



STATE OF
COLORADO

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Dixie Mine, M-2015-028, TR02, Cost Estimate

Ebert - DNR, Jared <jared.ebert@state.co.us>

Mon, Nov 19, 2018 at 8:06 AM

To: mikesportwelding@aol.com

Mike,

I have conducted a cost estimate based on the proposed TR02 application and the approval of TR01. The estimate is attached for your review. Please let me know if you have any questions or concerns. Prior to bringing the milling operation online, the financial warranty will need to be increased.

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Jared Ebert

Environmental Protection Specialist III



COLORADO
Division of Reclamation,
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DixieMine_M2015028_CostEstimate_19Nov2018.pdf
395K

COST SUMMARY WORK

Task description: Cost Summary

Site: Dixie Mine

Permit Action: TR02

Permit/Job#: M2015028

PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 11/16/2018

County: Clear Creek

Filename: NA

User: JLE

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Removal of milling equipment	DEMOLISH	1	1.00	\$2,665.27
002	Backfill trench and pad	DOZER	1	14.60	\$2,052.00
003	Grading Access Road	DOZER	1	10.59	\$1,488.00
004	Replace Topsoil	DOZER	1	1.87	\$263.00
005	Revegetating Disturbed Areas	REVEGE	1	1.00	\$3,106.00
006	Equipment Mobilization	MOBILIZE	1	1.93	\$2,159.00
<u>SUBTOTALS:</u>				30.99	\$11,733

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance: 2.02
Performance bond: 1.05
Job superintendent: 0.00
Profit: 10.00

Total = \$237.01

Total = \$123.20

Total = \$0.00

Total = \$1,173.30

TOTAL O & P = \$1,533.51

CONTRACT AMOUNT (direct + O & P) = \$13,266.51

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): 0.00

Total = 0.00

Engineering work and/or contract/bid preparation: 4.25

Total = \$563.83

Reclamation management and/or administration: 5.00

\$663.33

CONTINGENCY: 0.00

Total = \$0.00

TOTAL INDIRECT COST = \$2,760.66

TOTAL BOND AMOUNT (direct + indirect) = \$14,493.66

Proposed Liability Amount = \$14,500.00

DEMOLITION WORK

Task description: Removal of milling equipment

Site: Dixie Mine

Permit Action: TR02

Permit/Job#: M2015028

PROJECT IDENTIFICATION

Task #: 001

State: Colorado

Abbreviation: None

Date: 11/15/2018

County: Clear Creek

Filename: M028-001

User: JLE

Agency or organization name: DRMS

UNIT COSTS

Location adjustment: 101.20 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Jaw Crusher	2 ton/hr Capacity	Loading and 2 mile haul, no salvage - Machine loading	1.00	CY	\$17.20	\$17.20
Ball Mill	2 ton/hr Capacity	Loading and 2 mile haul, no salvage - Machine loading	1.00	CY	\$17.20	\$17.20
Knudson Bowl	2 ton/hr Capacity	Loading and 2 mile haul, no salvage - Machine loading	1.00	CY	\$17.20	\$17.20
3 Water Troughs	1,117 Gallons Each	Loading and 2 mile haul, no salvage - Machine loading	6.00	CY	\$17.20	\$103.20
Water Storage Tank	4000 Gallons	Haul tank to certified salvage dump - 3,000 to 5,000 gal. tank	1.00	EA	\$760.00	\$760.00
Shipping Container	10x24x10	Loading and 5 mile haul, salvage allowed - Steel frame structures	89.00	CY	\$10.27	\$914.03
Steel Collection Tank	1434 Gallons	Haul tank to certified salvage dump - 3,000 to 5,000 gal. tank	0.50	EA	\$760.00	\$380.00
Steel Holder	12x12x4	Loading and 2 mile haul, no salvage - Machine loading	21.00	CY	\$17.20	\$361.20
Rubber Membrane	80x80	Loading and 2 mile haul, no salvage - Machine loading	3.70	CY	\$17.20	\$63.64

