

041/002 Incoming



#4398  
K

**Sufco Mine**  
Kenneth E. May  
General Manager  
597 South SR24  
Salina, Utah 84654  
(435) 286-4400  
Fax (435) 286-4499

August 23, 2013

Permit Supervisor  
Utah Coal Regulatory Program  
Utah Division of Oil, Gas and Mining  
1594 West North Temple, Suite 1210  
PO Box 145801  
Salt Lake City, UT 84114-5801

Re: Asphalt Paving of the Mine Site Upper Yard

Dear Sirs:

Please find enclosed with this letter an amendment to the Sufco Mine Permit to revise the text in Chapters 5 and 7, update the reclamation bond and to add detail drawing associated with the paving of the Mine Site Upper Yard. We have included three redline/strike out copies of the text and three copies of the appendices for this amendment.

We are planning to re-pave a portion of the upper yard and pave another portion of the upper yard. Concrete gutters and inlet boxes/drop drains will be placed in the new pavement (See Appendix 5-11). No new drainage area has been added to that which is currently permitted and approved. The surface runoff will be directed into existing culverts which report to the sediment pond for treatment. The greater part of the runoff from the area will be directly placed into existing culverts, however on the west side an inlet box/drop drain will route the runoff through a concrete wall to the surface below. All runoff for the upper and lower mine yard is treated by sediment controls and ultimately the sediment pond.

The new portion of the yard to receive pavement has been included in the reclamation bond calculations. The removal and disposal of the concrete gutters and inlet boxes has also been accounted for in the bond revisions. In addition, repairs to the steam cleaner building wall and the permitted change to the lower substation have been included in the revised bond.

If you have questions or need addition information please contact Vicky Miller at (435)286-4481.

CANYON FUEL COMPANY  
SUFco Mine

John Byars  
Technical Services Manager

Encl.

cc: DOGM Correspondence File

File in:  
 Confidential  
 Shelf  
 Expandable  
Date Folder 082613 C/ 0410002  
Incoming

RECEIVED  
AUG 26 2013  
DIV. OF OIL, GAS & MINING

# APPLICATION FOR COAL PERMIT PROCESSING

Permit Change  New Permit  Renewal  Exploration  Bond Release  Transfer

**Permittee:** Canyon Fuel Company, LLC

**Mine:** Sufco Mine

**Permit Number:** C/041/0002

**Title:** Amendment to the M&RP to Address the Paving of the Mine Site Upper Yard

**Description,** Include reason for application and timing required to implement:

**Instructions:** If you answer yes to any of the first eight (gray) questions, this application may require Public Notice publication.

- Yes  No 1. Change in the size of the Permit Area? Acres: \_\_\_\_\_ Disturbed Area: \_\_\_\_\_  increase  decrease.
- Yes  No 2. Is the application submitted as a result of a Division Order? DO# \_\_\_\_\_
- Yes  No 3. Does the application include operations outside a previously identified Cumulative Hydrologic Impact Area?
- Yes  No 4. Does the application include operations in hydrologic basins other than as currently approved?
- Yes  No 5. Does the application result from cancellation, reduction or increase of insurance or reclamation bond?
- Yes  No 6. Does the application require or include public notice publication?
- Yes  No 7. Does the application require or include ownership, control, right-of-entry, or compliance information?
- Yes  No 8. Is proposed activity within 100 feet of a public road or cemetery or 300 feet of an occupied dwelling?
- Yes  No 9. Is the application submitted as a result of a Violation? NOV # \_\_\_\_\_
- Yes  No 10. Is the application submitted as a result of other laws or regulations or policies?  
*Explain:* \_\_\_\_\_
- Yes  No 11. Does the application affect the surface landowner or change the post mining land use?
- Yes  No 12. Does the application require or include underground design or mine sequence and timing? (Modification of R2P2)
- Yes  No 13. Does the application require or include collection and reporting of any baseline information?
- Yes  No 14. Could the application have any effect on wildlife or vegetation outside the current disturbed area?
- Yes  No 15. Does the application require or include soil removal, storage or placement?
- Yes  No 16. Does the application require or include vegetation monitoring, removal or revegetation activities?
- Yes  No 17. Does the application require or include construction, modification, or removal of surface facilities?
- Yes  No 18. Does the application require or include water monitoring, sediment or drainage control measures?
- Yes  No 19. Does the application require or include certified designs, maps or calculation?
- Yes  No 20. Does the application require or include subsidence control or monitoring?
- Yes  No 21. Have reclamation costs for bonding been provided?
- Yes  No 22. Does the application involve a perennial stream, a stream buffer zone or discharges to a stream?
- Yes  No 23. Does the application affect permits issued by other agencies or permits issued to other entities?

