ENERGY WEST MINING COMPANY
A SUBSIDIARY OF PACIFICORP

Incoming
C0150018
#3984
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P.O. Box 310
15 North Main Street
Huntington, Utah 84528

January 26, 2012

Utah Coal Program
Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
P.O. Box 145801
Salt Lake City, Utah 84114-5801

Hand Delivered

Subject: **Clean Copy Submittal for the Conditionally Approved Updated Reclamation Bond, Task ID #3984, PacifiCorp, Deer Creek Mine, C/015/0018, Emery County, Utah**

PacifiCorp, by and through its wholly-owned subsidiary, Energy West Mining Company ("Energy West") as mine operator, hereby submits clean copies of the Deer Creek Mine updated reclamation bond for the Rilda Canyon Portal Facilities.

The reclamation bond estimate amendment includes a revised bond summary for the Deer Creek Mine escalated to 2013. The Division conditionally approved the amendment on January 4, 2012. As required by the January 4, 2012 letter, eight (8) clean copies are enclosed with this submittal. If you have any questions or concerns, please contact myself at (435) 687-4712 or Dennis Oakley at (8015) 220-4607.

Sincerely,

Kenneth S. Fleck

Kenneth Fleck
Geology and Environmental Affairs Manager

Enclosure

Cc: File

File in:
- ☐ Confidential
- ☐ Shelf
- ☒ Expandable

Date Folder 01262012 C 0150018
Incoming

RECEIVED
JAN 26 2012
DIV. OF OIL, GAS & MINING

APPLICATION FOR COAL PERMIT PROCESSING
Detailed Schedule Of Changes to the Mining And Reclamation Plan

Permittee: PacifiCorp
Mine: Deer Creek Mine **Permit Number:** C/015/0018
Title: Clean Copy Submittal for the Deer Creek Mining and Reclamation Permit to Include Updated Bond Estimates for the Rilda Canyon Portal Facilities, PacifiCorp, Deer Creek Mine, C/015/0018, Emery County, Utah.

Provide a detailed listing of all changes to the Mining and Reclamation Plan, which is required as a result of this proposed permit application. Individually list all maps and drawings that are added, replaced, or removed from the plan. Include changes to the table of contents, section of the plan, or other information as needed to specifically locate, identify and revise the existing Mining and Reclamation Plan. Include page, section and drawing number as part of the description.

			DESCRIPTION OF MAP, TEXT, OR MATERIAL TO BE CHANGED
☐ Add	☐ Replace	☒ Remove	Volume 11, R645-301-800, Bonding, remove all bonding information.
☒ Add	☐ Replace	☐ Remove	Volume 11, R645-301-800, Bonding, add reference sheet.
☐ Add	☒ Replace	☐ Remove	Volume 2, Part 4, R645-301-800 Bonding, add cover sheet for reclamation cost estimates.
☒ Add	☐ Replace	☐ Remove	Volume 2, Part 4, R645-301-800 Bonding, replace bond calculation summary sheet.
☐ Add	☐ Replace	☒ Remove	Volume 2, Part 4, R645-301-800, Bonding, remove Rilda Canyon Portal Project bond estimate.
☒ Add	☐ Replace	☐ Remove	Volume 2, Part 4, R645-301-800, Bonding, add divider sheet for the Rilda Canyon Portal Facilities bond estimate
☒ Add	☐ Replace	☐ Remove	Volume 2, Part 4, R645-301-800, Bonding, add new bond estimates for the Rilda Canyon Portal Facilities.
☒ Add	☐ Replace	☐ Remove	Volume 2 Part 4, R645-301-500: Engineering, Maps Section, Add Map 500-6, Deer Creek Mine, Rilda Canyon Portal Facility, Reclamation Mass Balance.
☐ Add	☐ Replace	☐ Remove	
☐ Add	☐ Replace	☐ Remove	
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JAN 26 2012
DIV. OF OIL, GAS & MINING

Any other specific or special instruction required for insertion of this proposal into the Mining and Reclamation Plan.	Received by Oil, Gas & Mining

Form DOGM - C2 (Revised March 12, 2002)

PacifiCorp, Energy West Mining Company

C/015/0018

Clean Copy Submittal for the Deer Creek Mining and Reclamation Permit to Update Bond Estimates for the Rilda Canyon Portal Facilities

Volume 11, R645-301-800, Bonding:

Add reference sheet

Energy West Mining

Rilda Canyon Portal Facilities

Bond Estimate

Refer to Volume 2, Part 4, R645-301-800, Bonding

PacifiCorp, Energy West Mining Company

C/015/0018

Clean Copy Submittal for the Deer Creek Mining and Reclamation Permit to Update Bond Estimates for the Rilda Canyon Portal Facilities

Volume 2, Part 4, R645-301-800, Bonding:

Add cover sheet for reclamation cost estimates

2011

Deer Creek Mine: Reclamation Cost Estimates

Energy West Mining Company

10/27/2011

PacifiCorp, Energy West Mining Company

C/015/0018

Clean Copy Submittal for the Deer Creek Mining and Reclamation Permit to Update Bond Estimates for the Rilda Canyon Portal Facilities

Volume 2, Part 4, R645-301-800, Bonding:

Replace bond calculation summary sheet

Bonding Calculations
Deer Creek Mine - including Rilda Canyon Portal Facilities

Deer Creek Mine Facilities			
Direct Costs (2003 Costs)			
Subtotal Demolition,	$	765,091.00	
Subtotal Backfilling and Grading	$	832,473.00	
Subtotal Revegetation	$	151,781.00	
Direct Costs Total	$	1,749,345.00	
Indirect Costs			
Mob/Demob	$	174,935.00	10.0%
Contingency	$	87,467.00	5.0%
Engineering Redesign	$	43,734.00	2.5%
Main Office Expense	$	118,955.00	6.8%
Project Mainagement Fee	$	43,734.00	2.5%
Indirect Costs Totals	$	468,825.00	26.8%
Total Cost in 2003 Dollars	**$**	**2,218,170.00**	
Escalation factor			2.82%
Number of years			2
Escalation	$	126,869.00	
Deer Creek Mine Facilities Total Reclamation Cost 2005 Dollars	**$**	**2,345,039.00**	1.02%
Deer Creek Mine Facilities Total Reclamation Cost 2008 Dollars	**$**	**2,417,244.45**	1.30%
Deer Creek Mine Facilities Total Reclamation Cost 2011 Dollars	**$**	**2,512,747.84**	
Deer Creek Mine - Rilda Portal Facilities			
Direct Costs Total			
Subtotal Demolition,	$	357,280.00	
Subtotal Earthwork	$	91,473.16	
Subtotal Revegetation	$	15,487.94	
Direct Costs Total	$	464,241.10	
Indirect Costs			
Mob/Demob	$	46,424.11	10.0%
Contingency	$	23,212.05	5.0%
Engineering Redesign	$	11,606.03	2.5%
Main Office Expense	$	31,568.39	6.8%
Project Mainagement Fee	$	11,606.03	2.5%
Indirect Costs Totals	$	124,416.61	26.8%
Rilda Canyon Portal Facilities Total Cost in 2011 Dollars	**$**	**588,657.71**	
Total Deer Creek Mine Complex Reclamation Costs in 2011 Dollars	**$**	**3,101,405.55**	
Escalation factor			1.70%
Number of years			5
Escalation	$	272,736.21	
Reclamation Cost 2016	$	3,374,141.76	
Bond Amount (rounded to nearest $1,000)	**$**	**3,374,000.00**	

PacifiCorp, Energy West Mining Company

C/015/0018

Clean Copy Submittal for the Deer Creek Mining and Reclamation Permit to Update Bond Estimates for the Rilda Canyon Portal Facilities

Volume 11, R645-301-800, Bonding:

Add divider sheet for Rilda Canyon Portal Facilities bond estimate

2011

Rilda Canyon Portal Facility: Reclamation Cost Estimates

Energy West Mining Company

10/27/2011

PacifiCorp, Energy West Mining Company

C/015/0018

Clean Copy Submittal for the Deer Creek Mining and Reclamation Permit to Update Bond Estimates for the Rilda Canyon Portal Facilities

Volume 2, Part 4, R645-301-800, Bonding:

Add new bond estimates for the Rilda Canyon Portal Facility

Bonding Calculations
Deer Creek Mine - Rilda Canyon Portal Facilities

Direct Costs (2011 Dollars)			
Subtotal Demolition	$	357,280.00	
Subtotal Earthwork	$	91,473.16	
Subtotal Revegetation	$	15,487.94	
Subtotal Direct Costs	$	464,241.10	
Indirect Costs			
Mob/Demob	$	46,424.11	10%
Contingency	$	23,212.05	5%
Engineering Redesign	$	11,606.03	2.50%
Main Ofice Expense	$	31,568.39	6.80%
Project Management Fee	$	11,606.03	2.50%
Subtotal Indirect Costs	$	124,416.61	26.8%
Total Costs in 2011 Dollars	**$**	**588,657.71**	
Escalation Factor		1.70%	
Number of Years		2	
Total Costs in 2013 Dollars	$	608,842.20	
Bond Amount (Rounded to nearest $1,000)	**$**	**609,000.00**	

Deer Creek Mine - Rilda Canyon Portal Facilities: C/015/0018

Reclamation Bond Estimates

Demolition

Summary
Demolition

Description	Cost
Mine Ventilation Fan	$46,377
Substation	$7,917
MCC Building	$8,104
Oil and Fuel Storage	$4,012
Fencing	$2,995
Covered Storage Bins	$9,391
Rock Dust Silo	$7,767
Waste and Material Bins	$11,270
Pad and MSE Wall	$165,912
Buried Culverts	$93,535
Total	**$357,280**

Mine Ventilitation Fan

Description	Means Reference Number (2011 Heavy Construction Cost Data)	Equipment	Labor	Quantity (number)	Volume (cy)	Weight (tons)	Time (hr)	Unit	Cost	Total Cost	Ref.
Steel Demolition Cost											
	Foreman Average, Outside		Foreman	1		50	8	hr	$ 71.20	$ 569.60	
	Common Building Labor		CLAB	2			32	hr	$ 52.70	$ 3,372.80	
	01 54 33 60 2720	Crane 100 ton		1			32	hr	$ 206.25	$ 6,600.00	
	Equipment Operator, Crane or Shovel		Eqhv	1			32	hr	$ 69.45	$ 2,222.40	
	N/A	Utility Truck		1			32	hr	$ 8.00	$ 256.00	1
Concrete Demolition Cost					530						2, 3
	Foreman Average, Outside		Foreman	1			5.0	hr	$ 71.20	$ 356.00	
	Common Building Labor		CLAB	2			21.0	hr	$ 52.70	$ 2,213.40	
	01 54 33 20 0200	Excavator - 1.5 CY		1			21.0	hr	$ 118.43	$ 2,487.03	
	Equipment Operator, Medium Equipment		Eqmd	1			21.0	hr	$ 67.75	$ 1,422.75	
	01 54 33 20 0347	Hydraulic Hammer		1			21.0	hr	$ 44.03	$ 924.63	
	01 54 33 20 0200	Excavator - 1.5 CY		1			21.0	hr	$ 118.43	$ 2,487.03	
	01 54 33 20 0342	Bucket Thumb		1			21.0	hr	$ 21.38	$ 448.98	
	Equipment Operator, Medium Equipment		Eqmd	1			21.0	hr	$ 67.75	$ 1,422.75	
	01 54 33 40 0700	Compressor - 1200 CFM		1			21.0	hr	$ 56.67	$ 1,190.07	4
	01 54 33 40 0940	Air tools, breaker, pavement, 60 lb.		1			21.0	hr	$ 1.30	$ 27.30	
	01 54 33 40 1000	Hose w/couplings 50 ft., 1" dia.		4			21.0	hr	$ 1.30	$ 109.20	
	N/A	Utility Truck		1			21.0	hr	$ 8.00	$ 168.00	
Transportation Costs	01 54 33 20 5300	Dump Truck - 3 axle, 12 CY		1			20	hr	$ 63.25	$ 1,265.00	5
	Truck Driver, Light		Drlt	1			20	hr	$ 50.75	$ 1,015.00	
	01 54 33 40 7200	Pickup Truck - 3/4 ton 4x4		1			53	hr	$ 13.08	$ 693.24	
Miscellaneous											
Disposal Fee - Metal	02 41 19 23 0950					50		ton	$ 90.00	$ 4,500.00	
Demolished Concrete Handling					689						6
	01 54 33 20 4760	Loader - 5-1/4 to 5-3/4 CY 290hp		2			34	hr	$ 116.68	$ 7,934.24	7
	Equipment Operator, Medium Equipment		Eqmd	2			34	hr	$ 67.75	$ 4,607.00	
	01 54 33 40 6410	Toilet, portable chemical		1			53	hr	$ 1.60	$ 84.80	
Total										$ 46,377.22	

Reference Information

1 - From Nielson Construction services contract with Energy West Mining - Includes 3/4 ton 4x4 truck, metal tool box, acetylend kit, rack for oxygen and acetylene, 1/2" electric drill, 71/4 " circular saw, 9" grinder.
2 - Concrete rubble disposed of as fill or permanently backfilled inside portals.
3 - Base on a concrete demolition production of 200 cubic yards per 8 hour shift. (Reference: http://www.indeco-breakers.com).
4 - Added 5% for larger size compressor.
5 - For haul of steel demolition material to Nielsen's landfill. Distance is approximately 25.5 miles one-way. Time estimate is 2 hours for one round trip.
6 - A swell factor of 1.3 is used for crushed concrete. Rental cost for 5.5 CY loader is used in place of Wagner scoop for transporting and storing crushed concrete in mine.
7 - Based on haul of 5 CY at 30 min round trip or 2 trips/hour.

Substation and Power Poles

Description	Means Reference Number (2011 Heavy Construction Cost Data)	Equipment	Labor	Quantity (number)	Volume (cy)	Weight (tons)	Time (hr)	Unit	Cost	Total Cost	Ref.
Steel Demolition Cost						5					
	Foreman Average, Outside		Foreman	1			2	hr	$ 71.20	$ 142.40	
	Common Building Labor		CLAB	2			6	hr	$ 52.70	$ 632.40	
	01 54 33 20 0200	Excavator - 1.5 CY		1			6	hr	$ 118.43	$ 710.58	
	Equipment Operator, Medium Equipment		Eqmd	1			6	hr	$ 67.75	$ 406.50	
	N/A	Utility Truck		1			6	hr	$ 8.00	$ 48.00	1
Concrete Demolition Cost					17						2, 3
	Foreman Average, Outside		Foreman	1			1.0	hr	$ 71.20	$ 71.20	
	Common Building Labor		CLAB	2			1.0	hr	$ 52.70	$ 105.40	
	01 54 33 20 0200	Excavator - 1.5 CY		1			1.0	hr	$ 118.43	$ 118.43	
	Equipment Operator, Medium Equipment		Eqmd	1			1.0	hr	$ 67.75	$ 67.75	
	01 54 33 20 0347	Hydraulic Hammer		1			1.0	hr	$ 44.03	$ 44.03	
	01 54 33 20 0200	Excavator - 1.5 CY		1			1.0	hr	$ 118.43	$ 118.43	
	01 54 33 20 0342	Bucket Thumb		1			1.0	hr	$ 21.38	$ 21.38	
	Equipment Operator, Medium Equipment		Eqmd	1			1.0	hr	$ 67.75	$ 67.75	
	01 54 33 40 0700	Compressor - 1200 CFM		1			1.0	hr	$ 56.67	$ 56.67	
	01 54 33 40 0940	Air tools, breaker, pavement, 60 lb		1			1.0	hr	$ 1.30	$ 1.30	
	01 54 33 40 1000	Hose w/couplings 50 ft., 1" dia.		4			1.0	hr	$ 0.51	$ 2.04	
	N/A	Utility Truck		1			1.0	hr	$ 8.00	$ 8.00	
Pole Removal				14		5					
	Foreman Average, Outside		Foreman	1			2	hr	$ 71.20	$ 142.40	
	Common Building Labor		CLAB	2			8	hr	$ 52.70	$ 843.20	
	01 54 33 60 2720	Crane - 100 ton		1			8	hr	$ 206.25	$ 1,650.00	
	Equipment Operator, Heavy Equipment		Eqhv	1			8	hr	$ 69.45	$ 555.60	
Transportation Costs											
	01 54 33 20 5300	Dump Truck - 3 axle, 12 CY		1			2	hr	$ 63.25	$ 126.50	4
	Truck Driver, Light		Drlt	1			2	hr	$ 50.75	$ 101.50	
	01 54 33 40 7300	Tractor - 4x2, 220hp		1			2	hr	$ 34.90	$ 69.80	
	01 54 33 40 6500	Trailer, platform, 2 axle, 25 ton		1			2	hr	$ 13.90	$ 27.80	5
	Truck Driver, Heavy		Drhv	1			2	hr	$ 52.25	$ 104.50	
	01 54 33 40 7200	Truck - Forman and Crew		1			15	hr	$ 13.08	$ 196.20	
Miscellaneous											
Disposal Fee - Metal	02 41 19 23 0950					10		ton	$ 90.00	$ 900.00	
Demolished Concrete Handling					22.1						6
	01 54 33 20 4760	Loader - 5-1/4 to 5-3/4 CY 290hp		2			1.5	hr	$ 116.68	$ 350.04	7
	Equipment Operator, Medium Equipment		Eqmd	2			1.5	hr	$ 67.75	$ 203.25	
	01 54 33 40 6410	Toilet, portable chemical		1			15	hr	$ 1.60	$ 24.00	
Total										$ 7,917.05	

