



October 27, 2023

Chris Walker  
New Elk Coal Company, LLC  
12250 Highway 12  
Weston, CO 81019

**Re: New Elk Mine, Permit C-1981-012. RN-08 Preliminary Adequacy Review.**

Dear Chris Walker:

New Elk Coal Company (NECC) submitted an application to the Division of Reclamation, Mining and Safety (the Division) for Permit Renewal on August 28, 2023. The application was found complete on August 31, 2023.

This letter lists the issues that the Division requires to be addressed in order for the permit to be renewed. In general, no separate permitting action will be needed to address these issues, and pages in the Permit Application Package (PAP) that are revised in response to this letter can be submitted with “RN-08” or “RN8” in the footer. An exception is Item #1: the ownership and control information should be updated as soon as possible (with a Minor Revision), if it needs to be updated.

### **Rule 2.03**

#### *2.03.4 – Identification of Interests*

1. Please provide an official end date documentation for Malcolm Carson and Jonathan Reynolds on corporate letterhead. Additionally, please include Mr. Carson’s information under the director information for Allegiance Coal Limited’s table on the revised pages 5 and 6 of Section 2.03.4 submitted with the application.
2. On the officer and control information provided, Black Warrior Minerals was listed as an LLC (pages 6-8 in Section 2.03.4 of the revised pages). In previous filings, the company was listed as an Inc. (see page 10 of Section 2.03.4 of the revised pages). If Black Warrior Minerals has changed to an LLC, then we would need official documentation detailing the change in ownership which would include corporate minutes and secretary of state filings. If Black Warrior Minerals is still an Inc. and the LLC was done in error, please provide an updated officer and control listing with the correction.

#### *2.03.5 – Compliance Information*



3. The revised pages 10 and 11 of Section 2.03.5 of the application do not contain the entire list of violation notices received by the applicant during the three year period preceding the application date pursuant to Rule 2.03.5(1)(c). Additionally, page 10 of the application is discontinuous with page 11 of the PAP. Please, revise this section of the application and PAP.

- Pursuant to 2.03.5(1)(c)(i) please provide the name of the issuing regulatory authority, department or agency for each violation.

4. Please update section 2.03.5 to reference Exhibit 33. Please update Exhibit 33 in the PAP.

#### *2.03.6 – Right of Entry and Operation Information*

5. Map 1 is referenced on page 11 of Section 2.03.6 in the PAP. The surface owners depicted on Map 1 do not appear to correlate with those listed in the table in section 2.03.4(6) and (7) (page 9) of the RN8 application. Please ensure that all surface owners of record of all surface and subsurface areas contiguous to any part of the proposed permit area are included within this section of the PAP and shown on Map 1.
6. Please verify that all of the right of entry agreements listed on page 13 of Section 2.03.6 of the PAP are current and valid.
7. Map 2 is referenced on page 13 of Section 2.03.6 in the PAP. The sub-surface owners depicted on Map 2 do not appear to correlate with those listed in the table in section 2.03.4(6) and (7) (page 9) of the RN8 application. BlueGreen Corp of Rockies is not listed on Map 2. Federal Coal is listed on Map 2, but not in the table on page 9 in section 2.03.4(6) and (7) of the application. Pioneer Natural Resources is listed both under '21' and '34' on Map 2. Please revise Map 2, and the table in 2.03.4(6) and (7) in the PAP.

#### *2.03.7 – Relationship to Areas Designated Unsuitable for Mining*

No adequacy issues noted.

#### *2.03.8 – Permit Term Information*

8. Please update section 2.03.8 of the PAP starting on page 13. Section 2.03.8(2) has outdated information pertaining to the anticipated or actual starting date and termination date of each phase of underground mining activities. Please revise this section of the PAP.

#### *2.03.9 – Personal Injury and Property Damage Insurance Information*

No adequacy issues noted.

#### *2.03.10 – Identification of Other Licenses and Permits*

9. Please confirm that all the Licenses and Permits referenced in 2.03.10 in Table 2 and the 'Identification of Other Licenses and Permits' (listed on pg. 16) are still representative of all those required and are current.

- Please update each permit and or license in Table 2 to include the permit numbers pursuant to Rule 2.03.10(3) and the dates of approval or disapproval pursuant to Rule 2.03.10(4)

*2.03.11 – Identification of Location of Public Office for Filing of Application*

No adequacy issues noted.

*2.03.12 – Newspaper Advertisement and Proof of Publication*

10. Please reference Exhibit 4 in section 2.03.12 of the PAP. Additionally, please update Exhibit 4 in the PAP to include the most recent Public Notice and provide proof of publication.

**Rule 2.04**

*2.04.3 – General Requirements: Site Description and Land Use Information*

No adequacy issues noted.

*2.04.4 – Cultural and Historic Resource Information*

11. A 2021 cultural resources survey was performed. Should mining activity restart and new surface disturbance be proposed, SHPO recommends that a class III cultural resource inventory be completed prior to construction activities to determine the presence of cultural resources in the area of potential effect and to assess the eligibility of any resources for the National Register of Historic Places (NRHPA). Rule 2.04.4 requires such an analysis for areas potentially impacted by surface activities or probable subsidence. At the moment no new cultural resources survey is required.

*2.04.5 – General Description of Hydrology and Geology*

No adequacy issues noted.

*2.04.6 – Geology Description*

No adequacy issues noted.

*2.04.7 – Hydrology Description*

12. An item for consideration, the last permitted well inventory of wells within a one-mile radius of the permit boundary was completed in December 2010. Please update the groundwater user inventory

Table 10, Table 11 and Map 8.

*2.04.8 – Climatological Information*

13. Verify that the climatological information provided in Tables 13 and 14 are representative of recent climatological trends.
14. The wind data provided in Exhibit 13 is sourced from 1970. Please verify that the wind data is still representative of recent climatological trends.

*2.04.9 – Soils Resource Information*

No adequacy issues noted.

*2.04.10 – Vegetation Information*

15. Pursuant to Rule 2.04.10(2), the proposed locations of reference area(s) must be included on the vegetation map. Please revise the map to indicate the reference areas for each proposed post mine land use.

*2.04.11 – Fish and Wildlife Information*

16. On page 2.04-50, it is stated that the mine area is within the range of five mammal, three bird, and one fish species classified as threatened and endangered by the Federal Government or the State of Colorado or by both. Please review the current federal and state endangered and threatened species lists and confirm that the information in 2.04.11 of the PAP is current.

*2.04.12 – Prime Farmland Investigation*

No adequacy issues noted.

**Rule 2.05**

*2.05.3 - Operation Plan – Permit Area*

17. Map 3 -2019 is referenced on page 3 of the 2.05.3 section of the PAP. The most recent Map 3 in the PAP is from 2022. Please update the narrative on page 3 and replace it in the PAP.
18. Figure 1: Generalized Stratigraphic Section of the Permit Area, is referenced on page 3 of the 2.05.3 section of the PAP. In the Figures Table of Contents document in the PAP, Figure 1 and Figure 1a are noted as located in section 2.04. However, only Figure 1a is present in Section 2.04 of the PAP. Please either include a copy of Figures 1 and 1a within the Figures Table of Contents document, and indicate its position in the table of contents, or revise section 2.04 of the PAP to include Figure 1.

