COLORADO
Division of Reclamation, Mining and Safety
Department of Natural Resources

1313 Sherman Street, Room 215
Denver, CO 80203

September 30, 2016

Tony Tennyson
Colowyo Coal Company L.P.
5731 State Highway 13
Meeker, CO 81641

RE: Neilson Pit, Permit No. M-2007-026, Technical Revision (TR-1) Approval

Dear Mr. Neilson:

On September 30, 2016 the Division of Reclamation, Mining and Safety (Division) approved the Technical Revision request (TR-2) submitted on September 7, 2016, addressing the following:

Update reclamation plan and provide bond calculation figures

The terms of the TR-2 approved by the Division are hereby incorporated into Permit No. M-2007-026. All other conditions and requirements of the permit remain in full force and effect.

In an effort to ensure the Financial Warranty adequately, reflects the actual current cost of fulfilling the requirements of the approved reclamation plan the Division has updated the reclamation cost estimate. Enclosed is a copy of the Division's calculations for your records.

If you require additional information, or have questions or concerns, please feel free to contact me. Amy Yeldell at the Division of Reclamation, Mining and Safety, 1313 Sherman St., Room 215, Denver, CO 80203. Direct contact can be made by phone at 970-254-8511 or via email at amy.yeldell@ state.co.us

Sincerely,

Amy Yeldell

Amy Yeldell
Environmental Protection Specialist
Department of Natural Resources
Division of Reclamation, Mining and Safety
Phone: (970) 254-8511
Fax: (970) 241-1516

Ec: Russ Means, Senior EPS, Grand Junction DRMS

COST SUMMARY WORK

Task description: **TR-2 update**

Site: **Neilson Pit** Permit Action: TR-2 Permit/Job#: M2007026

PROJECT IDENTIFICATION

Task #: ACY State: Colorado Abbreviation: None
Date: 9/14/2016 County: Moffat Filename: M026-ACY
User: ACY

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
01a	Blasting upper rock outcrop	BLASTING	1	17.33	$12,242.00
02a	Grading slopes	DOZER	2	143.71	$60,422.00
03a	Reveg	REVEGE	1	24.00	$6,057.00
04a	Equipment Mob	MOBILIZE	1	3.66	$3,342.00
			SUBTOTALS:	**188.7**	**$82,063**

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	$1,657.67
Performance bond:	1.05	Total =	$861.66
Job superintendent:	94.35	Total =	$7,027.19
Profit:	10.00	Total =	$8,206.30
		TOTAL O & P =	$17,752.82
		CONTRACT AMOUNT (direct + O & P) =	$99,815.82

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	500.00	Total =	500.00
Engineering work and/or contract/bid preparation:	4.25	Total =	$4,242.17
Reclamation management and/or administration:	5.00		$4,990.79
CONTINGENCY:	0.00	Total =	$0.00
		TOTAL INDIRECT COST =	$27,485.78
		TOTAL BOND AMOUNT (direct + indirect) =	**$109,548.78**

SURFACE BLASTING WORK

Task description: **Blasting upper rock outcrop**

Site: **Neilson Pit** Permit Action: TR-2 Permit/Job#: M2007026

PROJECT IDENTIFICATION

Task #:	01A	State:	Colorado	Abbreviation:	None
Date:	9/30/2016	County:	Moffat	Filename:	M026-01a
User:	ACY				

Agency or organization name: DRMS

BLAST AREA DIMENSIONS

	QUANTITY	UNIT
Blast Area Configuration:	Wedge-shaped mass (highwall reduction using balanced cut/fill)	
Blasting Method Description:	Conventional surface blast (fragmentation only)	
Highwall or Bench Face Angle:	0.00	h:1v
Regraded Slope Angle:	2.00	h:1v
Highwall or Bench Length:	500	feet
Highwall or Bench Width:	60	feet
Highwall or Bench Height:	100.0	feet
Depth to Base of Cut at Highwall:	30.0	feet

BLAST AREA VOLUMES

	QUANTITY	UNIT
Total Volume of Dimensional Mass to be Shot:	16,667	cubic yards
Blast Volume to Subdrill Grade and Blast Pattern Lines:	17,304	cubic yards
Blast Volume to Finish Grade and Blast Pattern Lines:	12,600	cubic yards
Remaining Volume Required to be Re-Shot or Ripped:	4,067	cubic yards

BLAST AREA DESIGN

	QUANTITY	UNIT
Recommended Blasthole Diameter:	4.411	inches
Selected Blasthole Diameter:	9.875	inches
Subdrilling Allowance:	6.3	feet
Blasthole Depth:	20.6	feet
Density of Rock:	Average Density Rock (ANFO Basis)	rock density
Burden to Charge Diameter Ratio:	25	times diameter
Burden:	21.0	feet
Spacing to Burden Ratio:	1.5	times burden
Spacing:	32.0	feet
Cubic Yards of Rock per Blasthole:	602.93	cubic yards
Powder Factor Description:	High	rock strength
Powder Factor:	1.000	pounds/cu. yd.
Density of Blasting Agent:	0.85	grams/cc
Quantity of Explosives per Blasthole:	602.93	POUNDS
Height of Powder Column:	21.36	feet
Height of Stemming per Blasthole:	-0.81	feet
Stemming to Burden Ratio:	-0.04	times burden
Quantity of Stemming per Blasthole:	-0.0160	cubic yards
Number of Rows:	2	rows
Number of Blastholes per Row:	15	holes per row
Total Number of Blastholes:	30	holes
Total Length of all Blastholes:	617	feet