Reference Information

1 - From Nielson Construction services contract with Energy West Mining - Includes 3/4 ton 4x4 truck, metal tool box, acetylend kit, rack for oxygen and acetylene, 1/2" electric drill, 71/4 " circular saw, 9" grinder.
2 - Concrete rubble disposed of as fill or permanently backfilled inside portals.
3 - Base on a concrete demolition production of 200 cubic yards per 8 hour shift. (Reference: http://www.indeco-breakers.com).
4 - For haul of steel demolition material to Nielsen's landfill. Distance is approximately 25.5 miles one-way. Time estimate is 2 hours for one round trip.
5 - Haulage for removed power pole lengths.
6 - A swell factor of 1.3 is used for crushed concrete. Rental cost for 5.5 CY loader is used in place of Wagner scoop for transporting and storing crushed concrete in mine.
7 - Based on haul of 5 CY at 30 min round trip or 2 trips/hour.

MCC Building

Description	Means Reference Number (2011 Heavy Construction Cost Data)	Equipment	Labor	Quantity (number)	Volume (cy)	Weight (tons)	Time (hr)	Unit	Cost	Total Cost	Ref.
Steel Demolition Cost						10					
	Foreman Average, Outside		Foreman	1			4	hr	$ 71.20	$ 284.80	
	Common Building Labor		CLAB	2			16	hr	$ 52.70	$ 1,686.40	
	01 54 33 20 0200	Excavator - 1.5 CY		1			16	hr	$ 118.43	$ 1,894.88	
	Equipment Operator, Medium Equipment	Operator	Eqmd	1			16	hr	$ 67.75	$ 1,084.00	
	N/A	Utility Truck		1			16	hr	$ 8.00	$ 128.00	1
Concrete Demolition Cost					25						2, 3
	Foreman Average, Outside		Foreman	1			1.0	hr	$ 71.20	$ 71.20	
	Common Building Labor		CLAB	2			1.0	hr	$ 52.70	$ 105.40	
	01 54 33 20 0200	Excavator - 1.5 CY		1			1.0	hr	$ 118.43	$ 118.43	
	Equipment Operator, Medium Equipment	Operator	Eqmd	1			1.0	hr	$ 67.75	$ 67.75	
	01 54 33 20 0347	Hydraulic Hammer		1			1.0	hr	$ 44.03	$ 44.03	
	01 54 33 20 0200	Excavator - 1.5 CY		1			1.0	hr	$ 118.43	$ 118.43	
	01 54 33 20 0342	Bucket Thumb		1			1.0	hr	$ 21.38	$ 21.38	
	Equipment Operator, Medium Equipment	Operator	Eqmd	1			1.0	hr	$ 67.75	$ 67.75	
	01 54 33 40 0700	Compressor - 1200 CFM		1			1.0	hr	$ 56.67	$ 56.67	
	01 54 33 40 0940	Air tools, breaker, pavement, 60 lb.		1			1.0	hr	$ 1.30	$ 1.30	
	01 54 33 40 1000	Hose w/couplings 50 ft., 1" dia.		4			1.0	hr	$ 0.51	$ 2.04	
	N/A	Utility Truck		1			1.0	hr	$ 8.00	$ 8.00	
Transportation Costs	01 54 33 20 5300	Dump Truck - 3 axle, 12 CY		1			4	hr	$ 63.25	$ 253.00	4
		Driver	Drlt	1			4	hr	$ 50.75	$ 203.00	
	01 54 33 40 7200	Truck - Forman and Crew		1			17	hr	$ 13.08	$ 222.36	
Miscellaneous											
Disposal Fee - Metal	02 41 19 23 0950					10		ton	$ 90.00	$ 900.00	
Demolished Concrete Handling					32.5						5
	01 54 33 20 4760	Loader - 5-1/4 to 5-3/4 CY 290hp		2			2	hr	$ 116.68	$ 466.72	6
	Equipment Operator, Medium Equipment		Eqmd	2			2	hr	$ 67.75	$ 271.00	
	01 54 33 40 6410	Toilet, portable chemical		1			17		$ 1.60	$ 27.20	
Total										$ 8,103.74	

Reference Information

1 - From Nielson Construction services contract with Energy West Mining - Includes 3/4 ton 4x4 truck, metal tool box, acetylend kit, rack for oxygen and acetylene, 1/2" electric drill, 71/4 " circular saw, 9" grinder.

2 - Concrete rubble disposed of as fill or permanently backfilled inside portals.

3 - Base on a concrete demolition production of 200 cubic yards per 8 hour shift. (Reference: http://www.indeco-breakers.com).

4 - For haul of steel demolition material to Nielsen's landfill. Distance is approximately 25.5 miles one-way. Time estimate is 2 hours for one round trip.

5 - A swell factor of 1.3 is used for crushed concrete. Rental cost for 5.5 CY loader is used in place of Wagner scoop for transporting and storing crushed concrete in mine.

6 - Based on haul of 5 CY at 30 min round trip or 2 trips/hour.

Oil Storage/Fuel Storage

Description	Means Reference Number (2011 Heavy Construction Cost Data)	Equipment	Labor	Quantity (number)	Weight (tons)	Time (hr)	Unit	Cost	Total Cost	Ref.
Steel Demolition Cost					10					
	Foreman Average, Outside		Foreman	1		2	hr	$ 71.20	$ 142.40	
	Common Building Labor		CLAB	2		8	hr	$ 52.70	$ 843.20	
	01 54 33 20 0200	Excavator - 1.5 CY		1		8	hr	$ 118.43	$ 947.44	
	Equipment Operator, Medium Equipment	Operator	Eqmd	1		8	hr	$ 67.75	$ 542.00	
	N/A	Utility Truck		1		8	hr	$ 8.00	$ 64.00	1
Concrete Demolition Cost	Note: Cost for removing pedestal footers and pad is included with pad demolition costs.									2
Transportation Costs	01 54 33 20 5300	Dump Truck - 3 axle, 12 CY		1		4	hr	$ 63.25	$ 253.00	3
		Driver	Drlt	1		4	hr	$ 50.75	$ 203.00	
	01 54 33 40 7200	Truck - Forman and Crew		1		8	hr	$ 13.08	$ 104.64	
Miscellaneous										
Disposal Fee - Metal	02 41 19.23 0950				10		ton	$ 90.00	$ 900.00	
	01 54 33 40 6410	Toilet, portable chemical		1		8	hr	$ 1.60	$ 12.80	
Total									$ 4,012.48	

Reference Information

1 - From Nielson Construction services contract with Energy West Mining - Includes 3/4 ton 4x4 truck, metal tool box, acetylend kit, rack for oxygen and acetylene, 1/2" electric drill, 71/4 " circular saw, 9" grinder.