Job Hours:	<u>1.00</u>	Subtotal (unadjusted):	<u>\$2,633.67</u>	Total Cost (adjusted for location):	<u>\$2,665.27</u>
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BULLDOZER WORKTask description: **Backfill trench and pad**Site: **Dixie Mine**Permit Action: **TR02**Permit/Job#: **M2015028****PROJECT IDENTIFICATION**Task #: **002**State: **Colorado**Abbreviation: **None**Date: **11/15/2018**County: **Clear Creek**Filename: **M028-002**User: **JLE**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D6T XL**Horsepower: **185**Blade Type: **Semi-Universal**Attachment: **NA**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$52.66	NA
Operating Cost/Hour:	\$46.34	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.52	NA
Total unit Cost/Hour:	\$140.52	
Total Fleet Cost/Hour:	\$140.52	

MATERIAL QUANTITIESInitial Volume: **2,083**Swell factor: **1.000**Loose volume: **2,083 LCY**Source of estimated volume: **Division of Reclamation, Mining & Safety**Source of estimated swell
factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **50 feet**Unadjusted hourly
production: **444.6 LCY/hr**Materials consistency
description: **Compacted fill or embankment 0.9**Average push
gradient: **5 %**Average site altitude: **9,400 feet**Material 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:	0.900	(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:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3209

Adjusted unit
production: 142.67 LCY/hr

Adjusted fleet
production: **142.67** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.985/LCY

Total job time: **14.60** Hours

Total job cost: **\$2,052**

BULLDOZER WORKTask description: **Grading Access Road**Site: **Dixie Mine**Permit Action: **TR03**Permit/Job#: **M2015028****PROJECT IDENTIFICATION**Task #: **003**State: **Colorado**Abbreviation: **None**Date: **11/15/2018**County: **Clear Creek**Filename: **M028-003**User: **JLE**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D6T XL**Horsepower: **185**Blade Type: **Semi-Universal**Attachment: **NA**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$52.66	NA
Operating Cost/Hour:	\$46.34	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.52	NA

Total unit Cost/Hour: **\$140.52**Total Fleet Cost/Hour: **\$140.52****MATERIAL QUANTITIES**Initial Volume: **1,129**Swell factor: **1.165**Loose volume: **1,315 LCY**Source of estimated volume: **Division of Reclamation, Mining & Safety**Source of estimated swell
factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **50 feet**Unadjusted hourly
production: **444.6 LCY/hr**Materials consistency
description: **Compacted fill or embankment 0.9**Average push
gradient: **10 %**Average site altitude: **9,400 feet**Material 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:	0.900	(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:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.2794

Adjusted unit
production: 124.22 LCY/hr

Adjusted fleet
production: **124.22 LCY/hr**

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: \$1.131/LCY

Total job time: **10.59 Hours**
Total job cost: **\$1,488**

BULLDOZER WORKTask description: **Replace Topsoil**Site: **Dixie**Permit Action: **TR02**Permit/Job#: **M2015028****PROJECT IDENTIFICATION**Task #: **004**State: **Colorado**Abbreviation: **None**Date: **11/15/2018**County: **Clear Creek**Filename: **M028-004**User: **JLE**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D6T XL**Horsepower: **185**Blade Type: **Semi-Universal**Attachment: **NA**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$52.66	NA
Operating Cost/Hour:	\$46.34	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.52	NA
Total unit Cost/Hour:	\$140.52	
Total Fleet Cost/Hour:	\$140.52	

MATERIAL QUANTITIESInitial Volume: **538**Swell factor: **1.000**Loose volume: **538 LCY**Source of estimated volume: **1 acre at 4"**Source of estimated swell
factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **50 feet**Unadjusted hourly
production: **444.6 LCY/hr**Materials consistency
description: **Consolidated stockpile 1.0**Average push
gradient: **5 %**Average site altitude: **9,400 feet**Material weight: **1,600 lbs/LCY**