**Please attach four (4) review copies of the application. If the mine is on or adjacent to Forest Service land please submit five (5) copies, thank you.** (These numbers include a copy for the Price Field Office)

I hereby certify that I am a responsible official of the applicant and that the information contained in this application is true and correct to the best of my information and belief in all respects with the laws of Utah in reference to commitments, undertakings, and obligations, herein.

John D. Bayers  
Print Name

J.D. Bayers, Tech Serv mgr. 8-23-13  
Sign Name, Position, Date

Subscribed and sworn to before me this 23<sup>rd</sup> day of August, 2013

Jill White  
Notary Public

My commission Expires: 3/28, 2016 }  
Attest: State of Utah } ss:  
County of Sevier



<b>For Office Use Only:</b>    	<b>Assigned Tracking Number:</b>   	<b>Received by Oil, Gas &amp; Mining</b>  <div style="font-size: 2em; color: red; font-weight: bold;">RECEIVED</div> <div style="font-size: 1.5em; font-weight: bold;">AUG 26 2013</div> <div style="font-size: 0.8em; color: red; font-weight: bold;">DIV OF OIL, GAS &amp; MINING</div>
---	--	---



**CHAPTER 5**  
**ENGINEERING**

**LIST OF APPENDICES**  
(Appendices appear in Volume 6)

- 5-4 USFS Report Regarding Subsidence Tension Cracks
- 5-5 Experimental Coal Mining Program Approval
- 5-6 Leach Field Permit
- 5-7 Slope Stability Analysis
- 5-8 Access Road Stability Evaluation - Dames & Moore, 1981
- 5-9 Reclamation Bond Estimate
- 5-10 West Lease Portals Construction and Bonding Details
- 5-11 Upper Mine Yard Details

The decant devices for the three sedimentation ponds consist of an inverted section of 12-inch diameter iron pipe connected to iron pipe at the primary sediment pond, an inverted section of 24-inch CMP pipe connected to an 18-inch pipe at the overflow pond and an inverted section of 12-inch CMP connected to 12-inch CMP pipe at the Waste Rock Disposal Site. Outflow from the decant devices is controlled by locked gate valves. Keys to the locks are maintained at the mine office. Details of the design of these decant devices are provided in Chapter 7.

Inspections of the sedimentation ponds are conducted on a quarterly basis (see Section 5.1.4.3). Maintenance that is required to keep the ponds in good working condition is performed as soon as practical following discovery of a maintenance need.

Sediment is removed from the ponds when it accumulates to 60 percent of the design sediment storage volume. This removed sediment is disposed of in the waste-rock disposal area.

#### **5.3.4 Roads**

##### **5.3.4.1 Location, Design, Construction, Reconstruction, Use, Maintenance, and Reclamation**

**Control of Damage to Public or Private Property.** All roads used by SUFCO Mine were designed in accordance with applicable county, UDOT, and U.S. Forest Service standards. By designing according to these standards, damage to public or private property has been minimized.

**Road Surfacing.** The surface of the mine access road consists of asphalt with a rock-chip wear surface (see Section 5.2.7.2). All ancillary roads are unimproved dirt roads. No acid- or toxic-forming materials have been used in the road surfaces.

Appendix 5-11 contains design drawing and information pertaining to the paving of an area in the upper mine yard and the repair and re-paving of the area between the shop/warehouse and the ambulance garage/Dodge Shop/steam bay/dog house and re-paving of an area behind the shop/warehouse building. The areas to be paved will also have three segments of concrete ditch with drop drains. The

drop drains will direct surface runoff into existing culverts, which discharge water into the sediment pond for treatment.

A fourth drop drain located in the left hand corner of the site plan drawing (Appendix 5-11) will collect water and direct the water through a drain pipe, inserted through a concrete wall to the lower yard . The water will proceed per the permitted drainage plan, through the yard to the sediment pond.

**Slope Stability.** The stability of the mine access road embankment has been evaluated where the road enters the permit area. Results of this evaluation are presented in Appendix 5-8. This analysis indicates that the access road embankment has a minimum safety factor of 1.7 under static conditions. This value exceeds the safety factor of 1.3 required by R645-301-534.130.