2 - Concrete rubble disposed of as fill or permanently backfilled inside portals.

3 - For haul of steel demolition material to Nielsen's landfill. Distance is approximately 25.5 miles one-way. Time estimate is 2 hours for one round trip.

Fences

Description	Means Reference Number (2011 Heavy Construction Cost Data)	Equipment	Labor	Quantity (number)	Length (ft)	Weight (tons)	Time (hr)	Unit	Cost	Total Cost	Ref.
Steel Demolition Cost					365	5					
	Foreman Average, Outside		Foreman	1			2	hr	$ 71.20	$ 142.40	
	Common Building Labor		CLAB	2			8	hr	$ 52.70	$ 843.20	
	01 54 33 20 0470	Back-hoe, 112hp		1			8	hr	$ 76.00	$ 608.00	
	Equipment Operator, Light Equipment	Operator	Eqlt	1			8	hr	$ 67.75	$ 542.00	
	N/A	Utility Truck		1			8	hr	$ 8.00	$ 64.00	
Concrete Demolition Cost	N/A										
Transportation Costs											
	01 54 33 20 5300	Dump Truck - 3 axle, 12 CY		1			2	hr	$ 63.25	$ 126.50	1
		Driver	Drlt	1			2	hr	$ 50.75	$ 101.50	
	01 54 33 40 7200	Truck - Forman and Crew		1			8	hr	$ 13.08	$ 104.64	
Miscellaneous											
Disposal Fee - Metal	02 41 19.23 0950					5		ton	$ 90.00	$ 450.00	
	01 54 33 40 6410	Toilet, portable chemical		1			8	hr	$ 1.60	$ 12.80	
Total										$ 2,995.04	

Reference Information

1 - For haul of steel demolition material to Nielsen's landfill. Distance is approximately 25.5 miles one-way. Time estimate is 2 hours for one round trip.

Covered Storage

Description	Means Reference Number (2011 Heavy Construction Cost Data)	Equipment	Labor	Quantity (number)	Weight (tons)	Time (hr)	Unit	Cost	Total Cost	Ref.
Steel Demolition Cost					15					
	Foreman Average, Outside		Foreman	1		6	hr	$ 71.20	$ 427.20	
	Common Building Labor		CLAB	2		24	hr	$ 52.70	$ 2,529.60	
	01 54 33 20 4760	Loader - 5.5 CY		1		24	hr	$ 116.68	$ 2,800.32	
	Equipment Operator, Medium Equipment		Eqmd	1		24	hr	$ 67.75	$ 1,626.00	
	N/A	Utility Truck		1		24	hr	$ 8.00	$ 192.00	1
Concrete Demolition Cost	N/A									
Transportation Costs										2
	01 54 33 20 5300	Dump Truck - 3 axle, 12 CY		1		6	hr	$ 63.25	$ 63.25	
		Driver	Drlt	1		6	hr	$ 50.75	$ 50.75	
	01 54 33 40 7200	Truck - Forman and Crew		1		24	hr	$ 13.08	$ 313.92	
Miscellaneous										
Disposal Fee - Metal	02 41 19.23 0950				15		ton	$ 90.00	$ 1,350.00	
	01 54 33 40 6410	Toilet, portable chemical		1		24	hr	$ 1.60	$ 38.40	
Total									$ 9,391.44	

Reference Information

1 - From Nielson Construction services contract with Energy West Mining - Includes 3/4 ton 4x4 truck, metal tool box, acetylend kit, rack for oxygen and acetylene, 1/2" electric drill, 71/4 " circular saw, 9" grinder.

2 - For haul of steel demolition material to Nielsen's landfill. Distance is approximately 25.5 miles one-way. Time estimate is 2 hours for one round trip.

Rock Dust Silo

Description	Means Reference Number (2011 Heavy Construction Cost Data)	Equipment	Labor	Quantity (number)	Volume (cy)	Weight (tons)	Time (hr)	Unit	Cost	Total Cost	Ref.
Steel Demolition Cost						15					
	Foreman Average, Outside		Foreman	1			2	hr	$ 71.20	$ 142.40	
	Common Building Labor		CLAB	2			8	hr	$ 52.70	$ 843.20	
	01 54 33 60 2720	Crane - 100 ton		1			8	hr	$ 206.25	$ 1,650.00	
	Equipment Operator, Crane or Shovel		Eqhv	1			8	hr	$ 69.45	$ 555.60	
	N/A	Utility Truck		1			8	hr	$ 8.00	$ 64.00	1
Concrete Demolition Cost					18.5						2, 3
	Foreman Average, Outside		Foreman	1			1.0	hr	$ 71.20	$ 71.20	
	Common Building Labor		CLAB	2			1.5	hr	$ 52.70	$ 155.99	
	01 54 33 20 0200	Excavator - 1.5 CY		1			1.5	hr	$ 118.43	$ 118.43	
	Equipment Operator, Medium Equipment		Eqmd	1			1.5	hr	$ 67.75	$ 67.75	
	01 54 33 20 0347	Hydraulic Hammer		1			1.5	hr	$ 44.03	$ 44.03	
	01 54 33 20 0200	Excavator - 1.5 CY		1			1.5	hr	$ 118.43	$ 118.43	
	Equipment Operator, Medium Equipment		Eqmd	1			1.5	hr	$ 67.75	$ 67.75	
	01 54 33 40 0700	Compressor - 1200 CFM		1			1.5	hr	$ 56.67	$ 83.87	
	01 54 33 40 0940	Air tools, breaker, pavement, 60 lb.		1			1.5	hr	$ 1.30	$ 1.92	
	01 54 33 40 1000	Hose w/couplings 50 ft., 1" dia.		4			1.5	hr	$ 0.51	$ 3.02	
	N/A	Utility Truck		1			1.5	hr	$ 8.00	$ 11.84	
Transportation Costs											4
	01 54 33 40 7300	Tractor - 4x2, 220hp		1			14	hr	$ 34.90	$ 488.60	
	01 54 33 40 6500	Trailer, platform, 2 axle, 25 ton		1			14	hr	$ 13.90	$ 194.60	
	Truck Driver, Heavy			1			14	hr	$ 52.25	$ 731.50	
	01 54 33 40 7200	Truck - Forman and Crew		1			8	hr	$ 13.08	$ 104.64	
Miscellaneous											
Disposal Fee - Metal	02 41 19.23 0950					15		ton	$ 90.00	$ 1,350.00	
Demolished Concrete Handling					24.1						5
	01 54 33 20 4760	Loader - 5-1/4 to 5-3/4 CY 290hp		2			2.4	hr	$ 116.68	$ 560.06	6
	Equipment Operator, Medium Equipment		Eqmd	2			2.4	hr	$ 67.75	$ 325.20	
	01 54 33 40 6410	Toilet, portable chemical		1			8	hr	$ 1.60	$ 12.80	
Total										$ 7,766.84	

Reference Information

1 - From Nielson Construction services contract with Energy West Mining - Includes 3/4 ton 4x4 truck, metal tool box, acetylend kit, rack for oxygen and acetylene, 1/2" electric drill, 71/4 " circular saw, 9" grinder.

2 - Concrete rubble disposed of as fill or permanently backfilled inside portals.

3 - Base on a concrete demolition production of 200 cubic yards per 8 hour shift. (Reference: http://www.indeco-breakers.com).

4 - For haul of steel demolition material to Nielsen's landfill. Distance is approximately 25.5 miles one-way. Time estimate is 2 hours for one round trip.

5 - A swell factor of 1.3 is used for crushed concrete. Rental cost for 5.5 CY loader is used in place of Wagner scoop for transporting and storing crushed concrete in mine.

6 - Based on haul of 5 CY at 30 min round trip or 2 trips/hour.