Weight description: Top SoilJob 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:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.6467Adjusted unit
production: 287.52 LCY/hrAdjusted fleet
production: **287.52** LCY/hr**JOB TIME AND COST**Fleet size: 1 Dozer(s)
Unit cost: \$0.489/LCYTotal job time: **1.87** Hours
Total job cost: **\$263**

REVEGETATION WORKTask description: Revegetating Disturbed AreasSite: DixiePermit Action: TR02Permit/Job#: M2015028**PROJECT IDENTIFICATION**Task #: 005State: ColoradoAbbreviation: NoneDate: 11/15/2018County: Clear CreekFilename: M028-005User: JLEAgency 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
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$106.29
Total Tilling Cost/Acre	\$106.29

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Big Bluestem - Kaw	2.20	6.57	\$25.72
Blue Grama - Hachita	0.60	9.79	\$10.00
Indiangrass - Cheyenne	1.20	3.66	\$21.13
Arizona Fescue - Redondo	0.60	6.89	\$7.27
Mountain Brome - Bromar	2.00	3.21	\$8.90
Little Bluestem - Pastura	0.80	4.78	\$13.79
Nodding Brome	2.00	4.98	\$17.30
Needlegrass, Green - Lodorm	2.00	8.31	\$9.96
Western Wheatgrass - Rosanna	3.20	8.08	\$26.50
Spike Muhly	0.20	7.35	\$1.97

Totals Seed Mix	14.80	63.61	\$142.54
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Application

Description	Cost /Acre
Broadcast seeding [DMG]	\$267.22
Total Seed Application Cost/Acre	\$267.22

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Herbicide - 2,4D @ 1.0 pt/ac	1.00	ACRE	\$2.81	\$2.81
Hydromulch, 1 ton/ac. rate {Materials Only}	2.00	ACRE	\$496.58	\$993.16
Silt fence, Materials (MEANS 31 25 14.16 1000)	1,600.00	LINEAR FOOT	\$0.46	\$736.00
Total Mulch Materials Cost/Acre				\$1,731.97

Application

Description	Cost /Acre
Hydromulching (MEANS 32 92 19.13 1100)	\$629.20
Silt fence, Labor + Maint for 6 months (MEANS 32 25 14.16 1100)	\$6.20
Weed spray, hand, non-aquatic areas, ann. [DMG]	\$120.01
Total Mulch Application Cost/Acre	\$755.41

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:	1	Cost /Acre:	\$3,003.43
Estimated Failure Rate:	25%	Cost /Acre*:	\$409.76
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	\$3,003.43
Reseeding Job Cost:	\$102.44
Total Job Cost:	\$3,106
Job Hours:	1.00

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Equipment Mobilization**Site: **Dixie**Permit Action: **TR02**Permit/Job#: **M2015028****PROJECT IDENTIFICATION**Task #: **006**State: **Colorado**Abbreviation: **None**Date: **11/15/2018**County: **Clear Creek**Filename: **M028-006**User: **JLE**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 D6T XL	23.25	\$52.66	\$88.67	1	\$141.33	\$88.67	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$15.54	\$88.67	2	\$208.42	\$177.34	\$500.00

Subtotals: **\$349.75** **\$266.01** **\$750.00****ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Light Duty Pickup, 4x4, 1 T. Crew	\$47.19	1	\$47.19	\$47.19

Subtotals: **\$47.19** **\$47.19**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region: IDAHO SPRINGS
 Total one-way travel distance: 7.00 miles
 Average Travel Speed: 30.00 mph

Total Non-Roadable Mob/Demob Cost * \$2,137.10
 * two round trips with haul rig:
 Total Roadable Mob/Demob Cost ** \$22.02
 ** one round trip, no haul rig:

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.23	0.23
Return Time (Hours):	0.23	0.23
Loading Time (Hours):	0.25	NA
Unloading Time (Hours):	0.25	NA
Subtotals:	0.97	0.47

JOB TIME AND COST

Total job time: 1.93 Hours

Total job cost: \$2,159