

COST SUMMARY WORK

Task description: ____

Site: New Elk Mine Permit Action: RDA Cost removal Permit/Job#: C1981012

PROJECT IDENTIFICATION

Task #: 000 State: Colorado Abbreviation: None
Date: 3/13/2020 County: Las Animas Filename: C012-000
User: DC1

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
614	Haul and Spread Cover on RDA	SCRAPER1	1	248.08	\$237,315
<u>SUBTOTALS:</u>				248.08	\$237,315 _____

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	<u>\$4,794</u>
Performance bond:	1.05	Total =	<u>\$2,492</u>
Job superintendent:	124.04	Total =	<u>\$8,607</u>
Profit:	10.00	Total =	<u>\$23,732</u>
		TOTAL O & P =	<u>\$39,624</u>
CONTRACT AMOUNT (direct + O & P) =			<u>\$276,939</u>

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	<u>\$0</u>	Total =	<u>\$0</u>
Engineering work and/or contract/bid preparation:	<u>4.25</u>	Total =	<u>\$11,770</u>
Reclamation management and/or administration:	<u>3.58</u>		<u>\$9,914</u>
CONTINGENCY:	<u>0.00</u>	Total =	<u>\$0</u>
TOTAL INDIRECT COST =			<u>\$61,308</u>
TOTAL BOND AMOUNT (direct + indirect) =			<u>\$298,623.00</u>

SCRAPER TEAM WORKTask description: **Haul and Spread Cover on RDA**Site: **New Elk Mine** Permit Action: RDA Cost removal Permit/Job#: C1981012**PROJECT IDENTIFICATION**

Task #: 614 State: Colorado Abbreviation: None
 Date: 3/13/2020 County: Las Animas Filename: C012-614
 User: DC1

Agency or organization name: DRMS**HOURLY EQUIPMENT** COST Shift basis: 1 per day

Equipment Description	
-Scraper:	Cat 627G
-Dozer:	Cat D9T - 9SU
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 5,000 Gal.

<u>Cost Breakdown:</u>	Scraper Work Team		Support Equipment		Maintenance Equipment	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	NA	50	50
Ownership cost/hour:	\$112.52	\$121.49	NA	NA	\$64.10	\$27.40
Operating cost/hour:	\$145.82	\$105.84	NA	NA	\$28.09	\$20.00
%Utilization-ripper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$13.94	NA	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	NA	\$0.00	\$0.00
Operator cost/hour:	\$30.86	\$41.24	NA	NA	\$28.52	\$21.09
Unit Subtotals:	\$289.20	\$282.50	NA	NA	\$120.70	\$68.48
Number of Units:	2	1	0	0	1	1
Group Subtotals:	Work:	\$860.90	Support:	\$0.00	Maint:	\$189.18

Total work team cost/hour: **\$1,050.08****MATERIAL QUANTITIES**

Initial volume: 146,813 CCY Swell factor: 1.125
 Loose volume: **165,165** LCY

Source of estimated volume: Map 11, page 2.05-21, Exhibit 28
 Source of estimated swell factor: Operator Estimate

HOURLY PRODUCTION

Scraper Bowl (volume) Basis:

Material weight:	<u>2,055 lbs/LCY</u>	Struck Volume:	<u>15.70</u> LCY
Material description:	<u>User Provided</u>	Heaped Volume:	<u>22.00</u> LCY
Rated Payload:	<u>52,800 pounds</u>	Average Volume:	<u>18.85</u> LCY
Payload Capacity:	<u>25.69 LCY</u>	Adjusted Capacity:	<u>18.85</u> LCY

Cycle Time:

Scraper Loading Time: 0.40 Minutes
 Maneuver and Spread Time: 0.60 Minutes

Job Condition Correction: Site Altitude: 7500 feet

	Scraper	Push Dozer	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	0.830	0.830	

Travel Time:

Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	700.00	18.00	3.00	21.00	537	1.31

Haul Time: 1.31 minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	700.00	-18.00	3.00	-15.00	1749	0.51

Return Time: 0.51 minutes

Total Scraper team cycle time:	<u>2.82</u>	minutes
Adjusted for job conditions:	<u>332.88</u>	LCY/Hour
Selected Number of Scrapers:	<u>2</u>	Scraper(s)
Adjusted single scraper team (unit) hourly production:	<u>665.77</u>	LCY/Hour
Adjusted multiple scraper team (fleet) hourly production:	<u>665.77</u>	LCY/Hour

Unadjusted unit production/hour: 401.06 LCY/Hour
 Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: 248.08 Hours

Unit cost: \$1.577 /LCY Total job cost: \$237,315.00