19. On Page 3 of Section 2.05.3, please commit to submitting a permit revision to update the mine plan prior to re-initiating operations at the New Elk Mine.
20. Please confirm or revise the stockpile information provided on page 6 of the 2.05.3 section of the PAP.
21. Figure 2a is referenced in the 2.05.3(3) section of the PAP. In the Figures Table of Contents document, where Figure 2a is located, there is a portion of a narrative at the top of the page that is discontinuous with the rest of the document. Please revise this page of the Figures Table of Contents document in the PAP.
22. Figure 19 referenced in section 2.05.3 of the PAP, located on page 11, references 'Map 11 New Elk Mine Site Plan, Bosque del Oso, Sheet 1a – Roads, Slope Track, Cut Areas'. Map 11 Sheet 1a is absent from the PAP. Please include this map in the PAP.
23. Page 20 of section 2.05.3(3)(d) of the PAP states that the Jansen load out facility will be temporary and will be used until 2012. Please update this page of the PAP to reflect the current projected timeline for the use of the Jansen loadout.
24. On page 21 of section 2.05.3(4) of the PAP, Map 13A is referenced as the 'Drainage Basins' and then later on the page as 'Sediment and Surface Water Control Silo Area'. Map 13A in the PAP reflects the latter title. Please include the Drainage Basins map in the PAP. If the title of the Drainage Basin map is different than Map 13A, please update this portion of the narrative to match the map's title in the PAP on page 21 of section 2.05.3.
25. There are five sediment ponds at New Elk. DRMS is unable to locate engineer certified as built drawings and SedCad model runs for all ponds and containments. Text descriptions of SedCad models do not replace the actual model runs. Also pond naming convention is inconsistent throughout the permit, sometimes ponds are referenced 004 and other times 004A

DRMS was able to locate As Built designs as follows:

AS Builts		SedCad
<b>Ponds</b>	<b>RDA containments</b>	
001	#1	#005
004	#2	
008	RDA SE	
	RDA SW	
	RDA N	

#### Adequacy issues noted

- Please either indicate to DRMS where these figures are in the permit document or, submit revised pages of the engineer certified drawings for ponds missing as built

- drawings.
  - Please either indicate to DRMS SedCad models are located in the permit document or, submit revised pages of SedCad models for ponds and containments missing SedCad models.
  - Please comment to DRMS assuring that the current drainage plan within the current permit area is up to date or provide revised pages updating the drainage plan.
26. Please update Map 13, Map 14, Table 20, and Table 21 to match the on-ground conditions at the mine site. Ditches and culverts must be in the same locations as shown on the maps, and dimensions and other specifications must match the tables. Other features, such as SAEs, must also be depicted accurately.
27. On pages 38 and 19 of section 2.05.3(5) of the PAP provides information for the current status of the RDA pile as of 2019. Please review this section and update the elevation and current status if necessary.
28. On page 43 of section 2.05.3(8), Map 22: Mine Progress is referenced alongside Map 3. Please clarify on Page 43 of the PAP the distinction between the two maps to justify why Map 22 does not need to be updated.
29. Page 45 of section 2.05.3(8) states that “fabric will be placed on top of the rock under drain in advance of the refuse placement (see Figure 8)”. Figure 8 does not appear to address the installation of fabric on top of the underdrain. Please revise this figure within the PAP.
30. Page 50 of section 2.05.3(8) states that “DWDA #2 is at full capacity in the year 2012”. This section of the narrative states that development waste would subsequently be placed in a temporary DWDA, and upon final construction of DWDA #3, will be moved to DWDA #3. Please provide the Division with a comment as to whether a temporary DWDA or DWDA #3 are currently being utilized. Alternatively, please revise this section of the PAP to reflect current development waste and pond cleaning waste disposal procedures conducted on-site.

#### *2.05.4 – Reclamation Plan*

31. Please update page 52 of section 2.05.4 of the PAP to include language about the current idle status of mining operations at the site. For example, under the ‘Timetable’ heading, the narrative states that operations are ongoing at the site. Additionally, please commit to submitting a revision to the permit prior to reinitiating operations at the site.
32. The Division has conducted an updated cost estimate pursuant to Rule 2.05.4(2)(b). The Division’s cost estimate is enclosed with this document. Currently, the Division holds a bond in the amount of \$5,218,954. The Division’s updated estimate brings the reclamation costs to \$6,788,196 – a difference of \$1,569,242. Please, review the cost estimate and confirm if you concur with the estimate. If NECC does not concur with the cost estimate please provide a cost estimate for review in accordance with Rule 2.05.4(2)(b).

33. Figures 14 and 14a are referenced in section 2.05.4 of the PAP. In the Figures and Tables document, the legend on the right side of the figures is illegible. Please submit legible Figures 14 and 14a into the Figures and Tables document in the PAP.
34. The revegetation plan on page 58b of Section 2.05.4 references Figure 10 and Figures 10a-10d. These figures depict the RDA as of June 2020. If these figures do not reflect current conditions, please revise them, and include them in the PAP.
35. The revegetation plan on page 58c of Section 2.05.4 states that vegetation analysis was to be completed by the end of 2021. Please update this narrative to reflect current time tables, and indicate if this analysis has been completed.
36. Page 58c of section 2.05.4 of the PAP is discontinuous with page 58d. Please revise either page in the PAP.
37. Please update the reclamation costs included on page 58e of section 2.05.4 of the PAP.
38. Page 67a of section 2.05.4 of the PAP prefates a section header for 'disposal of debris, acid-forming and toxic forming materials' with (2)(t). This section seems to address area (2)(f) of Rule 2.05.4. Please revise the header on this page of the PAP to match the section of the Rule that it's addressing.

#### *2.05.5 – Postmining Land Uses*

No adequacy issues noted.

#### *2.05.6 – Mitigation of the Impacts of Mining Operations*

39. Map 3 of the permit shows the mine workings and projected mining units for the Blue Seam. This map is outdated and does not reflect the current mine workings as shown on the mine workings map displayed in the miner's ready room. Map 3 needs to be updated.

### **Rule 4**

#### *4.03 – Roads*

No adequacy issues noted.

#### *4.05 – Hydrologic Balance*

##### *->4.05.2 – Water Quality Standards*

40. The information required by this rule is discussed throughout permit section 2.05.3. Sediment ponds and water conveyance structures are in place and some are modeled as per permit section 2.05.3. Exhibit 10 comprises the Water Quality Analysis, Exhibit 22 comprises the NPDES Permit. It

appears that the direct discharge to the Purgatoire meets effluent standards at this time. Please continue to diligently monitor any direct discharge to the Purgatoire River. Design of the refuse disposal area Permit pages 2.05-43 through 2.05-50. This area should also be consistently monitored for water quality standards.

- Permit section 2.05 pages 74 through 77 describes water within the mine workings. DRMS finds that this has not been updated since 2016.
- Please comment to DRMS that the description of water within the mine workings remains representative of the current situation. If the situation has changed in any way please update with revised pages.