An evaluation of the stability of the sedimentation-pond access road embankment is presented in Appendix 5-8. This evaluation indicates that the minimum static safety factor of the sedimentation-pond road embankment is 1.7. This value also exceeds the safety factor of 1.3 required by R645-301-534.130.

All other roads in the lease area are owned and maintained by the U.S. Forest Service. No stability problems have been noted on these roads.

#### **5.3.4.2 Environmental Protection and Safety**

Safety and environmental protection were primary concerns during the design and reconstruction of the mine access road and construction of the sedimentation-pond access road. The grade, width, and surface materials used for the roads were selected to be appropriate for the planned duration and use of the roads.

#### **5.3.4.3 Primary Roads**

**General.** The only primary road (outside of the disturbed area boundary) used or maintained by SUFSCO Mine is the mine access road. The extension of this primary road within the disturbed area boundary is know as the truck loop road. This road was designed and constructed in consultation with

#### **5.4.2.8 Estimated Cost of Reclamation**

The estimated cost to reclaim the SUFCO Mine surface facilities is provided in Appendix 5-9. The paving project for the upper mine yard has been included in the reclamation bond.

APPENDIX 5-9

Reclamation Bond Estimate

Bonding Calculations

Direct Costs

Subtotal Demolition and Removal	\$1,240,609.50
Subtotal Backfilling and Grading	\$548,005.00
Subtotal Revegetation	\$171,967.00
Direct Costs	\$1,960,581.50

Indirect Costs

Mob/Demob	\$196,058.00	10.0%
Contingency	\$98,029.00	5.0%
Engineering Redesign	\$49,015.00	2.5%
Main Office Expense	\$133,320.00	6.8%
Project Mainagement Fee	\$49,015.00	2.5%
Subtotal Indirect Costs	\$525,437.00	26.8%

Total Cost \$2,486,018.50

Escalation factor		0.012
Number of years		5
Escalation	\$152,784.00	

Reclamation Cost Escalated \$2,638,802.50

Bond Amount (rounded to nearest \$1,000)  
2016 Dollars \$2,639,000.00

Posted Bond \$2,874,000.00

Difference Between Cost Estimate and Bond \$235,000.00  
Percent Difference 8.18%

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	
	Ambulance Garage																				\$2,564.00
	Belt Deicer Tank																				\$13.00
	Blast Channels A																				\$143,211.00
	Blast Channels B																				\$53,486.00
	Bulk and Used Oil Storage																				\$1,516.00
	Cap Magazine																				\$22.00
	Chromium Bid																				\$18.00
	Covered Storage*																				\$0.00
	Diesel Tank																				\$965.00
	Drainage Culverts																				\$25,423.00
	Electrical Bid																				\$602.00
	Fan																				\$8,435.50
	Fire Water Tank 300000 Gal																				\$11,126.00
	Fuel Dock																				\$628.00
	Guard House																				\$448.00
	Loadout Belt																				\$2,583.00
	Lower Stacker Coal Storage																				\$2,148.00
	Lump Coal Belt																				\$533.00
	Lump Coal Storage																				\$2,156.00
	No 1 Belt																				\$3,163.00
	Office Building																				\$67,377.00
	Pavement Removal																				\$35,857.50
	Powder Magazine																				\$22.00
	Pulley Racks *																				\$0.00
	Pump Houses																				\$972.00
	Riprap Filter Fabric																				\$259,566.00
	Rock Dust Bin																				\$3,557.00
	ROM Coal Storage																				\$21,138.00
	ROM MCC Bin																				\$1,022.00
	Sampler Building																				\$891.00
	Sand and Salt Storage																				\$2,865.00
	Seal Portals																				\$62,400.00
	Sediment Trap																				\$1,533.00
	Septic Tanks																				\$0.00
	Shelves *																				\$0.00
	Shop and Warehouse																				\$157,104.00
	Shop Garage																				\$11,941.00
	Shop Office																				\$2,322.00
	Side Release Tank																				\$161.00
	Steam Cleaner Building																				\$7,747.00
	Stoker Belt																				\$1,104.00
	Stoker Bin																				\$6,755.00
	Stoker Coal Storage																				\$3,127.00
	Stoker Oil Tanks																				\$1,530.00
	Storage Trailers																				\$1,296.00
	Substation Lower*																				\$19,848.00
	Substation Upper*																				\$0.00
	Ticket Printers																				\$69.00
	Tipple Building																				\$36,194.00
	Tipple MCC Building																				\$2,759.00
	Tipple Office Building																				\$3,161.00
	Transfer Building																				\$10,303.00
	Trash Pit																				\$542.00
	Truck Loader Bin																				\$1,885.00
	Truck Scale																				\$36,352.00
	Water Tank Upper																				\$0.00
	Water Tank Lower																				\$0.00
	West Lease Tunnels & Belt																				\$83,424.00
	Yard Hoist																				\$945.50
	Northwater Mitigation																				\$4,117.00
	Link Canyon Facilities																				\$8,042.00
	Link Canyon Portals																				\$39,150.00
	Link Canyon Substation																				\$0.00
	Fourth East Facilities																				\$0.00
	Fan Generator Building																				\$2,581.00
	Four East Fan																				\$16,066.00
	Mine 1 Pad																				\$5,301.00
																					\$2,000.00

