0.5	day	$218
	Transportation Cost Non Steel Drive	Truck Driver, Heavy	Trhv	$42.00	HR									4	1	hr		4	hr	$168
	Disposal Cost Non Steel	Nielson Construction	Neilson Con.	7	/TON							15				ton		15	ton	$105
	Total																			

Ref.	Description	Materials	Means Reference	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
Rilda Canyon Portal Facilities																				
	Water Tank 1P																			
	Structure's Demolition Cost																			
		Excavator 1.5 CY	01590 200 0200	633.99	/day									0.5	1	day		0.5	day	$317
		Hammer Hydraulic 500 to 1,200 ft-lb	01590 400 2860	73.03	/day						30			0.5	1	day		0.5	day	$37
		Eq. Op., Medium Equipment (Eqmd)	Eqmd	$52.00	HR									4	1	hr		4	hr	$208
		Truck Mounted Crane 25 ton	01590 600 2500	554.38	/day									4.5	1	day		4.5	day	$2,495
		Eq. Op., Medium Equipment (Eqmd)	Eqmd	$52.00	HR									36	1	hr		36	hr	$1,872
		CLAB	Clab	$41.55	HR									24	2	hr		48	hr	$1,994
		Foreman Average, Outside	Foreman	$57.30	HR									36	1	hr		36	hr	$2,063
		Torch Equipment	01590 400 6350	2.21	/HR									24	1	hr		24	hr	$53
		Torch Operating	01590 400 6360	8.91	/HR									24	1	hr		24	hr	$214
	Transportation Cost Non Steel Truck	Truck dump 16 ton payload	01590 200 5300	435.96	/day									1	1	day		1	day	$436
	Transportation Cost Non Steel Drive	Truck Driver, Heavy	Trhv	$42.00	HR									8	1	hr		8	hr	$336
	Disposal Cost Non Steel	Nielson Construction	Neilson Con.	7	/TON							150				ton		150	ton	$1,050
	Total																			$11,075

Ref.	Description	Materials	Means Reference	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
Rilda Canyon Portal Facilities																				
	Septic Tanks 1Q																			
	Structure's Demolition Cost																			
		Excavator 1.5 CY	01590 200 0200	633.99	/day									1	2	day		2	day	$1,266
		Hammer Hydraulic 500 to 1,200 ft-lb	01590 400 2860	73.03	/day						40			1	1	day		1	day	$73
		Eq. Op., Medium Equipment (Eqmd)	Eqmd	$52.00	HR									8	1	hr		8	hr	$416
		CLAB	Clab	$41.55	HR									8	1	hr		8	hr	$332
		Foreman Average, Outside	Foreman	$57.30	HR									8	1	hr		8	hr	$458

Ref.	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
Rilda Canyon Portal Facilities																				
	Drainage System 1R																			
	Structure's Demolition Cost																			
		Excavator 1.5 CY	01590 200 0200	633.99	/day									3	1	day		3	day	$1,902
		Eq. Op., Medium Equipment (Eqmd)	Eqmd	$52.00	HR									24	1	hr		24	hr	$1,248
		Tractor Loader 7 to 8 CY	01590 200 4810	1083.76	/day						85			3	1	day		3	day	$3,251
		Excavator 1.5 CY	01590 200 0200	633.99	/day									2	1	day		2	day	$1,268
		Attachment Bucket Thumb	01590 200 0342	115.75	/day									2	1	day		2	day	$232
		Eq. Op., Medium Equipment (Eqmd)	Eqmd	$52.00	HR									24	1	hr		24	hr	$1,248
		CLAB	Clab	$41.55	HR									24	1	hr		24	hr	$997
		Foreman Average, Outside	Foreman	$57.30	HR									24	1	hr		24	hr	$1,375
	Transportation Cost Non Steel Truck	Truck dump 16 ton payload	01590 200 5300	435.96	/day									2	2	day		4	day	$1,744
	Transportation Cost Non Steel Drive	Truck Driver, Heavy	Trhv	$42.00	HR									16	2	hr		32	hr	$1,344
	Disposal Cost Non Steel	Nielson Construction	Neilson Con.	7	/TON							15				ton		15	ton	$105
	Steel's Weight																			
	Total																			$14,714

Ref.	Description	Materials	Means Reference	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
Rilda Canyon Portal Facilities																				
	Portals 2 A																			
	Structure's Demolition Cost	Seal Portals	AML1	5200	EA.										2	EA		2	EA	$10,400

	Cost
Earthwork Summary	
Earthwork	$578,755
Road Reconstruction	$42,320
Total	$621,075