*->4.05.3 – Diversions and Conveyance of Overland Flow (less than 1sq mile watershed)*

41. Maps 13 and 14 Sediment and surface water control plan, Culvert table Table 19a indicates no watersheds of less than one square mile exist on the permit.
- Please verify with DRMS any watersheds of less than one square mile within the permit.
  - Please indicate where in the permit how any less than one square mile address the provisions of the above mentioned rule.
  - Please indicate where in the permit temporary diversions address the above mentioned rule.

*->4.05.4 – Stream Channel Diversion and Reconstruction*

42. During a previous permit term the operator submitted design details for the permanent diversion of the Middle Fork of the Purgatoire River. This diversion was necessary to accommodate coal storage and preparation plant operations. The Division approved this permanent diversion and the operator completed the approximately 580-foot diversion in the spring and early summer of 1985. This decision is based on a finding that the proposed diversion meets the requirements of 4.05.18 and 4.05.4; applicable local, State, and Federal statutes and regulations; and that the diversion is designed to safeguard public safety and to minimize adverse impacts to the hydrologic balance (4.05.4(1) and (4)).

The Division has found that this diversion will not diminish downstream water rights and meets the requirements of Rule 4.05.4(3). Exhibit 21 of the PAP (Supporting Information for Permanent Diversion) contains the pertinent design information.

DRMS was unable to locate either a modeled SedCad run for this diversion or an engineer certified design for the diversion.

- Please either guide DRMS to information as required by the above mentioned rule or provide these above referenced documents as revised pages.

*->4.05.6 – Ponds*

43. The information required by this rule is discussed in section 2.05 of the permit document on pages 2.05-20 through 2.05-35. Figure 3 illustrates Embankments Cross Sections, Surface water control is illustrated on Maps 13 and 14, Table 23 summarizes pond dimensions.
- Please see adequacy questions related to this Rule (4.05.6) as addressed above for Rule 2.05.3.4.
  - DRMS was unable to locate Figure 3 and Figure 5 associated with Pond 001. It appears to DRMS that Figure 5 is in Exhibit 19, Results of Annual Pond Survey, associated with the Wyoming Coal Co. 1987. Is this correct? If not please provide both Figures, 3 and 5 as revised pages or guide DRMS to where these figures may be located.
44. Pond 006A appears to discharge to the Purgatoire River as per Wyoming Fuel Co 1987 document. This document illustrates Pond 006, 007 and references Pond 006A and appears to be Figure 5 and Exhibit 19. This Pond terminology appears inconsistent, as does the naming convention of the document; Exhibit 19 Results of Annual Pond Survey, and Figure 5.
- Please clean up the table of contents to detail pond related items in Exhibit 19 by Pond name and associated figures and submit as revised pages.
  - Ponds are referred to by various names, for example Pond 005A or Pond 005. Please decide on a consistent naming convention and utilize it throughout the permit.

*->4.05.9 – Impoundments*

No adequacy issues noted.

*->4.05.13 – Surface and Ground Water Monitoring*

No adequacy issues noted.

*4.06 – Topsoil*

No adequacy issues noted.

*4.07 – Sealing of Drilled Holes and Underground Openings*

No adequacy issues noted.

*4.09 – Disposal of Excess Spoil*

No adequacy issues noted.

*4.10 – Coal Mine Waste Banks*

No adequacy issues noted.

*4.11 – Coal Mine Waste*

No adequacy issues noted.

*4.15 – Revegetation*

No adequacy issues noted.

*4.16 – Postmining Land Use*

No adequacy issues noted.

*4.18 – Protection of Fish, Wildlife, and Related Environmental Values*

No adequacy issues noted.

*4.20 – Subsidence Control*

No adequacy issues noted.

*4.24 – Operations in Alluvial Valley Floors*

No adequacy issues noted.

*4.25 – Operations on Prime Farmland*

No adequacy issues noted.

The decision date is currently set for **December 29, 2023**. If you require additional time to address the adequacy issues listed above, please request a decision date extension in writing prior to December 29, 2023.

If you have any questions, please contact me at [amber.gibson@state.co.us](mailto:amber.gibson@state.co.us) or 720-836-0967. Thank you for your attention to these matters.

Sincerely,



Amber M. Gibson

Environmental Protection Specialist

*Enclosure: 2023 RN8 Cost Estimate Update*

Ec:     Nick Mason, New Elk Coal Company, LLC  
         Brock Bowles, DRMS  
         Robin Reilly, DRMS  
         Patrick Lennberg, DRMS  
         Jared Ebert, DRMS

## COST SUMMARY WORK

Task description: Cost Summary

Site: New Elk Mine

Permit Action: RN8

Permit/Job#: C1981012

### PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 10/20/2023

County: Las Animas

Filename: C012-000

User: AMG

Agency or organization name: DRMS

### TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Backfill and Regrade East Portal Area	DOZER	3	83.38	\$117,482
002	Push Temporary Coal Stockpiles to Conveyor	DOZER	3	12.23	\$16,231
003	Regrade Pond 004	DOZER	1	7.81	\$3,668
004	Regrade Pond 006	DOZER	1	8.73	\$4,023
005	Regrade Pond 007	DOZER	1	21.50	\$9,907
006	Regrade Pond 008; Rip and Regrade Spillway	DOZER	1	66.13	\$30,760
007	Regrade West Portal Containment Area 1	DOZER	1	4.34	\$1,999
008	Regrade temporary Ditches at West Portal	DOZER	1	0.37	\$162
009	Backfill East Portal Face	DOZER	3	0.93	\$1,305
010	Backfill West Portal Face	DOZER	2	1.39	\$1,280
011	Backfill Bates Portal Face	DOZER	2	38.69	\$35,646
012	Regrade Areas from MR-99, MR-107, MR-111, MR-114	DOZER	3	1.43	\$1,902
013	Replace Topsoil on D26 Extension	DOZER	1	0.24	\$104
014	Backfill and Regrade DWDA Expansion	DOZER	2	2.68	\$2,518
015	Replace Topsoil on Six Drill Pads and Mud Pits	DOZER	1	4.62	\$2,045
016	Rip and Regrade C&W Train Shop Area	DOZER	2	12.74	\$11,964
017	Regrade Access Road to NW Vent Shaft (TR72)	DOZER	1	2.33	\$1,031
019	Strip and Place 5 acres of topsoil RDA	TRUCK1	1	83.52	\$86,485
020	Strip and Place 10 acres of Cover over 2 feet from borrowRDA	TRUCK1	1	287.66	\$297,889
021	Strip and Place 4 acres of Cover over 2 feet from RDA back	TRUCK1	1	115.07	\$119,158
022	Strip and Place 5 acres of Cover over 2 feet from borrow RDA	TRUCK1	1	236.40	\$244,805
023	Replace topsoil over borrow area RDA	TRUCK1	1	53.94	\$43,603
024	Backfill and Regrade Transformer and Rock Dust Cut Slope	TRUCK1	1	48.56	\$77,866
025	Replace Topsoil to Transformer and Rock Dust Cut Slope	TRUCK1	1	1.40	\$2,222
026	Clean Ponds 004, 007, and 008 Twice During Liability Period	TRUCK1	1	121.05	\$141,133
027	Replace Topsoil on NW vent Fan Aea (TR72)	TRUCK1	1	5.95	\$3,551
028	Demolish and Remove All Structures	DEMOLISH	1	1,009.00	\$2,235,546
029	Demolish and Remove Structures @ C&W area	DEMOLISH	1	24.00	\$88,197
030	Exploration Drilling TR-74	BOREHOLE	1	60.00	\$54,295
031	Plug and Seal All Boreholes and Monitoring Wells	BOREHOLE	1	73.00	\$163,052
032	Seal Additional Wells	BOREHOLE	1	36.00	\$48,155