BLASTING MATERIALS QUANTITIES

	QUANTITY	UNIT
Total Quantity of Stemming Required:	-0.48	cubic yards
Total Quantity of Explosives Required:	18,088	pounds
Total Quantity of det. cord/fuse/wire Required:	1,780	linear feet
Quantity of Blasting Caps per Blasthole:	1	cap(s)
Total Quantity of Blasting Caps Required:	30	caps
Quantity of Primers per Blasthole:	1	primer(s)
Total Quantity of Primers Required:	30	primers
Quantity of Delays per Blasthole:	1	delay(s)
Total Quantity of Delays Required:	32	delays

HOURLY EQUIPMENT COST

Shift basis: 1 per day

	Description
Drilling Equipment - Drill:	Atlas Capco DML/SP - 9-7/8"
-Drill Pad Preparation:	Cat D8T - 8SU
Misc. Drill Support Equipment:	NA
Misc. Explosives Support Equipment:	NA
Explosives Delivery –Bulk Truck:	ANFO Bulk Delivery Truck
-Cap Truck:	Cap Delivery Truck

Cost Breakdown:	Drilling Equipment	Drill Pad Preparation	Misc. Drill Support	Misc. Expl. Support	Explosives Delivery Bulk Truck	Explosives Delivery Cap Truck
	Drilling	Dozer			MiscTruck	MiscTruck
%Utilization-machine:	100	100	NA	NA	100	100
Ownership cost/hour:	$101.04	$82.01	NA	NA	$73.16	$7.90
Operating cost/hour:	$153.26	$79.23	NA	NA	$79.53	$17.62
%Utilization-ripper:	NA	30	NA	NA	NA	NA
Ripper own. cost/hour:	NA	$8.40	NA	NA	$0.00	$0.00
Ripper op. cost/hour:	NA	$1.69	NA	NA	$0.00	$0.00
Operator cost/hour:	$0.00	$38.89	NA	NA	$0.00	$0.00
Unit Subtotals:	$254.30	$210.22	$0.00	$0.00	$152.69	$25.52
Number of Units:	1	1	0	0	1	1
Group Subtotals:	$254.30	$210.22	$0.00	$0.00	$152.69	$25.52

Total work team cost/hour: **$642.73**

MATERIALS COST

	Description	Unit	Unit Cost	Quantity	Total Cost
Blasting Agent:	Bulk ANFO nom. density (7,900-15,000 fps)	Pound	$0.234	18088.000	$4,232.59
Primers or Boosters:	Cast primer, 1.0 lb (electric or non-electric system)	Each	$3.299	30.000	$98.97
Blasting Caps:	Non-electric cap, delay (non-electric systems)	Each	$3.496	30.000	$104.88
Det. Cord, fuse, or wire:	Detonating cord, 10 gr./ft. (non-electric systems)	Linear foot	$0.119	1780.350	$211.86
Delays:	MS connectors (non-electric systems)	Each	$4.924	32.000	$157.57
Miscellaneous:	Expl. magazine - agent (rental basis - meet MSHA req.)	Day	$6.118	0.000	$0.00

Drill bits:	Bit life = 1,750	Linear feet	$2,738.47	0.352	$964.72
				Total Materials Cost:	**$5,770.59**

DRILLING AND EXPLOSIVES PREPARATION TIME

Total Drilling Length:	617	linear feet
Unadjusted Drilling Rate:	82.00	feet/hour
Drilling Time:	11.81	hours

Job Condition Corrections:

Site Altitude:	7,300	feet
Altitude Adjustment:	0.95	(DRMS est.)
Job Efficiency Factor:	0.67	(CH. Exc. HB)
Adjusted Drilling Rate:	**52.19**	feet/hour
Explosives Prep. Time:	5.52	hours

JOB TIME AND COST

Total Job Time: **17.34** Hours

Unit cost: $0.707 per cu. yd. Total Job Cost: **$12,242**

BULLDOZER WORK

Task description: **Grading slopes**

Site: **Neilson Pit** Permit Action: TR-2 Permit/Job#: M2007026

PROJECT IDENTIFICATION

Task #:	02A	State:	Colorado	Abbreviation:	None
Date:	9/14/2016	County:	Moffat	Filename:	M026-02a
User:	ACY				

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D8T - 8SU
Horsepower: 310
Blade Type: Semi-Universal
Attachment: 3-shank ripper
Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$82.01	NA
Operating Cost/Hour:	$79.23	100
Ripper own. Cost/Hour:	$8.40	NA
Ripper op. Cost/Hour:	$1.69	30
Operator Cost/Hour:	$38.89	NA