Waste and Material Bins

Description	Means Reference Number (2011 Heavy Construction Cost Data)	Equipment	Labor	Quantity (number)	Volume (cy)	Length (ft)	Weight (tons)	Time (hr)	Unit	Cost	Total Cost	Ref.
Steel Demolition Cost							15					
	Foreman Average, Outside		Foreman	1				2	hr	$ 71.20	$ 142.40	
	Common Building Labor		CLAB	2				8	hr	$ 52.70	$ 843.20	
	01 54 33 60 2720	Crane - 100 ton		1				8	hr	$ 206.25	$ 1,650.00	
	Equipment Operator, Crane or Shovel		Eqhv	1				8	hr	$ 69.45	$ 555.60	
	N/A	Utility Truck		1				8	hr	$ 8.00	$ 64.00	1
Concrete Demolition Cost					122	411						2, 3
	Foreman Average, Outside		Foreman	1				2	hr	$ 71.20	$ 142.40	
	Common Building Labor		CLAB	3				9.8	hr	$ 52.70	$ 1,543.06	
	01 54 33 20 0200	Excavator - 1.5 CY		1				9.8	hr	$ 118.43	$ 118.43	
	Equipment Operator, Medium Equipment		Eqmd	1				9.8	hr	$ 67.75	$ 67.75	
	01 54 33 20 0347	Hydraulic Hammer		1				9.8	hr	$ 44.03	$ 44.03	
	01 54 33 20 0200	Excavator - 1.5 CY		1				9.8	hr	$ 118.43	$ 118.43	
	Equipment Operator, Medium Equipment		Eqmd	1				9.8	hr	$ 67.75	$ 67.75	
	01 54 33 40 0700	Compressor - 1200 CFM		1				9.8	hr	$ 56.67	$ 553.10	
	01 54 33 40 0940	Air tools, breaker, pavement, 60 lb.		1				9.8	hr	$ 1.30	$ 12.69	
	01 54 33 40 1000	Hose w/couplings 50 ft., 1" dia.		4				9.8	hr	$ 0.51	$ 19.91	
	N/A	Utility Truck		1				9.8	hr	$ 8.00	$ 78.08	
Transportation Costs												4
	01 54 33 20 5300	Dump Truck - 3 axle, 12 CY		1				6	hr	$ 63.25	$ 379.50	
		Driver	Drlt	1				6	hr	$ 50.75	$ 304.50	
	01 54 33 40 7200	Truck - Forman and Crew		1				18	hr	$ 13.08	$ 235.44	
Miscellaneous												
Disposal Fee - Metal	02 41 19 23 0950						15		ton	$ 90.00	$ 1,350.00	
Demolished Concrete Handling					158.6							5
	01 54 33 20 4760	Loader - 5-1/4 to 5-3/4 CY 290hp		2				8	hr	$ 116.68	$ 1,866.88	6
	Equipment Operator, Medium Equipment		Eqmd	2				8	hr	$ 67.75	$ 1,084.00	
	01 54 33 40 6410	Toilet, portable chemical		1				18	hr	$ 1.60	$ 28.80	
Total											$11,269.94	

Reference Information

1 - From Nielson Construction services contract with Energy West Mining - Includes 3/4 ton 4x4 truck, metal tool box, acetylend kit, rack for oxygen and acetylene, 1/2" electric drill, 71/4 " circular saw, 9" grinder.
2 - Concrete rubble disposed of as fill or permanently backfilled inside portals.
3 - Base on a concrete demolition production of 200 cubic yards per 8 hour shift. (Reference: http://www.indeco-breakers.com). Reduce to 100 cy/day for vertical demolition
4 - For haul of steel demolition material to Nielsen's landfill. Distance is approximately 25.5 miles one-way. Time estimate is 2 hours for one round trip.
5 - A swell factor of 1.3 is used for crushed concrete. Rental cost for 5.5 CY loader is used in place of Wagner scoop for transporting and storing crushed concrete in mine.
6 - Based on haul of 5 CY at 30 min round trip or 2 trips/hour.
7 - Substitute 100kw diesel generator for augcillary ventilation fan.

Pad and MSE Wall

Description	Means Reference Number (2011 Heavy Construction Cost Data)	Equipment	Labor	Quantity (number)	Volume (cy)	Weight (tons)	Time (hr)	Unit	Cost	Total Cost	Ref.
Steel Demolition Cost	N/A										
Concrete Demolition Cost					2230						2, 3
	Foreman Average, Outside		Foreman	1			22	hr	$ 71.20	$ 1,566.40	
	Common Building Labor		CLAB	3			89	hr	$ 52.70	$ 14,102.52	
	01 54 33 20 0200	Excavator - 1.5 CY		1			89	hr	$ 118.43	$ 10,563.96	
	Equipment Operator, Medium Equipment		Eqmd	1			89	hr	$ 67.75	$ 6,043.30	
	01 54 33 20 0347	Hydraulic Hammer		1			89	hr	$ 44.03	$ 3,927.48	
	01 54 33 20 0200	Excavator - 1.5 CY		1			89	hr	$ 118.43	$ 10,563.96	
	Equipment Operator, Medium Equipment		Eqmd	1			89	hr	$ 67.75	$ 6,043.30	
	01 54 33 40 0700	Compressor - 1200 CFM		1			89	hr	$ 56.67	$ 5,054.96	
	01 54 33 40 0940	Air tools, breaker, pavement, 60 lb.		1			89	hr	$ 1.30	$ 115.96	
	01 54 33 40 1000	Hose w/couplings 50 ft., 1" dia.		4			89	hr	$ 0.51	$ 181.97	
	N/A	Utility Truck		1			89	hr	$ 8.00	$ 713.60	1
Asphalt Demolition					65	87.75					
Access Road	Foreman Average, Outside		Foreman	1			2	hr	$ 71.20	$ 142.40	
	Common Building Labor		CLAB	1			8	hr	$ 52.70	$ 421.60	
	01 54 33 20 4760	Loader - 5.5 CY		1			8	hr	$ 116.68	$ 933.44	
	Truck Driver, Light		Drlt	3			8	hr	$ 50.75	$ 1,218.00	
MSE Wall						5					
	Foreman Average, Outside		Foreman	1			10	hr	$ 71.20	$ 712.00	
	Common Building Labor		CLAB	4			67.5	hr	$ 52.70	$ 14,229.00	
	01 54 33 20 4310	Dozer - 300hp		1			67.5	hr	$ 200.88	$ 13,559.40	
	Equipment Operator, Medium Equipment		Eqmd	1			67.5	hr	$ 67.75	$ 4,573.13	
	01 54 33 20 0200	Excavator - 1.5 CY		1			67.5	hr	$ 118.43	$ 7,994.03	
	Equipment Operator, Medium Equipment		Eqmd	1			67.5	hr	$ 67.75	$ 4,573.13	
Transportation Costs											4
	01 54 33 40 7300	Tractor - 4x2, 220hp		1			4	hr	$ 34.90	$ 139.60	
	01 54 33 40 6500	Trailer, platform, 2 axle, 25 ton		1			4	hr	$ 13.90	$ 55.60	
	Truck Driver, Heavy			1			4	hr	$ 52.25	$ 209.00	
	Equipment Operator, Medium Equipment		Eqmd	1			8	hr	$ 52.25	$ 418.00	
	01 54 33 20 5300	Dump Truck - 3 axle, 12 CY		3			8	hr	$ 63.25	$ 1,518.00	
	01 54 33 40 7200	Truck - Forman and Crew		1			165	hr	$ 13.08	$ 2,151.66	
Miscellaneous											
Disposal Fee	02 41 19.23 0950					5		ton	$ 90.00	$ 450.00	
Demolished Concrete Handling					2899						5
	01 54 33 20 4760	Loader - 5-1/4 to 5-3/4 CY 290hp		2			145	hr	$ 116.68	$ 33,825.53	6
	Equipment Operator, Medium Equipment		Eqmd	2			145	hr	$ 67.75	$ 19,647.50	
	01 54 33 40 6410	Toilet, portable chemical		1			165	hr	$ 1.60	$ 263.20	
Total										$165,911.61	

Reference Information

1 - From Nielson Construction services contract with Energy West Mining - Includes 3/4 ton 4x4 truck, metal tool box, acetylend kit, rack for oxygen and acetylene, 1/2" electric drill, 71/4 " circular saw, 9" grinder.

2 - Concrete rubble disposed of as fill or permanently backfilled inside portals. CY total based on an area of 80,275 sf by 9" thick concrete.

3 - Base on a concrete demolition production of 200 cubic yards per 8 hour shift. (Reference: http://www.indeco-breakers.com).