033	Haul Raw Coal Stockpile to Development Waste Pile	SCRAPER1	1	12.59	\$22,575
034	Haul Clean Coal Stockpile to Development Waste Pile	SCRAPER1	1	20.43	\$36,320
035	Replace Cover material on DWDA #2	SCRAPER1	1	2.29	\$4,309
036	Replace Topsoil to DWDA #2	SCRAPER1	1	5.40	\$10,159
037	Replace Topsoil to Area East of Pond 5	SCRAPER1	1	0.42	\$792
038	Replace Topsoil to Pond 005	SCRAPER1	1	0.30	\$554
039	Replace Topsoil to Area Under Conveyor	SCRAPER1	1	0.90	\$1,695
040	Replace Topsoil to Raw Coal Storage Stockpile	SCRAPER1	1	1.37	\$2,570
041	Replace Topsoil to Small DR Area in Large DNR Area	SCRAPER1	1	0.10	\$190
042	Replace Topsoil to Clean Coal Stockpile	SCRAPER1	1	0.93	\$1,749
043	Replace Topsoil to East Extension of River Pumphouse	SCRAPER1	1	0.22	\$413
044	Replace Topsoil to Embedded Waste Area	SCRAPER1	1	2.01	\$3,790
045	Replace Topsoil to RDA	SCRAPER1	1	122.41	\$230,263
046	Replace Topsoil to Four Bench Slopes	SCRAPER1	1	15.69	\$29,660
047	Replace Topsoil to RDA Pond	SCRAPER1	1	5.17	\$9,621
048	Replace Topsoil to Bates Portal Face-Up	SCRAPER1	1	3.01	\$5,657
049	Replace Topsoil to West DWDA	SCRAPER1	1	67.00	\$128,416
050	Compact Final RDA Surface	COMPACT	1	32.46	\$9,439
051	Seal Portals and Vent Shafts	MINESEAL	1	270.00	\$646,810
052	Regrading 30,000 LCY Refuse (RDA)	GRADER	2	4.14	\$3,114
053	Finish Grade Refuse Disposal Area	GRADER	1	5.31	\$1,439
054	Finish Grade West DWDA Area	GRADER	1	8.35	\$2,261
055	100 year ditch	EXCAVATE	1	27.86	\$4,647
056	Replace Topsoil to Zig Zag Road	EXCAVATE	1	0.47	\$75
057	Site Maintenance during the 10 year liability period	SITEMAINT ENANCE	1	400.00	\$65,304
058	Rip Mine Entry Area Prior to Regrading	RIPPER	3	8.56	\$12,066
059	Rip Wedge Area Prior to Regrading	RIPPER	3	0.76	\$1,081
060	Rip Prep Plant Area Prior to Regrading	RIPPER	3	2.57	\$3,628
061	Rip West Portal DNR Areas	RIPPER	3	11.94	\$16,836
062	Rip East Portal - Only DNR Area	RIPPER	3	16.78	\$23,646
063	Rip Zig Zag Road and Slurry Line Road	RIPPER	3	0.44	\$630
064	Reseed RDA Borrow Area	REVEGE	1	5.00	\$7,710
065	Reseed Facilities Area with Rangeland Mix	REVEGE	1	178.00	\$155,621
066	Reseed RDA	REVEGE	1	95.25	\$48,958
067	Reseed DWP with Rangeland Mix	REVEGE	1	11.24	\$9,017
068	Reseed Disturbed Areas with Riparian Habitat	REVEGE	1	21.14	\$18,426
069	Plant 6 Shrub Clumps	REVEGE	1	5.60	\$2,502
070	Weed Control - Assume 1/4 of Area Three Times	REVEGE	1	102.71	\$19,609
071	Seed Rangeland Seed Mix on MR Areas	REVEGE	1	2.22	\$5,098
072	Reseed C&W Facilities Area with Rangeland Mix	REVEGE	1	12.00	\$9,600
073	Reseed Zig Zag with Rangeland Mix	REVEGE	1	1.60	\$4,512
074	Reseed West DWDA Expansion Area with Rangeland Mix	REVEGE	1	20.40	\$16,321
075	Seed NW Vent Fan and Access Road (TR72)	REVEGE	1	1.55	\$2,728
076	Mobilize/Demobilize Equipment for Initial Reclamation	MOBILIZE	1	3.70	\$17,546
077	Mobilize/Demobilize Equipment for Pond Cleaning	MOBILIZE	1	3.70	\$1,709
078	Mobilize/Demobilize Equipment for Pond Removal	MOBILIZE	1	3.70	\$1,795

079	Mobilize/Demobilize Equipment for Site Maintenance	MOBILIZE	1	3.70	\$4,762
<b><u>SUBTOTALS:</u></b>				<b>3946.48</b>	<b>\$5,453,607</b>

**INDIRECT COSTS****OVERHEAD AND PROFIT:**

Liability insurance:	2.02	Total =	\$110,163
Performance bond:	1.05	Total =	\$57,263
Job superintendent:	1,973.24	Total =	\$128,418
Profit:	10.00	Total =	\$545,361
		TOTAL O & P =	\$841,205
		CONTRACT AMOUNT (direct + O & P) =	\$6,294,812

**LEGAL - ENGINEERING - PROJECT MANAGEMENT:**

Financial warranty processing (legal/related costs):	\$500	Total =	\$500
Engineering work and/or contract/bid preparation:	4.25	Total =	\$267,530
Reclamation management and/or administration:	3.58		\$225,354
CONTINGENCY: 0.00		Total =	\$0
		TOTAL INDIRECT COST =	\$1,334,589
		<b>TOTAL BOND AMOUNT (direct + indirect) =</b>	<b>\$6,788,196</b>

**BULLDOZER WORK**Task description: **Backfill and Regrade East Portal Area**Site: **New Elk Mine**Permit Action: **RN8**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **001**State: **Colorado**Abbreviation: **None**Date: **10/20/2023**County: **Las Animas**Filename: **1**User: **AMG**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D9T - 9SU**Horsepower: **405**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$238.76	NA
Operating Cost/Hour:	\$162.29	100
Ripper own. Cost/Hour:	\$18.32	NA
Ripper op. Cost/Hour:	\$8.98	100
Operator Cost/Hour:	\$41.30	NA
Total unit Cost/Hour:	\$469.65	
Total Fleet Cost/Hour:	<b>\$1,408.96</b>	

