



STATE OF
COLORADO

Musick - DNR, Jason <jason.musick@state.co.us>

Bowie No. 2 Mine, C-1996-083, TR-108 RCE

1 message

Musick - DNR, Jason <jason.musick@state.co.us>

Thu, Sep 15, 2016 at 8:14 AM

To: Bill Bear <BBear@bowieresources.com>

Cc: Tamme Bishop <tamme.jestover@bresnan.net>, Jim Stover <jestover@bresnan.net>

Good morning,

Attached is the Division's RCE associated with TR-108. This RCE reflects the amount the Division is proposing to reduce the liability associated with the activities permitted, but not conducted. The estimate provided with the TR-108 submittal was slightly lower than the Division's estimate.

Please review the attached estimate and let me know if you have any questions or comments.

Thanks,
Jason

Jason Musick
Environmental Protection Specialist III
Coal Regulatory Program



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TR108_RCESummary.pdf

267K

COST SUMMARY WORK

Task description: Summary of Bond Reduction TR 108

Site: Bowie No. 2 Mine

Permit Action: TR108

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 9/15/2016

County: Delta

Filename: C083-000

User: JDM

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Seal GVBs 19A, 19B, and 19C	BOREHOLE	1	36.00	\$25,009.35
002	Regrade GVBs 19A, 19B, and 19C pads and roads	DOZER	1	22.87	\$5,487.00
003	Re-topsoil GVBs 19A, 19B, and 19C pads and roads	DOZER	1	9.70	\$2,329.00
004	Reseed road and pads for GVBs 19A, 19B, and 19C	REVEGE	1	2.00	\$2,758.00
<u>SUBTOTALS:</u>				70.57	\$35,583

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance: 2.02

Total = \$718.78

Performance bond: 1.05

Total = \$373.62

Job superintendent: 35.29

Total = \$2,628.03

Profit: 10.00

Total = \$3,558.30

TOTAL O & P = \$7,278.73

CONTRACT AMOUNT (direct + O & P) = \$42,861.73

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): 0.00

Total = 0.00

Engineering work and/or contract/bid preparation: 4.00

Total = \$1,714.47

Reclamation management and/or administration: 3.13

\$1,341.57

CONTINGENCY: 0.00

Total = \$0.00

TOTAL INDIRECT COST = \$10,334.77

TOTAL BOND AMOUNT (direct + indirect) = \$45,917.77

BOREHOLE SEALING WORKTask description: Seal GVBs 19A, 19B, and 19CSite: Bowie No. 2 MinePermit Action: TR108Permit/Job#: C1996083**PROJECT IDENTIFICATION**

Task 001

State: Colorado

Abbreviation: None

#:

Date: 9/15/2016County: DeltaFilename: C083-001User: JDMAgency or organization name: DRMS**UNIT COSTS**

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
GVB - 19A Seal	Portland cement grout (Bag, material cost only...94 lb. bag)	9.375	1095	444.50	bag	\$11.00	\$4,889.50
GVB - 19B Seal	Portland cement grout (Bag, material cost only...94 lb. bag)	9.375	1075	436.38	bag	\$11.00	\$4,800.18
GVB - 19C Seal	Portland cement grout (Bag, material cost only...94 lb. bag)	9.375	1230	499.60	bag	\$11.00	\$5,495.60
Drill Hole Plugs	PVC plug - 10 in. diameter borehole	9.375	NA	3.00	EA	\$99.54	\$298.62
Borehole Markers	Borehole location/identification marker (EA, material cost only)	NA	NA	3.00	EA	\$3.47	\$10.41
Exposed Casing Removal	Exposed casing removal - Calculate Circumference in Linear Feet	28.13	2.3	3.00	LF	\$1.76	\$5.28
Drill Rig and Labor	ATLAS COPCO ROC D7-11,4.0 in.	NA	NA	36.00	EA	\$207.97	\$7,486.92
Water Truck	Water Tanker, 2,500 Gal.	NA	NA	36.00	EA	\$56.19	\$2,022.84