4 - For haul of steel demolition material to Nielsen's landfill. Distance is approximately 25.5 miles one-way. Time estimate is 2 hours for one round trip.

5 - A swell factor of 1.3 is used for crushed concrete. Rental cost for 5.5 CY loader is used in place of Wagner scoop for transporting and storing crushed concrete in mine.

6 - Based on haul of 5 CY at 30 min round trip or 2 trips/hour.

Buried Culverts

Description	Means Reference Number (2011 Heavy Construction Cost Data)	Equipment	Labor	Quantity (number)	Volume (cy)	Length (ft)	Weight (tons)	Time (hr)	Unit	Cost	Total Cost	Ref.
Steel Demolition Cost	N/A											
Concrete Demolition Cost												
					15.5							1, 2
	Foreman Average, Outside		Foreman	1				2	hr	$ 71.20	$ 142.40	
	Common Building Labor		CLAB	1				7.0	hr	$ 52.70	$ 368.90	
	01 54 33 20 0200	Excavator - 1.5 CY		1				7.0	hr	$ 118.43	$ 118.43	
	Equipment Operator, Medium Equipment		Eqmd	1				7.0	hr	$ 67.75	$ 67.75	
	01 54 33 40 5800	Chain Saw 18"		1				7.0	hr	$ 10.00	$ 70.00	
	01 54 33 20 4760	Loader 5.5 CY		1				1.0	hr	$ 116.68	$ 116.68	
	Equipment Operator, Medium Equipment		Eqmd	1				1.0	hr	$ 67.75	$ 67.75	
	N/A	Utility Truck		1				7.0	hr	$ 8.00	$ 56.00	3
Excavation of Culverts						2711	64.4					4
	Foreman Average, Outside		Foreman	1				40	hr	$ 71.20	$ 2,848.00	
	Common Building Labor		CLAB	2				161	hr	$ 52.70	$ 16,969.40	
	01 54 33 20 0200	Excavator - 1.5 CY		2				161	hr	$ 118.43	$ 38,134.46	
	Equipment Operator, Medium Equipment			2				161	hr	$ 67.75	$ 21,815.50	
	01 54 33 40 5800	Chain Saw 18"		1				161	hr	$ 10.00	$ 1,610.00	
	N/A	Utility Truck		1				161	hr	$ 8.00	$ 1,288.00	3
Transportation Costs												5
	01 54 33 40 7300	Tractor - 4x2, 220hp		1				14	hr	$ 34.90	$ 488.60	
	01 54 33 40 6500	Trailer, platform, 2 axle, 25 ton		1				14	hr	$ 13.90	$ 194.60	
	Truck Driver, Heavy			1				14	hr	$ 52.25	$ 731.50	
	01 54 33 40 7200	Truck - Forman and Crew		1				168	hr	$ 13.08	$ 2,197.44	
Miscellaneous												
Disposal Fee	02 41 19 23 0950						64.4		ton	$ 90.00	$ 5,796.00	
Demolished Concrete Handling					20.15							6
	01 54 33 20 4760	Loader - 5-1/4 to 5-3/4 CY 290hp		1				1	hr	$ 116.68	$ 116.68	7
	Equipment Operator, Medium Equipment		Eqmd	1				1	hr	$ 67.75	$ 67.75	
	01 54 33 40 6410	Toilet, portable chemical		1				168	hr	$ 1.60	$ 268.80	
Total											$ 93,534.64	

Reference Information

1 - Concrete rubble disposed of as fill or permanently backfilled inside portals.
2 - Costs base on a full excavation of each of the manhole assemblies and transport of rubble to portal area.
3 - From Nielson Construction services contract with Energy West Mining - Includes 3/4 ton 4x4 truck, metal tool box, acetylend kit, rack for oxygen and acetylene, 1/2" electric drill, 71/4 " circular saw, 9" grinder.
4 - Two excavators are used to excavate and remove pipe. One for trenching (productivity = 135ft/day) and one for lifting pipe out of trench onto truck flatbed.
5 - For haul of pipe demolition material to Nielsen's landfill. Distance is approximately 25.5 miles one-way. Time estimate is 2 hours for one round trip.
6 - Rental cost for 5.5 CY loader is used in place of Wagner scoop for transporting and storing crushed concrete in mine.
7 - Based on haul of 1 unit at 30 min round trip or 2 trips/hour.

Wage and Equipment Rates
Ref. - RSMeans Heavy Construction Data Handbook - 2011

Wage Rates	Abbrv.	Hourly Rate (includes O&P)
Foreman Average, Outside	Foreman	$ 71.20
Common Building Labor	CLAB	$ 52.70
Equipment Operator, Crane or Shovel	Eqhv	$ 69.45
Equipment Operator, Medium Equipment	Eqmd	$ 67.75
Equipment Operator, Light Equipment	Eqlt	$ 65.15
Truck Driver, Light	Trlt	$ 50.75
Truck Driver, Heavy	Trhv	$ 52.25

Equipment Rental Rates - Means Code	Description	Hourly Rate (includes O&P)
01 54 33 20 0200	Excavator - 1.5 CY	$ 118.43
01 54 33 20 0300	Excavator - 2.0 CY	$ 153.00
01 54 33 20 0320	Excavator - 2.5 CY	$ 201.63
01 54 33 20 0342	Bucket Thumb	$ 21.38
01 54 33 20 0347	Hydraulic Hammer	$ 44.03
01 54 33 20 1930	Grader 55,000 lbs.	$ 162.88
01 54 33 20 3300	Sheepsfoot Vibratory Roller	$ 136.75
01 54 33 20 3350	Smooth Drum Vibratory Roller	$ 62.35
01 54 33 20 3525	Scraper - selp prop single 14 CY	$ 189.00
01 54 33 20 3550	Scraper - selp prop duale 21 CY	$ 234.00
01 54 33 20 3600	Scraper - selp prop duale 31 CY	$ 347.13
01 54 33 20 4310	Dozer - 300hp	$ 200.88
01 54 33 20 4360	Dozer - 410hp	$ 263.13
01 54 33 20 4760	Loader - 5.5 CY	$ 116.68
01 54 33 20 4810	Loader - 8 CY	$ 226.38
01 54 33 20 5300	Dump Truck - 3 axle, 12 CY	$ 63.25
01 54 33 20 5310	Dump Truck - 4 axle, 18 CY	$ 82.60
01 54 33 40 0460	Back-hoe 80hp	$ 43.68
01 54 33 40 0470	Back-hoe 112hp	$ 76.00
01 54 33 40 0700	Compressor - 1200 CFM	$ 56.67
01 54 33 40 0940	Air tools, breaker, pavement, 60 lb.	$ 1.30
01 54 33 40 1000	Hose w/couplings 50 ft., 1" dia.	$ 0.51
01 54 33 40 5800	Chain Saw, 18"	$ 10.00
01 54 33 40 7200	Pickup Truck - 3/4 ton 4x4	$ 13.08
01 54 33 40 6500	Trailer, platform, flush deck, 2 axle, 25 ton	$ 13.90
01 54 33 40 6950	Water Truck, Off-Highway 6000 gal.	$ 128.75
01 54 33 40 7290	Flat Bed Truck	$ 23.75
01 54 33 40 7300	Tractor, 4x2, 220hp	$ 34.90
01 54 33 60 2720	Crane - 100 ton	$ 206.25
01 54 33 50 2200	Hydromulcher 3000 gal	$ 34.75
Equipment Mobilization	**up to 50 miles RT**	**RT Cost each**
01 54 36.50 0020	Equipment - 70 to 150hp	$ 233.00
01 54 36.50 0100	Equipment - over 150hp	$ 425.00
01 54 36.50 0600	Scraper - Self propelled 24 CY	$ 640.00
01 54 36.50 2100	Crane - over 75 ton	$ 440.00

Miscellaneous	Description	Cost / ton
02 41 19.23 0950	Disposal Fee	$ 90.00
01 54 33 40 6410	Toilet, portable chemical	$ 1.60
01 54 33 40 2700*	Portable ventilation fan	$ 41.13

*Substitute for portable ventilation fan

Deer Creek Mine - Rilda Canyon Portal Facilities: C/015/0018

Reclamation Bond Estimates

Earthwork

Summary
Earthwork

Description	Cost
Backfilling and Grading	$25,483
Topsoil	$51,675
Road Rebuild	$14,316
Total	**$91,473**