**MATERIAL QUANTITIES**Initial Volume: **144,850**Swell factor: **1.125**Loose volume: **162,956 LCY**Source of estimated volume: **PAP Exhibit 28**Source of estimated swell  
factor: **Operator Estimate****HOURLY PRODUCTION**Average push distance: **100 feet**Unadjusted hourly  
production: **1,243.2 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push  
gradient: **5 %**Average site altitude: **7,500 feet**Material weight: **2,132 lbs/LCY**Weight description: **User Provided****Job Condition Correction Factor**Operator Skill: **0.900**Source  
**(AB.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:	1.079	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5240

Adjusted unit  
production: 651.44 LCY/hr

Adjusted fleet  
production: **1954.32** LCY/hr

### **JOB TIME AND COST**

Fleet size: 3 Dozer(s)

Unit cost: \$0.721/LCY

Total job time: **83.38** Hours

Total job cost: **\$117,482**

**BULLDOZER WORK**Task description: **Push Temporary Coal Stockpiles to Conveyor**Site: **New Elk Mine**Permit Action: **RN8**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **002**State: **Colorado**Abbreviation: **None**Date: **10/20/2023**County: **Las Animas**Filename: **002**User: **AMG**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:	\$238.76	NA
Operating Cost/Hour:	\$162.29	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA
Total unit Cost/Hour:	\$442.35	
Total Fleet Cost/Hour:	<b>\$1,327.06</b>	

**MATERIAL QUANTITIES**Initial Volume: **13,250**Swell factor: **1.000**Loose volume: **13,250 LCY**Source of estimated volume: **PAP 2.05-4a Table 18a. Push to conveyor**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **400 feet**Unadjusted hourly production: **305.6 LCY/hr**Materials consistency description: **Partly consolidated stockpile 1.1**Average push gradient: **0 %**Average site altitude: **7,000 feet**Material weight: **1,600 lbs/LCY**Weight description: **Coal - Bituminous, Raw****Job Condition Correction Factor****Source**

Operator Skill:	0.900	(AB.AVG.)
Material consistency:	1.100	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 1.1816

Adjusted unit  
production: 361.10 LCY/hr  
Adjusted fleet  
production: **1083.3** LCY/hr

### **JOB TIME AND COST**

Fleet size: 3 Dozer(s)  
Unit cost: \$1.225/LCY

Total job time: **12.23** Hours  
Total job cost: **\$16,231**

**BULLDOZER WORK**Task description: **Regrade Pond 004**Site: **New Elk Mine**Permit Action: **RN8**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **003**State: **Colorado**Abbreviation: **None**Date: **10/20/2023**County: **Las Animas**Filename: **3**User: **AMG**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D9T - 9SU**Horsepower: **405**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$238.76	NA
Operating Cost/Hour:	\$162.29	100
Ripper own.	\$18.32	NA
Cost/Hour:		
Ripper op. Cost/Hour:	\$8.98	100
Operator Cost/Hour:	\$41.30	NA
Total unit Cost/Hour:	\$469.65	
Total Fleet Cost/Hour:	<b>\$469.65</b>	

**MATERIAL QUANTITIES**Initial Volume: **3,840**Swell factor: **1.125**Loose volume: **4,320 LCY**Source of estimated volume: **Division of Reclamation, Mining & Safety**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **125 feet**Unadjusted hourly production: **1,055.6 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **5 %**Average site altitude: **7,500 feet**Material weight: **2,132 lbs/LCY**Weight description: **User Provided****Job Condition Correction Factor****Source**

Operator Skill:	0.900	(AB.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:	1.079	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5240

Adjusted unit  
production: 553.13 LCY/hr  
Adjusted fleet  
production: **553.13** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
Unit cost: \$0.849/LCY

Total job time: **7.81** Hours  
Total job cost: **\$3,668**

**BULLDOZER WORK**Task description: **Regrade Pond 006**Site: **New Elk Mine**Permit Action: **RN8**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **004**State: **Colorado**Abbreviation: **None**Date: **10/20/2023**County: **Las Animas**Filename: **4**User: **AMG**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D9T - 9SU**Horsepower: **405**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$238.76	NA
Operating Cost/Hour:	\$162.29	100
Ripper own.	\$18.32	NA
Cost/Hour:		
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA
Total unit Cost/Hour:	\$460.67	
Total Fleet Cost/Hour:	<b>\$460.67</b>	

**MATERIAL QUANTITIES**Initial Volume: **6,160**Swell factor: **1.125**Loose volume: **6,930 LCY**Source of estimated volume: **Division of Reclamation, Mining & Safety**Source of estimated swell factor: **Operator Estimate****HOURLY PRODUCTION**Average push distance: **75 feet**Unadjusted hourly production: **1,514.3 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **5 %**Average site altitude: **7,500 feet**Material weight: **2,132 lbs/LCY**Weight description: **User Provided****Job Condition Correction Factor****Source**

Operator Skill:	0.900	(AB.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:	1.079	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5240

Adjusted unit  
production: 793.49 LCY/hr  
Adjusted fleet  
production: **793.49** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
Unit cost: \$0.581/LCY

Total job time: **8.73** Hours  
Total job cost: **\$4,023**

**BULLDOZER WORK**Task description: **Regrade Pond 007**Site: **New Elk Mine**Permit Action: **RN8**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **005**State: **Colorado**Abbreviation: **None**Date: **10/20/2023**County: **Las Animas**Filename: **5**User: **AMG**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D9T - 9SU**Horsepower: **405**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$238.76	NA
Operating Cost/Hour:	\$162.29	100
Ripper own.	\$18.32	NA
Cost/Hour:		
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$460.67**Total Fleet Cost/Hour: **\$460.67****MATERIAL QUANTITIES**Initial Volume: **9,120**Swell factor: **1.125**Loose volume: **10,260 LCY**Source of estimated volume: **Division of Reclamation, Mining & Safety**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **150 feet**Unadjusted hourly production: **910.5 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **5 %**Average site altitude: **7,500 feet**Material weight: **2,132 lbs/LCY**Weight description: **User Provided****Job Condition Correction Factor****Source**

Operator Skill:	0.900	(AB.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:	1.079	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5240

Adjusted unit  
production: 477.10 LCY/hr  
Adjusted fleet  
production: 477.1 LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
Unit cost: \$0.966/LCY

Total job time: 21.50 Hours  
Total job cost: \$9,907

**BULLDOZER WORK**Task description: **Regrade Pond 008; Rip and Regrade Spillway**Site: **New Elk Mine**Permit Action: **RN8**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **006**State: **Colorado**Abbreviation: **None**Date: **10/20/2023**County: **Las Animas**Filename: **006**User: **AMG**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D9T - 9SU**Horsepower: **405**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$238.76	NA
Operating Cost/Hour:	\$162.29	100
Ripper own.		
Cost/Hour:	\$18.32	NA
Ripper op. Cost/Hour:	\$4.49	50
Operator Cost/Hour:	\$41.30	NA
Total unit Cost/Hour:	\$465.16	
Total Fleet Cost/Hour:	<b>\$465.16</b>	

**MATERIAL QUANTITIES**Initial Volume: **28,300**Swell factor: **1.125**Loose volume: **31,838 LCY**Source of estimated volume: **Division of Reclamation, Mining & Safety**Source of estimated swell factor: **Operator Estimate****HOURLY PRODUCTION**Average push distance: **125 feet**Unadjusted hourly production: **1,055.6 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **10 %**Average site altitude: **7,500 feet**Material weight: **2,132 lbs/LCY**Weight description: **User Provided****Job Condition Correction Factor****Source**