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	
	Drainage Culverts																				
	42" Mud Spring Canyon CMP removal																				
	42" Culvert Excavate	Excavation Bulk Bank 2 CY (322BL)	02315 424 0260	1.76 /CY	/CY	445	3.5	7													
	42" Culvert Backfill	Backfill Trench Minimal Haul 2 1/4 CY	02315 610 3080	1.98 /CY	/CY	445	3.5	7													711
																					800
	72" East Spring Canyon CMP																				
	72" Culvert Excavate	Excavation Bulk Bank 2 CY (322BL)	02315 424 0260	1.76 /CY	/CY	1554	6	12													7293
	72" Culvert Backfill	Backfill Trench Minimal Haul 2 1/4 CY	02315 610 3080	1.98 /CY	/CY	1554	6	12													8205
	48" East Spring Canyon CMP																				
	48" Culvert Excavate	Excavation Bulk Bank 2 CY (322BL)	02315 424 0260	1.76 /CY	/CY	505	4	8													1054
	48" Culvert Backfill	Backfill Trench Minimal Haul 2 1/4 CY	02315 610 3080	1.98 /CY	/CY	505	4	8													1186
	24" East Spring Canyon CMP																				
	24" Culvert Excavate	Excavation Bulk Bank 2 CY (322BL)	02315 424 0260	1.76 /CY	/CY	250	2	4													130
	24" Culvert Backfill	Backfill Trench Minimal Haul 2 1/4 CY	02315 610 3080	1.98 /CY	/CY	250	2	4													147
	66" East Spring Canyon Contech Pipe																				
	66" Culvert Excavate	Excavation Bulk Bank 2 CY (322BL)	02315 424 0260	1.76 /CY	/CY	340	5.5	4													488
	66" Culvert Backfill	Backfill Trench Minimal Haul 2 1/4 CY	02315 610 3080	1.98 /CY	/CY	340	5.5	4													548
	18" CMP Sediment Pond Diversion																				
	18" Culvert Excavate	Excavation Bulk Bank 2 CY (322BL)	02315 424 0260	1.76 /CY	/CY	1300	2	4													678
	18" Culvert Backfill	Backfill Trench Minimal Haul 2 1/4 CY	02315 610 3080	1.98 /CY	/CY	1300	2	4													762
	6" ADS Sediment Pond Diversion																				
	6" Culvert Excavate	Excavation Bulk Bank 2 CY (322BL)	02315 424 0260	1.76 /CY	/CY	230	2	4													120
	6" Culvert Backfill	Backfill Trench Minimal Haul 2 1/4 CY	02315 610 3080	1.98 /CY	/CY	230	2	4													135
	Upper Yard Paving & Drainage																				
	Culvert Excavation	Excavation Bulk Bank 2 CY (322BL)	02315 424 0260	1.76 /CY	/CY	75	2	4													39
	Culvert Backfill	Backfill Trench Minimal Haul 2 1/4 CY	02315 610 3080	1.98 /CY	/CY	75	2	4													44
	Backfill ROM 84" Escapeway CMP	Backfill Trench Minimal Haul 2 1/4 CY	02315 610 3080	1.98 /CY	/CY						108										214
	Backfill Concrete Reclaim Tunnel	Backfill Trench Minimal Haul 2 1/4 CY	02315 610 3080	1.98 /CY	/CY						600										1188
	<b>Subtotal</b>																				<b>23742</b>
	Concrete Demolition	Concrete demolition	ConcreteDemo1	11.38 /CY	/CY						55.9										671
	Concrete's Vol. Demolished																				1.3
	Loading Cost	Front end loader 3 CY	02315 424 1300	1.06 /CY	/CY																82
	Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. md. tri	02315 490 0320	2.9 /CY	/CY																223
	Disposal Costs	On site disposal	02220 240 5550	9.15 /CY	/CY																705
	<b>Subtotal</b>																				<b>1681</b>
	Concrete Demolition																				
	Demolition Cost																				
	Concrete's Vol. Demolished																				
	Loading Cost																				
	Transportation Cost																				
	Disposal Costs																				
	<b>Subtotal</b>																				
	<b>Total</b>																				<b>25423</b>