Earthwork - Subsoil

	Equipment Cost/day	Operator's Hourly Wage Rate[A]	Hourly Cost[A]	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	Quantity (BCY)	Quantity (LCY)	Units	Production Rate	Units	Equipment Time	Units	Cost Col G * Col N
Earthwork Summary Rilda Canyon Backfilling and Grading														
D11R Semi-U [1]	$ 4,150.00	$ 67.75	$ 330.88	1	$ 330.88	$/HR								
Fill Area #1														
Fill Area #2							10791	14028	CY	437	LCY/hr	33.00	HR	$ 10,919.04
Fill Area #4							315.5	410	CY	2420	LCY/hr	1.00	HR	$ 330.88
							7075	9198	CY	2535	LCY/hr	4.00	HR	$ 1,323.52
Excavator 2.5 cy [2]	$ 1,613.00	$ 67.75	$ 269.38	1	$ 269.38	$/HR								
Cut Area #3														
							1364	1773	CY	224.1	LCY/hr	8.00	HR	$ 2,155.04
Truck Haul to Fill Area #3 [3]	$ 506.00	$ 52.25	$ 115.50	2	$ 231.00	$/HR	(Time of Excavator usage dictates truck/dozer usage)					8.00	HR	$ 1,848.00
D11R Semi-U	$ 4,150.00	$ 67.75	$ 330.88	1	$ 330.88							8.00	HR	$ 2,647.04
Truck	$ 104.60		$ 13.08	1	$ 13.08	$/HR						33.00	HR	$ 431.64
CLAB			$ 52.70	2	$ 105.40	$/HR						33.00	HR	$ 3,478.20
Foreman Average, Outside			$ 71.20	1	71.2	$/HR						33.00	HR	$ 2,349.60
Total														**$ 25,482.96**

[A] RSMeans Heavy Construction Cost Data 2011 - Refer to Wage and Rate Sheet

General Information for Earthwork Calculations

General Productivity Information
Material Weight*

Use 50% rock/50% earth - 2900 LCY/cf, 3850 BCY/cf, LF = 0.75, Swell Factor = 1.3

[1] **Dozer Correction Factors****

operator =	0.75	
material =	0.9	
slot dozing =	1.2	
efficiency =	0.83	

Grade***

Fill Area #1 - Avg. dist = 285', Elevation difference = 45', grade = +15.9%	0.65
Fill Area #2 - Avg. dist = 75', Elevation difference = 0, grade = 0%	0
Fill Area #3 - Avg. dist = 535', Truck/Track-hoe operation	
Fill Area #4 = Avg. dist = 110', Elevation difference = 25', grade = -22.7%	1.45

Dozing Production****

Use CAT Model D11R w/Semi-Universal Blade

Uncorrected Dozing Production			Corrected Dozing Production		
	Area #1 =	1000		Area #1 =	437 LCY/hr
	Area #2 =	3600		Area #2 =	2420 LCY/hr
	Area #4 =	2600		Area #4 =	2535 LCY/hr

*Refer to Catillpiller Performance Handbook Edition 31, page 28-4
**Refer to Catillpiller Performance Handbook Edition 31, page 1-45
***Refer to Plate 500-6, Rilda Canyon, Reclamation Mass Balance
****Uncorrected production based on the graph in Caterpillar Performance Handbook Edition 31, page 1-43

[2] **Excavator Correction Factors**

Production*

efficiency =	0.83
cycle time =	20
load factor =	60%

Uncorrected Production*			Corrected Production	
	Cut Area #3	270		224.1 LCY/hr

*Refer to Catillpiller Performance Handbook Edition 31, page 5-159

[3] **Truck Haul**

Use Three axle dump, 16 ton , 12cy payload

Earthwork - Topsoil

	Equipment Cost/day	Operator's Hourly Wage Rate[A]	Hourly Cost[A]	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	Quantity (BCY)	Quantity (LCY)	Units	Production Rate	Units	Equipment Time	Units	Cost Col G * Col N
Earthwork Summary Rilda Canyon														
Topsoil							7,862.00	10,220.60	CY					
Excavator 2.5 cy		$ 67.75	$ 269.38	1	$ 269.38	$/HR				224.1	LCY/hr	46	HR	$ 12,391.48
Truck Haul to topsoiling areas		$ 52.25	$ 115.50	3	$ 346.50	$/HR						46	HR	$ 15,939.00
Dozer		$ 67.75	$ 330.88	1	$ 330.88	$/HR						46	HR	$ 15,220.48
Pick Up Truck		$ 13.08		1	$ 13.08	$/HR								
CLAB			$ 52.70	2	$ 105.40	$/HR						46	HR	$ 4,848.40
Foreman Average, Outside			$ 71.20	1	71.2	$/HR						46	HR	3275.2
Total														**$ 51,674.56**

[A] RSMeans Heavy Construction Cost Data 2011 - Refer to Wage and Rate Sheet

County Road Rebuild

	Equipment Cost/day	Operator's Hourly Wage Rate[A]	Hourly Cost[A]	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	Quantity (BCY)	Quantity (LCY)	Units	Production Rate	Units	Equipment Time	Units	Cost Col G * Col N
Road Rebuild Summary Rilda Canyon														
Road Rebuild														
Grader*	$ 1,303.00	$ 67.75	$ 230.63	1	$ 230.63	$/HR				120,278	sqft/hr	2	HR	$ 461.26
Front-End Loader**	$ 1,811.00	$ 67.75	$ 294.13	1	$ 294.13	$/HR	950	1,235.00		0.1333	hr/trip	22	HR	$ 6,470.86
Sheepsfoot Vib. Roller***	$ 1,094.00	$ 67.75	$ 204.50	1	$ 204.50	$/HR						2	HR	$ 409.00
Smooth Drum Roller****	$ 498.80	$ 67.75	$ 130.10	1	$ 130.10							2	HR	$ 260.20
5,000 gal H2O truck Diesel*****	$ 1,030.00	$ 52.25	$ 181.00	1	$ 181.00	$/HR						2	HR	$ 362.00
Pick Up******	$ 104.60		$ 13.08	1	$ 13.08	$/HR						24	HR	$ 313.92
CLAB[A]			$ 52.70	2	$ 105.40	$/HR						24	HR	$ 2,529.60
Surveyor/Grade Setter*******					$ 1,800.00	$/Day				1	Day			$ 1,800.00
Foreman Average, Outside[A]			$ 71.20	1	$ 71.20	$/HR						24	HR	$ 1,708.80
Total														**$ 14,315.64**

[A] RSMeans Heavy Construction Cost Data 2011 - Refer to Wage and Rate Sheet

[1] **Road Rebuild**

Grader Productivity

*Refer to RSMeans Heavy Construction Cost Data (2011) 01 54 33 1930 pg 479

Area to grade - Sta. 0+00 to Sta. 12+00, road width 28' = 33,600 sq. ft., 8" road base (4 lifts), 2 lifts sub-grade grading = 33,600 x 6 = **201,600 sq. ft.**