Operator Skill:	0.900	(AB.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:	1.079	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4561

Adjusted unit  
production: 481.46 LCY/hr  
Adjusted fleet  
production: **481.46** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
Unit cost: \$0.966/LCY

Total job time: **66.13** Hours  
Total job cost: **\$30,760**

**BULLDOZER WORK**Task description: **Regrade West Portal Containment Area 1**Site: **New Elk Mine**Permit Action: **RN8**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **007**State: **Colorado**Abbreviation: **None**Date: **10/20/2023**County: **Las Animas**Filename: **7**User: **AMG**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D9T - 9SU**Horsepower: **405**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<b><u>Utilization %</u></b>
Ownership Cost/Hour:	<b><u>\$238.76</u></b>	<b><u>NA</u></b>
Operating Cost/Hour:	<b><u>\$162.29</u></b>	<b><u>100</u></b>
Ripper own.		
Cost/Hour:	<b><u>\$18.32</u></b>	<b><u>NA</u></b>
Ripper op. Cost/Hour:	<b><u>\$0.00</u></b>	<b><u>0</u></b>
Operator Cost/Hour:	<b><u>\$41.30</u></b>	<b><u>NA</u></b>
Total unit Cost/Hour:	<b><u>\$460.67</u></b>	
Total Fleet Cost/Hour:	<b><u>\$460.67</u></b>	

**MATERIAL QUANTITIES**Initial Volume: **3,340**Swell factor: **1.125**Loose volume: **3,758 LCY**Source of estimated volume: **Division of Reclamation, Mining & Safety**Source of estimated swell factor: **Operator Estimate****HOURLY PRODUCTION**Average push distance: **100 feet**Unadjusted hourly production: **1,243.2 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **0 %**Average site altitude: **7,500 feet**Material weight: **2,132 lbs/LCY**Weight description: **User Provided****Job Condition Correction Factor****Source**

Operator Skill:	0.900	(AB.AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.200	(SLOT)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.079	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.6964

Adjusted unit  
production: 865.76 LCY/hr  
Adjusted fleet  
production: **865.76** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
Unit cost: \$0.532/LCY

Total job time: **4.34** Hours  
Total job cost: **\$1,999**

**BULLDOZER WORK**Task description: **Regrade temporary Ditches at West Portal**Site: **New Elk Mine**Permit Action: **RN8**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **008**State: **Colorado**Abbreviation: **None**Date: **10/20/2023**County: **Las Animas**Filename: **8**User: **AMG**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:	\$238.76	NA
Operating Cost/Hour:	\$162.29	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA
Total unit Cost/Hour:	\$442.35	
Total Fleet Cost/Hour:	<b>\$442.35</b>	

**MATERIAL QUANTITIES**Initial Volume: **217**Swell factor: **1.125**Loose volume: **244 LCY**Source of estimated volume: **1300 ft. D29 & D29B**Source of estimated swell factor: **Operator Estimate****HOURLY PRODUCTION**Average push distance: **75 feet**Unadjusted hourly production: **1,514.3 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **5 %**Average site altitude: **7,500 feet**Material weight: **2,132 lbs/LCY**Weight description: **User Provided****Job Condition Correction Factor****Source**

Operator Skill:	0.900	(AB.AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.200	(SLOT)
Visibility:	0.800	(POOR)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.700	(FND-MF)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.079	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4402

Adjusted unit  
production: 666.59 LCY/hr  
Adjusted fleet  
production: **666.59** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
Unit cost: \$0.664/LCY

Total job time: **0.37** Hours  
Total job cost: **\$162**

**BULLDOZER WORK**Task description: **Backfill East Portal Face**Site: **New Elk Mine**Permit Action: **RN8**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **009**State: **Colorado**Abbreviation: **None**Date: **10/20/2023**County: **Las Animas**Filename: **8**User: **AMG**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D9T - 9SU**Horsepower: **405**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$238.76	NA
Operating Cost/Hour:	\$162.29	100
Ripper own.	\$18.32	NA
Cost/Hour:		
Ripper op. Cost/Hour:	\$8.98	100
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$469.65**Total Fleet Cost/Hour: **\$1,408.96****MATERIAL QUANTITIES**Initial Volume: **1,400**Swell factor: **1.125**Loose volume: **1,575 LCY**Source of estimated volume: **Division of Reclamation, Mining & Safety**Source of estimated swell factor: **Operator Estimate****HOURLY PRODUCTION**Average push distance: **100 feet**Unadjusted hourly production: **1,243.2 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **10 %**Average site altitude: **7,500 feet**Material weight: **2,132 lbs/LCY**Weight description: **User Provided****Job Condition Correction Factor****Source**

Operator Skill:	0.900	(AB.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:	1.079	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4561

Adjusted unit  
production: 567.02 LCY/hr  
Adjusted fleet  
production: **1701.06 LCY/hr**

### **JOB TIME AND COST**

Fleet size: 3 Dozer(s)  
Unit cost: \$0.828/LCY

Total job time: **0.93 Hours**  
Total job cost: **\$1,305**

**BULLDOZER WORK**Task description: **Backfill West Portal Face**Site: **New Elk Mine**Permit Action: **RN8**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **010**State: **Colorado**Abbreviation: **None**Date: **10/20/2023**County: **Las Animas**Filename: **10**User: **AMG**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D9T - 9SU**Horsepower: **405**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$238.76	NA
Operating Cost/Hour:	\$162.29	100
Ripper own. Cost/Hour:	\$18.32	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA
Total unit Cost/Hour:	\$460.67	
Total Fleet Cost/Hour:	<b>\$921.34</b>	

**MATERIAL QUANTITIES**Initial Volume: **1,400**Swell factor: **1.125**Loose volume: **1,575 LCY**Source of estimated volume: **Division of Reclamation, Mining & Safety**Source of estimated swell  
factor: **Operator Estimate****HOURLY PRODUCTION**Average push distance: **100 feet**Unadjusted hourly  
production: **1,243.2 LCY/hr**Materials consistency  
description: **Compacted fill or embankment 0.9**Average push  
gradient: **10 %**Average site altitude: **7,500 feet**Material weight: **2,132 lbs/LCY**Weight description: **User Provided****Job Condition Correction Factor****Source**

Operator Skill:	0.900	(AB.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:	1.079	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4561

Adjusted unit  
production: 567.02 LCY/hr  
Adjusted fleet  
production: **1134.04** LCY/hr

### **JOB TIME AND COST**

Fleet size: 2 Dozer(s)  
Unit cost: \$0.812/LCY

Total job time: **1.39** Hours  
Total job cost: **\$1,280**

**BULLDOZER WORK**Task description: **Backfill Bates Portal Face**Site: **New Elk Mine**Permit Action: **RN8**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **011**State: **Colorado**Abbreviation: **None**Date: **10/20/2023**County: **Las Animas**Filename: **11**User: **AMG**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D9T - 9SU**Horsepower: **405**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$238.76	NA
Operating Cost/Hour:	\$162.29	100
Ripper own.	\$18.32	NA
Cost/Hour:		
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$460.67**Total Fleet Cost/Hour: **\$921.34****MATERIAL QUANTITIES**Initial Volume: **39,000**Swell factor: **1.125**Loose volume: **43,875 LCY**Source of estimated volume: **Division of Reclamation, Mining & Safety**Source of estimated swell factor: **Operator Estimate****HOURLY PRODUCTION**Average push distance: **100 feet**Unadjusted hourly production: **1,243.2 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **10 %**Average site altitude: **7,500 feet**Material weight: **2,132 lbs/LCY**Weight description: **User Provided****Job Condition Correction Factor****Source**