Page 12 of 67

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	
	Pavement Removal																				
	Loading Dock																				
	Demolition Cost (Asphalt)	Concrete demolition	ConcreteDemo1	3.97 /CY	CY						15										60
	Vol. Demolished			1.39 /CY																	28
	Loading Cost	Front end loader 3 CY	02315 424 1300	3.44 /CY																	69
	Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. md. trl	02315 490 0320	7.6 /CY																	152
	Disposal Costs	On site disposal	02220 240 5550																		309
	<b>Subtotal</b>																				730
	Pavement in Front of Shop																				
	Demolition Cost (Asphalt)	Concrete demolition	ConcreteDemo1	3.97 /CY	CY						184										730
	Vol. Demolished			1.39 /CY																	332
	Loading Cost	Front end loader 3 CY	02315 424 1300	3.44 /CY																	822
	Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. md. trl	02315 490 0320	7.6 /CY																	1816
	Disposal Costs	On site disposal	02220 240 5550																		3700
	<b>Subtotal</b>																				564
	Pavement in Front of Office																				
	Demolition Cost (Asphalt)	Concrete demolition	ConcreteDemo1	3.97 /CY	CY						142										564
	Vol. Demolished			1.39 /CY																	257
	Loading Cost	Front end loader 3 CY	02315 424 1300	3.44 /CY																	636
	Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. md. trl	02315 490 0320	7.6 /CY																	1406
	Disposal Costs	On site disposal	02220 240 5550																		2863
	<b>Subtotal</b>																				1854
	Pavement in Front of Office																				
	Demolition Cost (Asphalt)	Concrete demolition	ConcreteDemo1	3.97 /CY	CY						467										1854
	Vol. Demolished			1.39 /CY																	844
	Loading Cost	Front end loader 3 CY	02315 424 1300	3.44 /CY																	2088
	Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. md. trl	02315 490 0320	7.6 /CY																	4613
	Disposal Costs	On site disposal	02220 240 5550																		9399
	<b>Subtotal</b>																				2414
	Roadway Paving																				
	Demolition Cost (Asphalt)	Concrete demolition	ConcreteDemo1	3.97 /CY	CY						608										1098
	Vol. Demolished			1.39 /CY																	2718
	Loading Cost	Front end loader 3 CY	02315 424 1300	3.44 /CY																	6004
	Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. md. trl	02315 490 0320	7.6 /CY																	12234
	Disposal Costs	On site disposal	02220 240 5550																		
	<b>Subtotal</b>																				127
	Fuel Dock Paving																				
	Demolition Cost (Asphalt)	Concrete demolition	ConcreteDemo1	3.97 /CY	CY						32										2644
	Vol. Demolished			1.39 /CY																	1204
	Loading Cost	Front end loader 3 CY	02315 424 1300	3.44 /CY																	2979
	Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. md. trl	02315 490 0320	7.6 /CY																	6582
	Disposal Costs	On site disposal	02220 240 5550																		13409
	<b>Subtotal</b>																				401
	Upper Yard Gutter																				
	Demolition Cost (Concrete)	Concrete demolition	ConcreteDemo1	3.97 /CY	CY						101										182
	Concrete's Vol. Demolished			1.39 /CY																	451
	Loading Cost	Front end loader 3 CY	02315 424 1300	3.44 /CY																	996
	Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. md. trl	02315 490 0320	7.6 /CY																	2030
	Disposal Costs	On site disposal	02220 240 5550																		
	<b>Subtotal</b>																				35857.5
	<b>Total</b>																				