Effective blade width = 8.7', allow for 2' overlap

Average Speed** = 1/2 heavy blading and 1/2 finish blading = 4.25 mph

Efficiency = 0.8

= 4.25 x(8.7' - 2') x 5280' x .8 = **120,278 sq. ft./hr**

201,600/120,2 1.7 Hours

Front End Loader Productivity**

**Refer to RSMeans Heavy Construction Cost Data (2011) 01 54 33 4810 pg 481

Job efficiency = 0.83

Bucket Fill Factor = 0.9 (Bucket volume is 8.33 cy) = 7.5

Cycle Time = 8 min/trip

Volume of roadbase to move 950 bcy = 1,235 lcy

1,235 cy/7.5 cy x 0.1333 hr/tr **22 Hours**

***Sheepsfoot Vibratory Roller — Give same time as Grader

****Smooth Drum Roller — Give same time as Grader

*****Water Tuck — Give same time as Grader

******Truck — Total cost based on 3 days use

*******Surveyor/Grade Setter — Assume 3 man crew can stake road in one day

Deer Creek Mine - Rilda Canyon Portal Facilities: C/015/0018

Reclamation Bond Estimates

Revegetation

Pocking	Equipment Rental (hr) (Includes O & P)[A]	Operator's Hourly Wage Rate A	Material Cost	Labor Hourly Cost [A]	Number	Area (AC)	Quantity	Units	Production Rate	Units	Time	Units	Cost
Volume						5.4		AC					
Excavator, 2 CY	$ 153.00	$ 67.75			1		1836.0	CY	340	CY/AC			
Subtotal									180	CY/HR	10.2	HR	$2,252
													$2,252
Seeding/Planting													
Seed													
Sagebrush/Grass Mix*			$ 528.50	$ 52.70		1.5	1.67	lbs	1	Acre/HR	1.5		$ 607.55
Pinyon/Juniper Mix*			$ 1,163.00	$ 52.70		4	19.4	lbs	1	Acre/HR	4		$ 1,373.80
White Fir/Aspen Mix*			$ 335.94	$ 52.70		1.5	16.4	lbs	1	Acre/HR	1.5		$ 414.99
Seedlings													
White Fir**			1.59	$ 52.70	1		1080	Trees	470	Trees/Day	18.4	HR	$ 2,685.98
Quaken Aspen**			1.59	$ 52.70	1		1080	Trees	470	Trees/Day	18.4	HR	$ 2,685.98
Blue Spruce**			1.59	$ 52.70	1		1080	Trees	470	Trees/Day	18.4	HR	$ 2,685.98
Subtotal													**$ 10,454.29**
Mulching													
Hay									0.67	AC/HR			
Hay Quantity***							2000	LBS/AC					$ 540.00
Mulcher, Diesel powered	$ 34.75				1						8	HR	$ 278.00
Flat Bed Truck	$ 23.75	$ 50.75			1						8	HR	$ 596.00
CLAB				$ 52.70	2						8	HR	$ 843.20
Hydromulch									0.67	AC/HR			
Truck 4 x 2, 220hp	$ 34.90	$ 52.25			1						8	HR	$ 697.20
Hydromulcher, 3000 gal	$ 34.75	$ 67.75			1						8	HR	$ 820.00
CLAB				$ 52.70	3						8	HR	$ 1,264.80
Subtotal													**$ 2,782.00**
Total													**$ 15,487.94**

* Seedmix prices based on Stevenson Intermountain Seed Prices quoted in February 2011. See attached.

** Seedling tree prices based on Lone Peak Conservation Nursery (now contracted to High Mountain Nursery) Prices in February 2011 (http://www.highmtnnursery.com/servlet/StoreFront).

*** Cost of Hay is based on local prices of $100/ton (Personal Communication).

[A] RSMeans Heavy Construction Cost Data 2011 - Refer to Wage and Rate Sheet

Pinyon-Juniper/Mountain Brush Seed Mixture - 4 Acres				
Common Name	**Scientific Name**	**Lbs/Acre Equivalent PLS***	**Price PLS/lb**	**Seed Cost for Acreage**
Grasses				
Bluebunch Wheatgrass	Agropyron spicatum	2	$ 5.50	$ 44.00
Sandberg Bluegrass	Poa secunda	1	$ 4.50	$ 18.00
Great Basin Wild Rye	Leymus cinereus	2	$ 5.00	$ 40.00
Indian Ricegrass	Oryzopsis hymenoides var. Paloma	1	$ 9.50	$ 38.00
Western Wheatgrass	Agropyron smithii var. Rosanna	3	$ 2.75	$ 33.00
Forbes				
Blueleaf Aster	Aster glaucodes	0.25	$ 90.00	$ 90.00
Blue Flax	Linum lewisii	0.25	$ 6.00	$ 6.00
Louisiana Sage	Artemisia ludoviciana	0.2	$ 75.00	$ 60.00
Northern Sweetvetch	Hedysarum boreale	1	$ 55.00	$ 220.00
Palmer Penstemon	Penstemon palmeri	0.5	$ 12.00	$ 24.00
Shrubs				
Snowberry	Symphoricarpus oreophilus	0.5	$ 44.00	$ 88.00
Curleaf Mahogany	Cercocarpus ledifolius	1	$ 26.00	$ 104.00
Fourwing Saltbush	Atriplex canescens	2	$ 9.75	$ 78.00
Saskatoon Serviceberry	Amelanchier alnifolia	1	$ 42.00	$ 168.00
True Mountain Mahogany	Cercocarpus montanus	1	$ 38.00	$ 152.00
		Subtotal		**$ 1,163.00**

Sagebrush/Grass Seed Mixture - 1.25 Acres				
Common Name	**Scientific Name**	**Lbs/Acre Equivalent PLS***	**Price PLS/lb**	**Seed Cost for Acreage**
Grasses				
Salina Wildrye	Elymus salinus	2	$ 35.00	$ 87.50
Needle and Thread Grass	Stipa comata	3	$ 33.00	$ 123.75
Sandberg Bluegrass	Poa secunda	2	$ 4.50	$ 11.25
Indian Ricegrass	Oryzopsis hymenoides var. Paloma	3	$ 9.50	$ 35.63
Western Wheatgrass	Agropyron smithii var. Rosanna	2	$ 2.75	$ 6.88
Forbes				
Blueleaf Aster	Aster glaucodes	0.5	$ 90.00	$ 56.25
Blue Flax	Linum lewisii	1	$ 6.00	$ 7.50
Louisiana Sage	Artemisia ludoviciana	0.2	$ 75.00	$ 18.75
Northern Sweetvetch	Hedysarum boreale	1	$ 55.00	$ 68.75
Palmer Penstemon	Penstemon palmeri	0.5	$ 12.00	$ 7.50
Shrubs				
Bitterbrush	Purshia tridentate	1	$ 11.50	$ 14.38
Fourwing Saltbush	Atriplex canescens	2	$ 9.75	$ 24.38
Snowberry	Symphoricarpos oreophilus	1.2	$ 44.00	$ 66.00
		Subtotal		**$ 528.50**

White Fir/Aspen Seed Mixture - 1.25 Acres				
Common Name	**Scientific Name**	**Lbs/Acre Equivalent PLS***	**Price PLS/lb**	**Seed Cost for Acreage**
Grasses				
Bluebunch Wheatgrass	Agropyron spicatum	1	$ 5.50	$ 6.88
Indian Ricegrass	Oryzopisi hymenoides var. Paloma	2	$ 9.50	$ 23.75
Western Wheatgrass	Agropyron smithii var. Rosanna	3	$ 2.75	$ 10.31
Kentucky Bluegrass	Poa pretenses	1	$ 2.00	$ 2.50
Mountain Brome	Bromus marginatus	2	$ 1.75	$ 4.38
Slender Wheatgrass	Elymus trachycaulus ssp. trachycaulus	2	$ 1.75	$ 4.38
Forbs				
Louisiana Sage	Artemisia ludoviciana	0.2	$ 75.00	$ 18.75
Northern Sweetvetch	Hedysarum boreale	1	$ 55.00	$ 68.75
Pacific Aster	Aster chilensis	0.2	$ 90.00	$ 22.50
Rocky Mountain Penstemon	Penstemon strictus	1	$ 18.00	$ 22.50
Silky Lupine	Lupinus sericeus	1	$ 44.00	$ 55.00
Shrubs				
Snowberry	Symphoricarpos oreophilus	1	$ 44.00	$ 55.00
Saskatoon Serviceberry	Amelanchier alnifolia	0.5	$ 42.00	$ 26.25
Skunkbush Sumac	Rhus trilobata	0.5	$ 24.00	$ 15.00
		Subtotal		**$ 335.94**
		Total		**$ 2,027.44**

Note: Total seeding cost includes an area of 6.5 acres. The remaining area consists of the reconstructed Emery County road.

* Seedmix prices based on Stevenson Intermountain Seed Prices quoted in February 2011. See attached.

PacifiCorp, Energy West Mining Company

C/015/0018

Clean Copy Submittal for the Deer Creek Mining and Reclamation Permit to Update Bond Estimates for the Rilda Canyon Portal Facilities

Volume 2, Part 4, R645-301-500, Engineering, Maps:

Add Map 500-6, Rilda Canyon Portal Facilities, Reclamation Mass Balance