Operator Skill:	0.900	(AB.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:	1.079	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4561

Adjusted unit  
production: 567.02 LCY/hr  
Adjusted fleet  
production: **1134.04** LCY/hr

### **JOB TIME AND COST**

Fleet size: 2 Dozer(s)  
Unit cost: \$0.812/LCY

Total job time: **38.69** Hours  
Total job cost: **\$35,646**

**BULLDOZER WORK**Task description: **Regrade Areas from MR-99, MR-107, MR-111, MR-114**Site: **New Elk Mine**Permit Action: **RN8**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **012**State: **Colorado**Abbreviation: **None**Date: **10/20/2023**County: **Las Animas**Filename: **12**User: **AMG**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:	<b><u>\$238.76</u></b>	<b><u>NA</u></b>
Operating Cost/Hour:	<b><u>\$162.29</u></b>	<b><u>100</u></b>
Ripper own.		
Cost/Hour:	<b><u>\$0.00</u></b>	<b><u>NA</u></b>
Ripper op. Cost/Hour:	<b><u>\$0.00</u></b>	<b><u>0</u></b>
Operator Cost/Hour:	<b><u>\$41.30</u></b>	<b><u>NA</u></b>
Total unit Cost/Hour:	<b><u>\$442.35</u></b>	
Total Fleet Cost/Hour:	<b><u>\$1,327.06</u></b>	

**MATERIAL QUANTITIES**Initial Volume: **5,536**Swell factor: **1.125**Loose volume: **6,228 LCY**Source of estimated volume: **Exhibit 28- p. 232 assume 4" "topsoil material"**Source of estimated swell factor: **Operator Estimate****HOURLY PRODUCTION**Average push distance: **60 feet**Unadjusted hourly production: **1,872.0 LCY/hr**Materials consistency description: **Loose stockpile 1.2**Average push gradient: **0 %**Average site altitude: **7,400 feet**Material weight: **2,132 lbs/LCY**Weight description: **User Provided****Job Condition Correction Factor****Source**

Operator Skill:	0.900	(AB.AVG.)
Material consistency:	1.200	(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:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.079	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.7738

Adjusted unit  
production: 1,448.55 LCY/hr  
Adjusted fleet  
production: **4345.65** LCY/hr

### **JOB TIME AND COST**

Fleet size: 3 Dozer(s)  
Unit cost: \$0.305/LCY

Total job time: **1.43** Hours  
Total job cost: **\$1,902**

**BULLDOZER WORK**Task description: **Replace Topsoil on D26 Extension**Site: **New Elk Mine**Permit Action: **RN8**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **013**State: **Colorado**Abbreviation: **None**Date: **10/20/2023**County: **Las Animas**Filename: **13**User: **AMG**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:**

		<b><u>Utilization %</u></b>
Ownership Cost/Hour:	<b><u>\$238.76</u></b>	<b><u>NA</u></b>
Operating Cost/Hour:	<b><u>\$162.29</u></b>	<b><u>100</u></b>
Ripper own.		
Cost/Hour:	<b><u>\$0.00</u></b>	<b><u>NA</u></b>
Ripper op. Cost/Hour:	<b><u>\$0.00</u></b>	<b><u>0</u></b>
Operator Cost/Hour:	<b><u>\$41.30</u></b>	<b><u>NA</u></b>
Total unit Cost/Hour:	<b><u>\$442.35</u></b>	
Total Fleet Cost/Hour:	<b><u>\$442.35</u></b>	

**MATERIAL QUANTITIES**Initial Volume: **264**Swell factor: **1.250**Loose volume: **330 LCY**Source of estimated volume: **Division of Reclamation, Mining & Safety**Source of estimated swell factor: **Operator Estimate****HOURLY PRODUCTION**Average push distance: **50 feet**Unadjusted hourly production: **2,110.5 LCY/hr**Materials consistency description: **Partly consolidated stockpile 1.1**Average push gradient: **5 %**Average site altitude: **7,500 feet**Material weight: **2,055 lbs/LCY**Weight description: **User Provided****Job Condition Correction Factor****Source**

Operator Skill:	0.900	(AB.AVG.)
Material consistency:	1.100	(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:	1.119	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.6642

Adjusted unit  
production: 1,401.79 LCY/hr  
Adjusted fleet  
production: **1401.79** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
Unit cost: \$0.316/LCY

Total job time: **0.24** Hours  
Total job cost: **\$104**

**BULLDOZER WORK**Task description: **Backfill and Regrade DWDA Expansion**Site: **New Elk Mine**Permit Action: **RN8**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **014**State: **Colorado**Abbreviation: **None**Date: **10/20/2023**County: **Las Animas**Filename: **14**User: **AMG**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D9T - 9SU**Horsepower: **405**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$238.76	NA
Operating Cost/Hour:	\$162.29	100
Ripper own.	\$18.32	NA
Cost/Hour:		
Ripper op. Cost/Hour:	\$8.98	100
Operator Cost/Hour:	\$41.30	NA
Total unit Cost/Hour:	\$469.65	
Total Fleet Cost/Hour:	<b>\$939.30</b>	

**MATERIAL QUANTITIES**Initial Volume: **1,936**Swell factor: **1.125**Loose volume: **2,178 LCY**Source of estimated volume: **Division of Reclamation, Mining & Safety**Source of estimated swell factor: **Operator Estimate****HOURLY PRODUCTION**Average push distance: **200 feet**Unadjusted hourly production: **700.0 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **0 %**Average site altitude: **7,500 feet**Material weight: **2,132 lbs/LCY**Weight description: **User Provided****Job Condition Correction Factor****Source**

Operator Skill:	0.900	(AB.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:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.079	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5803

Adjusted unit  
production: 406.21 LCY/hr  
Adjusted fleet  
production: **812.42** LCY/hr

### **JOB TIME AND COST**

Fleet size: 2 Dozer(s)  
Unit cost: \$1.156/LCY

Total job time: **2.68** Hours  
Total job cost: **\$2,518**

**BULLDOZER WORK**Task description: **Replace Topsoil on Six Drill Pads and Mud Pits**Site: **New Elk Mine**Permit Action: **RN8**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **015**State: **Colorado**Abbreviation: **None**Date: **10/20/2023**County: **Las Animas**Filename: **15**User: **AMG**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:	\$238.76	NA
Operating Cost/Hour:	\$162.29	100
Ripper own.		
Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA
Total unit Cost/Hour:	\$442.35	
Total Fleet Cost/Hour:	<b>\$442.35</b>	