Page 23

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	
	Steam Cleaner Building																				
	Structure's Demolition Cost	Masonry Bld. Large	02220 110 0080	0.21 /CF	CF						18848						0.35	18848 CF		39558	
	Structure's Vol. Demolished																	244 CY			
	Rubble's Weight (exclude steel)																				
	Truck's Capacity																				
	Haulage																				
	Transportation Cost Non Steel Truck																				
	Transportation Cost Non Steel Drive																				
	Disposal Cost Non Steel	On site disposal	02220 240 5550	7.6 /CY	CY														244 CY		1854
	Steel's Weight																				
	Truck's Capacity																				
	Haulage																				
	Transportation Cost Steel Truck																				
	Transportation Cost Steel Truck Drive																				
	Disposal Cost Steel																				
	<b>Subtotal</b>																				5812
	Equipment 's Disposal Cost																				
	Dismantling Cost																				
	Equipment 's Vol. Demolished																				
	Loading Costs																				
	Transport Costs																				
	Disposal Costs																				
	<b>Subtotal</b>																				
	Concrete Demolition																				
	Demolition Cost	Concrete demolition	ConcreteDemo1	3.97 /CY	CY						96										381
	Concrete's Vol. Demolished																				
	Loading Cost	Front end loader 3 CY	02315 424 1300	1.39 /CY	CY																174
	Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. md trl	02315 480 0320	3.44 /CY	CY																430
	Disposal Costs	On site disposal	02220 240 5550	7.6 /CY	CY																850
	<b>Subtotal</b>																				1895
	Concrete Demolition																				
	Demolition Cost																				
	Concrete's Vol. Demolished																				
	Loading Cost																				
	Transportation Cost																				
	Disposal Costs																				
	<b>Subtotal</b>																				
	Concrete Demolition																				
	Demolition Cost																				
	Concrete's Vol. Demolished																				
	Loading Cost																				
	Transportation Cost																				
	Disposal Costs																				
	<b>Subtotal</b>																				
	<b>Total</b>																				7747

Page 41

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	
	Substation Lower*																				
	Structure's Demolition Cost	Mechanical equipment heavy	15055 300 3600	805 /ton	ton							61				61 ton				49105	
	Structure's Vol. Demolished																				
	Rubble's Weight (exclude steel)																				
	Truck's Capacity																				
	Haulage																				
	Transportation Cost Non Steel Truck																				
	Transportation Cost Non Steel Drive																				
	Disposal Cost Non Steel																				
	Steel's Weight																				
	Truck's Capacity																				
	Haulage																				
	Transportation Cost Steel Truck	Truck dump 16 ton payload	01590 200 5300	435.96 /day	day										3	ton					
	Transportation Cost Steel Truck Drive	Truck Driver, Heavy	Tfhv	\$42.00 /HR	HR																
	Disposal Cost Steel																				
	<b>Subtotal</b>																				49877
	Equipment's Disposal Cost																				
	Dismantling Cost																				
	Equipment's Vol. Demolished																				
	Loading Costs																				
	Transport Costs																				
	Disposal Costs																				
	<b>Subtotal</b>																				
	Concrete Demolition																				
	Demolition Cost	Excavation Bulk Bank 2 CY (322BL)	02315 424 0260	1.7 /CY	CY						61										104
	Concrete's Vol. Demolished																				
	Loading Cost	Front end loader, 3 CY	02315 424 1300	1.39 /CY	CY																110
	Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rmd. trn	02315 490 0320	3.44 /CY	CY																272
	Disposal Costs	On site disposal	02220 240 5550	7.6 /CY	CY																600
	<b>Subtotal</b>																				1086
	Excavation																				
	Excavate Blinwall																				
	Excavate	Excavation Bulk Bank 2 CY (322BL)	02315 424 0260	1.7 /CY	CY						11846										20138
	Vol. To be Disposed										299										
	Loading Cost	Front end loader, 3 CY	02315 424 1300	1.39 /CY	CY																416
	Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rmd. trn	02315 490 0320	3.44 /CY	CY																1029
	Disposal Costs	On site disposal	02220 240 5550	7.6 /CY	CY																2272
	<b>Subtotal</b>																				23855
	Concrete Demolition-Retaining Wall																				
	Demolition Cost	Concrete demolition	ConcreteDemo1	3.97 /CY	CY						60.5										242
	Concrete's Vol. Demolished																				
	Loading Cost	Front end loader, 3 CY	02315 424 1300	1.39 /CY	CY																110
	Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rmd. trn	02315 490 0320	3.44 /CY	CY																272
	Disposal Costs	On site disposal	02220 240 5550	7.6 /CY	CY																600
	<b>Subtotal</b>																				1224
	Concrete Demolition-Generator Building																				
	Demolition Cost	Concrete demolition	ConcreteDemo1	11.38 /CY	CY						134.1										1525
	Concrete's Vol. Demolished																				
	Loading Cost	Front end loader, 3 CY	02315 424 1300	1.06 /CY	CY																184
	Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rmd. trn	02315 490 0320	2.9 /CY	CY																505
	Disposal Costs	On site disposal	02220 240 5550	9.15 /CY	CY																1582
	<b>Subtotal</b>																				3806
	<b>Total</b>																				79848