Job Hours: 36.00Total Cost: \$25,009.00

BULLDOZER WORKTask description: Regrade GVBs 19A, 19B, and 19C pads and roadsSite: Bowie No. 2 MinePermit Action: TR108Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 002State: ColoradoAbbreviation: NoneDate: 9/15/2016County: DeltaFilename: C083-002User: JDMAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D9T - 9SUHorsepower: 405Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$97.48	NA
Operating Cost/Hour:	\$103.60	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.89	NA

Total unit Cost/Hour: \$239.97Total Fleet Cost/Hour: **\$239.97****MATERIAL QUANTITIES**Initial Volume: 5,251Swell factor: 1.165Loose volume: **6,117 LCY**Source of estimated volume: DRMS - assume 1.5' material 2.17 ac (0.69 pad/1.48 road)Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 100 feet

Unadjusted hourly

production: 1,243.2 LCY/hrMaterials consistency description: Consolidated stockpile 1.0Average push
gradient: 20 %Average site altitude: 7,725 feetMaterial weight: 2,900 lbs/LCY

Weight description: Decomposed rock - 50% Rock, 50% Earth

Job Condition Correction Factor

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	1.000	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.545	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.2152

Adjusted unit
production: 267.54 LCY/hr

Adjusted fleet
production: **267.54** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: \$0.897/LCY

Total job time: **22.87** Hours
Total job cost: **\$5,487**

BULLDOZER WORKTask description: **Re-topsoil GVBs 19A, 19B, and 19C pads and roads**Site: **Bowie No. 2 Mine**Permit Action: **TR108**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **003**State: **Colorado**Abbreviation: **None**Date: **9/15/2016**County: **Delta**Filename: **C083-003**User: **JDM**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D9T - 9SU**Horsepower: **405**Blade Type: **Semi-Universal**Attachment: **NA**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$97.48	NA
Operating Cost/Hour:	\$103.60	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.89	NA

Total unit Cost/Hour: **\$239.97**Total Fleet Cost/Hour: **\$239.97****MATERIAL QUANTITIES**Initial Volume: **2,625**Swell factor: **1.125**Loose volume: **2,953 LCY**Source of estimated volume: **DRMS - 0.75' over 2.17 acres**Source of estimated swell
factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **100 feet**Unadjusted hourly
production: **1,243.2 LCY/hr**Materials consistency description: **Consolidated stockpile 1.0**Average push
gradient: **20 %**Average site altitude: **7,725 feet**Material weight: **2,550 lbs/LCY**Weight description: **Earth - Dry packed**

Job Condition Correction Factor

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	1.000	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.545	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.2448

Adjusted unit
production: 304.34 LCY/hr

Adjusted fleet
production: **304.34** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.788/LCY

Total job time: **9.70** Hours

Total job cost: **\$2,329**

REVEGETATION WORKTask description: Reseed road and pads for GVBs 19A, 19B, and 19CSite: Bowie No. 2 MinePermit Action: TR108Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 004State: ColoradoAbbreviation: NoneDate: 9/15/2016County: DeltaFilename: C083-004User: JDMAgency 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
Indian Ricegrass - Nespar	3.00	9.71	\$21.27
Bluebunch Wheatgrass - Secar	3.00	9.64	\$20.55
Mountain Brome - Bromar	3.00	4.82	\$10.23
Sandberg Bluegrass - VNS	3.00	63.71	\$26.10
Coreopsis, Lance Leafed	1.00	25.58	\$30.71
Western Wheatgrass - Arriba	4.00	10.10	\$14.76
Daisy, Englemann's	1.00	4.94	\$104.82
Prairie Junegrass	2.00	106.31	\$68.94
Golden Banner	1.00	2.00	\$87.75

Totals Seed Mix	21.00	236.80	\$385.13
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Application

Description	Cost /Acre
	\$0.00
Total Seed Application Cost/Acre	\$0.00

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hay, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$265.00	\$530.00
Total Mulch Materials Cost/Acre				\$530.00

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$66.02
Power mulcher (MEANS 32 91 13.16 0350)	\$97.14
Total Mulch Application Cost/Acre	\$163.16

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:	2.17	Cost /Acre:	\$1,078.29
Estimated Failure Rate:	50%	Cost /Acre*:	\$385.13
*Selected Replanting Work Items:	SEEDING		
Initial Job Cost:	\$2,339.89		
Reseeding Job Cost:	\$417.87		
Total Job Cost:	\$2,758		
Job Hours:	2.00		