Total unit Cost/Hour: $210.22
Total Fleet Cost/Hour: **$420.43**

MATERIAL QUANTITIES

Initial Volume: 80,000
Swell factor: 1.000
Loose volume: **80,000** LCY

Source of estimated volume: TR-2
Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Average push distance: 150 feet
Unadjusted hourly production: 634.3 LCY/hr

Materials consistency description: Rock, avg. ripped or blasted 0.7

Average push gradient: -15 %
Average site altitude: 7,300 feet

Material weight: 2,550 lbs/LCY

Weight description: Sandstone

Job Condition Correction Factor		Source
Operator Skill:	0.750	(AVG.)
Material consistency:	0.700	(CAT HB)
Dozing method:	1.200	(SLOT)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.700	(FND-MF)
Push gradient:	1.329	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4388

Adjusted unit production: 278.33 LCY/hr
Adjusted fleet production: **556.66** LCY/hr

JOB TIME AND COST

Fleet size: 2 Dozer(s)
Unit cost: $0.755/LCY

Total job time: **143.71** Hours
Total job cost: **$60,422**

REVEGETATION WORK

Task description: **Reveg**

Site: **Neilson Pit** Permit Action: TR-2 Permit/Job#: M2007026

PROJECT IDENTIFICATION

Task #: 03A State: Colorado Abbreviation: None
Date: 9/14/2016 County: Moffat Filename: M026-03a
User: ACY

Agency or organization name: DRMS

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
			$	$
			Total Fertilizer Materials Cost/Acre	**$0.00**

Application

Description	Cost /Acre
	$
Total Fertilizer Application Cost/Acre	**$0.00**

TILLING

Description	Cost /Acre
	$
Total Tilling Cost/Acre	**$0.00**

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Slender Wheatgrass - Native	16.00	58.40	$36.00
Rabbitbrush, Rubber	2.00	29.80	$74.66
Sagebrush, Mountain or Big	2.00	105.60	$68.76
Totals Seed Mix	20.00	193.80	**$179.42**

Application

Description	Cost /Acre

Broadcast seeding [DMG]	$261.80
Total Seed Application Cost/Acre	**$261.80**

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Herbicide - 2,4D @ 1.0 pt/ac	1.00	ACRE	$1.25	$1.25
Total Mulch Materials Cost/Acre				**$1.25**

Application

Description	Cost /Acre
Weed spray, truck, non-aquatic area, nox. [DMG]	$62.72
Total Mulch Application Cost/Acre	**$62.72**

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					$
				Totals Nursery Stock Cost / Acre	**$0.00**

JOB TIME AND COST

No. of Acres: 9.5
Estimated Failure Rate: 30%
*Selected Replanting Work Items: SEEDING

Cost /Acre: $505.19
Cost /Acre*: $441.22

Initial Job Cost: **$4,799.31**
Reseeding Job Cost: **$1,257.48**
Total Job Cost: **$6,057**
Job Hours: **24.00**

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description: **Equipment Mob**

Site: **Neilson Pit** Permit Action: TR-2 Permit/Job#: M2007026

PROJECT IDENTIFICATION

Task #: 04A State: Colorado Abbreviation: None
Date: 9/27/2016 County: Moffat Filename: M026-04a
User: ACY

Agency or organization name: DRMS

EQUIPMENT TRANSPORT RIG COST

Shift basis: 1 per day
Cost Data Source: CRG Data

Truck Tractor Description: GENERIC ON-HIGHWAY TRUCK TRACTOR, 6X4, DIESEL POWERED, 400 HP (2ND HALF, 2006)

Truck Trailer Description: GENERIC FOLDING GOOSENECK, DROP DECK EQUIPMENT TRAILER (25T, 50T, AND 100T)

Cost Breakdown:

Available Rig Capacities	**0-25 Tons**	**26-50 Tons**	**51+ Tons**
Ownership Cost/Hour:	$16.63	$18.37	$22.33
Operating Cost/Hour:	$44.38	$46.13	$50.07
Operator Cost/Hour:	$27.66	$27.66	$27.66
Helper Cost/Hour:	$0.00	$25.39	$25.39
Total Unit Cost/Hour:	$88.67	$117.55	$125.45

NON ROADABLE EQUIPMENT:

Machine Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Cat D8T - 8SU	53.08	$90.41	$125.45	2	$431.72	$250.90	$500.00
Drill/Broadcast Seeder with Tractor	25.00	$30.65	$88.67	1	$119.32	$88.67	$250.00
Subtotals:					**$551.04**	**$339.57**	**$750.00**

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Subtotals:			**$0.00**	**$0.00**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	CRAIG, CO	
Total one-way travel distance:	27.00	miles
Average Travel Speed:	65.00	mph
Total Non-Roadable Mob/Demob Cost * '* two round trips with haul rig:	$3,341.97	
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	$0.00	

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.42	0.42
Return Time (Hours):	0.42	0.42
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	1.83	0.83

JOB TIME AND COST

Total job time:	**3.66**	Hours
Total job cost:	**$3,342**	