	Equipment Cost	Hourly Operating Costs	Operator's Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units	Cost
Earthwork															
Rilda Canyon Portal Facilities															
Dozer															
D8R Series II Semi-U EROPS (9-55) (2nd0	13720	53.4	0.1	52	196.49	2	392.98	$/HR	116,192	LCY	316	LCY/HR	367.7	HR	$144,497
Scrapper Work*															
Scrapper															
631G (9-51) (2nd04)	19145	19145	0.1	52	267.14	3	801.42	$/HR			696	LCY/HR	166.7	HR	$133,597
Dozer to load scrapper															
D8R Series II Semi-U EROPS (9-55) (2nd0	13720	53.4	0.1	52	196.49	1	196.49	$/HR					500	HR	$98,245
Support Equipment and Personnel															
CAT 325BL (10-21)(2nd04)	9170	35.55	0.1	52	148.42	1	148.42	$/HR					245	HR	$36,363
988G EROPS (9-38) (3Q03)	9010	40.05	0.1	52	152.37	1	152.37	$/HR					245	HR	$37,331
140H EROPS (9-11) (2H04)	5440	23	0.1	52	111.3	1	111.3	$/HR					245	HR	$27,269
5,000 gal H2O truck Diesel (20-17) (1Q04)	4725	28.05	0.1	42	102.39	1	102.39	$/HR					245	HR	$25,086
CLAB					41.55	1	41.55	$/HR					735.4	HR	$30,556
Foreman Average, Outside					57.3	1	57.3	$/HR					735.4	HR	$42,138
Pocking															
Area									13.1						
Volume									340	CY/AC					
CAT 325BL (10-21)(2nd04)	9170	35.55	0.1	52	148.42	1	148.42		4454.0	CY	180	CY/HR	24.7	HR	$3,673

*Scraper Productivity

Capacity	31	CY	
Weight Empty	96,880	LBS	
Weight Loaded (2900 lbs/cy)	186,780	LBS	
Load Time	0.6	MIN	
Manuever Time	0.7	MIN	
Rolling Resistance	4%		
Grade	7%		
Total Effect Grade	11%		
Maximum Speed (Uphill)	6	MPH	
Maximum Speed (Downhill)	29	MPH	
Distance from subsoil pile	3200	FT	only uphill distance Total distance = 3600 ft
Distance from topsoil pile	1800	FT	only uphill distance Total distance = 1800 ft
Topsoil Volume	19,700	CY	
Subsoil Volume	96,492	CY	

Travel Time (Subsoil)

Loaded
3200 ft @ 6 mph
6 mph x 5280 ft/m = 31,680 ft/hr
3200 ft x 1/31,680 ft/hr = 0.1 hr = 6.06 min

Empty
3600 ft @ 29 mph
29 mph x 5280 ft/m = 153,120 ft/hr
3600 ft x 1/153/120 ft/hr = 0.024 hr = 1.4 min

Cycle Time
0.6 min + 6 min + 0.7 min + 1.4 min = 8.7 min/load
96,492 cy/31cy/load = 3113 loads
3113 loads x 8.7 min = 27,083.1 min = **451 hrs**

Travel time (Topsoil)

Loaded 1800 ft @ 6 mph
6 mph x 5280 ft/m = 31,680 ft/hr
3600 ft x 1/31,680 ft/hr = 0.06 hr = 2.4 min

Empty 2200 ft @ 29 mph
29 mph x 5280 ft/m = 153,120 ft/hr
2200 ft x 1/153/120 ft/hr = 0.014 hr = 0.9 min

Cycle Time 0.6 min + 2.4 min + 0.7 min + 0.9 min = 4.6 min/load
19,700 cy/31cy/load = 636 loads
636 loads x 4.6 min = 2926 min = **49 hrs**

Total Cycle **451 hrs + 49 hrs = 500 hrs**

Ref.	Description	Materials	Means Reference	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
Road Reconstruction			Number																	
	Culvert Replacement	18" diam Culvert 16	02630 510 2120	34.5	LF	320										FT		320	FT	$11,040
		0	0	0	0	320										FT		320	FT	$0
	Road Materials	Aggregrate Base Co	02720 200 0100	6.8	SY	2300	18	0.5								FT		4600	SY	$31,280

Ref.	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
Rilda Canyon Portal Facilities																				
	Mulch	Mulch										2				Ton/AC				
	Hay only	Hay bale	Reveg007	57.2	/ton					13.1						AC		26.2	tons	$1,499
	Seeding																			
	Material Costs	Rilda Seed	DeerCreek010	830	Acre					13.1						AC		13.1	AC	$10,873
	Labor Costs	Hydro Spreader (equip. & labor) B-81 80MSF/da	Reveg002	19.13	/MSF					13.1						AC		570.6	MSF	$10,916
	200 Transplant per Acr	Rilda Trans 100/AC	DeerCreek011	974	Acre					13.1						AC		26.2	AC	$25,519
		Bare root seedlings, 11" to 16" med. soil	02915 400 0562	1.28	Ea					13.1						AC		2620	EA	$3,354
	Subtotal																			$52,161
	Revegetation Cost																			
	Assume 25%																			$13,040
	Subtotal																			$13,040
	Total																			$65,201