\* Upper Substation was removed in the fall of 2005 when the main mine portal under it collapsed. Transformers and electrical switch gear were moved and reinstalled on the lower pad area and Lower Substation in 2006.

Page 47

APPENDIX 5-11

Upper Mine Yard Details

**CHAPTER 7**  
**HYDROLOGY**

## 7.40 Design Criteria and Plans

### 7.4.1 General Requirements

This M&RP includes site-specific plans that incorporate minimum design criteria for the control of drainage from disturbed and undisturbed areas.

### 7.4.2 Sediment Control Measures

#### 7.4.2.1 General Requirements

**Design.** Existing sediment control measures have been designed, constructed and maintained to provide the following:

- Prevent additional contributions of sediment to stream flow or to runoff outside the permit area.
- Meet the effluent limitations defined in Section 7.5.1.
- Minimize erosion to the extent possible.

Appendix 5-11 contains design drawings and information pertaining to the paving of an area in the upper mine yard and the repair/re-paving of an adjacent area. The areas to be paved will have three segments of concrete gutter with drip drains/inlet boxes and a fourth drop drain/inlet box in the asphalt to collect and direct runoff to the lower mine yard.

**Measures and Methods.** The sediment control measures at the mine include practices carried out within and adjacent to the disturbed area. Sediment control methods include:

- Retention of sediment within the disturbed area;
- Diversion of runoff away from the disturbed area;
- Diversion of runoff using channels or culverts through disturbed areas to prevent additional erosion;
- Cut and fill slopes within the disturbed area will be revegetated with a quick growing vegetative cover (standard seed mix in section 3.4.1.2 minus the shrubs and trees) to provide interim reclamation and stability of the slopes during mining.

- The leach field in Convulsion Canyon. The sediment control consists of containment berms and silt fencing. The area is fenced to prevent grazing. The disturbed area is 0.40 acre.
- The new substation pad disturbed area is 0.287 acre. The sediment controls include gravel and silt fences.
- The 4 East portal site consists of a pad area where a mine fan has been built. The disturbed area associated with the two portal openings at this site is 0.70 acre. Alternate sediment control at this pad consists of a containment berm, gravel and silt fencing.
- The Link Canyon Substation No. 1 facility disturbed area is 0.18 acre. This substation pad area was reclaimed in 2000. The sediment control consists of containment berms, silt fencing, and vegetation.
- The Link Canyon Substation No. 2 facility disturbed area is 0.12 acre. The sediment control consists of containment berms, gravel and silt fencing.
- The Link Canyon Portal facility disturbed area is 0.18 acre. The sediment control consists of containment berms, gravel and silt fencing.

The total area for Alternate Sediment Control Areas (ASCA) is ~~3.437~~4.167 acres. This is approximately ~~12.1~~13.6 percent of ~~29.924~~ 30.454 acres of total disturbed area at the mine site, Link Canyon Portal and Substation No. 1 and No. 2 facility sites, and waste rock disposal site (including ASCA's and SAE's).

The upper yard concrete gutters and inlet boxes/drop drains will direct surface runoff into existing culverts, which discharge water into the sediment pond(s) for treatment. There will be no additional runoff introduced into the designed drainage system with the paving of the upper yard area. Refer to Appendix 5-11 for details of the gutters and inlet boxes.

#### 7.4.2.2 Siltation Structures

**General Requirements.** Additional contributions of suspended solids and sediment to stream flow or runoff outside the permit area are being prevented to the extent possible using various siltation structures.

The existing siltation structures for the main facilities area, the concrete sediment trap and primary sedimentation pond, were not constructed before beginning coal mining operations. The structures