**MATERIAL QUANTITIES**Initial Volume: **2,200**Swell factor: **1.125**Loose volume: **2,475 LCY**Source of estimated volume: **Division Estimate**Source of estimated swell factor: **Operator Estimate****HOURLY PRODUCTION**Average push distance: **125 feet**Unadjusted hourly production: **1,055.6 LCY/hr**Materials consistency description: **Consolidated stockpile 1.0**Average push gradient: **5 %**Average site altitude: **7,600 feet**Material weight: **2,055 lbs/LCY**Weight description: **User Provided****Job Condition Correction Factor****Source**

Operator Skill:	0.900	(AB.AVG.)
Material consistency:	1.000	(CAT HB)
Dozing method:	1.200	(SLOT)
Visibility:	0.800	(POOR)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.700	(FND-MF)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.119	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5072

Adjusted unit  
production: 535.40 LCY/hr  
Adjusted fleet  
production: **535.4** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
Unit cost: \$0.826/LCY

Total job time: **4.62** Hours  
Total job cost: **\$2,045**

**BULLDOZER WORK**Task description: **Rip and Regrade C&W Train Shop Area**Site: **New Elk Mine**Permit Action: **RN8**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **016**State: **Colorado**Abbreviation: **None**Date: **10/20/2023**County: **Las Animas**Filename: **16**User: **AMG**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D9T - 9SU**Horsepower: **405**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$238.76	NA
Operating Cost/Hour:	\$162.29	100
Ripper own.	\$18.32	NA
Cost/Hour:		
Ripper op. Cost/Hour:	\$8.98	100
Operator Cost/Hour:	\$41.30	NA
Total unit Cost/Hour:	\$469.65	
Total Fleet Cost/Hour:	<b>\$939.30</b>	

**MATERIAL QUANTITIES**Initial Volume: **14,520**Swell factor: **1.125**Loose volume: **16,335 LCY**Source of estimated volume: **Map 11, Map 15**Source of estimated swell factor: **Operator Estimate****HOURLY PRODUCTION**Average push distance: **100 feet**Unadjusted hourly production: **1,243.2 LCY/hr**Materials consistency description: **Dry, non-cohesive 0.8**Average push gradient: **0 %**Average site altitude: **7,500 feet**Material weight: **2,132 lbs/LCY**Weight description: **User Provided****Job Condition Correction Factor****Source**

Operator Skill:	0.900	(AB.AVG.)
Material consistency:	0.800	(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:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.079	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5158

Adjusted unit  
production: 641.24 LCY/hr  
Adjusted fleet  
production: **1282.48** LCY/hr

### **JOB TIME AND COST**

Fleet size: 2 Dozer(s)  
Unit cost: \$0.732/LCY

Total job time: **12.74** Hours  
Total job cost: **\$11,964**

**BULLDOZER WORK**Task description: **Regrade Access Road to NW Vent Shaft (TR72)**Site: **New Elk Mine**Permit Action: **RN8**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **017**State: **Colorado**Abbreviation: **None**Date: **10/20/2023**County: **Las Animas**Filename: **17**User: **AMG**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:**

		<u>Utilization %</u>
Ownership Cost/Hour:	<b><u>\$241.38</u></b>	<b><u>NA</u></b>
Operating Cost/Hour:	<b><u>\$143.92</u></b>	<b><u>100</u></b>
Ripper own.		
Cost/Hour:	<b><u>\$14.11</u></b>	<b><u>NA</u></b>
Ripper op. Cost/Hour:	<b><u>\$1.12</u></b>	<b><u>15</u></b>
Operator Cost/Hour:	<b><u>\$41.30</u></b>	<b><u>NA</u></b>
Total unit Cost/Hour:	<b><u>\$441.83</u></b>	
Total Fleet Cost/Hour:	<b><u>\$441.83</u></b>	

**MATERIAL QUANTITIES**Initial Volume: **1,111**Swell factor: **1.165**Loose volume: **1,294 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: **1,400.0 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **-5 %**Average site altitude: **7,300 feet**Material weight: **2,900 lbs/LCY**Weight description: **Decomposed rock - 50% Rock, 50% Earth****Job Condition Correction Factor****Source**

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:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3963

Adjusted unit  
production: 554.82 LCY/hr  
Adjusted fleet  
production: **554.82** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)  
Unit cost: \$0.796/LCY

Total job time: **2.33** Hours  
Total job cost: **\$1,031**

## TRUCK/LOADER TEAM WORK

Task description: Strip and Place 5 acres of topsoil RDA

Site: New Elk Mine

Permit Action: RN8

Permit/Job#: C1981012

### PROJECT IDENTIFICATION

Task #: 019

State: Colorado

Abbreviation: None

Date: 10/20/2023

County: Las Animas

Filename: 19

User: AMG

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Shift basis: 1 per day

Equipment Description	
Truck Loader Team -Truck:	Cat 725
-Loader:	Cat 319D L 8'-10" Stick
Support Equipment -Load Area:	Cat D7R DS Series II LGP
-Dump Area:	Cat D7R DS Series II LGP
Road Maintenance -Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 3,500 Gal.

#### Cost Breakdown:

	Truck/Loader Team		Support Equipment		Maintenance Equipment	
	Truck	Excavator	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	50	50	25	25
Ownership cost/hour:	\$130.23	\$74.99	\$114.76	\$114.76	\$149.33	\$16.65
Operating cost/hour:	\$77.33	\$51.92	\$45.99	\$45.99	\$23.20	\$9.40
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$32.54	\$37.32	\$41.30	\$41.30	\$28.56	\$0.00
Unit Subtotals:	\$240.10	\$164.23	\$202.05	\$202.05	\$201.08	\$26.05
Number of Units:	1	1	1	1	1	1
Group Subtotals:	Work: \$404.33		Support: \$404.10		Maint: \$227.13	

Total work team cost/hour: \$1,035.56

### MATERIAL QUANTITIES

Initial volume: 9,274

CCY

Swell factor: 1.000

Loose volume: 9,274

LCY

Source of estimated volume: Division of Reclamation, Mining & Safety

Source of estimated swell factor: Cat Handbook

Material Purchase Cost: \$0.00

Total Cost: \$0.00

### HOURLY PRODUCTION

#### Truck Capacity:

Truck Payload (weight) Basis:

Material weight: 1,600

Pounds/LCY

Description: Top Soil

Rated Payload: 52,000

Pounds

Payload Capacity: 32.50

LCY

## Truck/Loader Worksheet Cont'd

Truck Bed (volume) Basis:

Struck Volume:	14.50	LCY
Heaped Volume:	18.70	LCY
Average Volume:	16.60	LCY
Adjusted Volume:	18.70	LCY

Final Truck Volume Based on Number of Loader Passes: 18.23 LCY

Loading Tool Capacity

Bucket Size Class: Medium

Rated Capacity:	1.100	LCY (heaped)
Bucket Fill Factor:	0.975	Loose material - uniform aggregates to 1/8" (95-100%) 0.975
Adjusted Capacity:	<b>1.073</b>	LCY

Job Condition Corrections:

Site Altitude (ft.): 7680 feet

	Truck	Loader	Source
Altitude Adj:	1.000	0.830	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	<b>0.830</b>	<b>0.689</b>	

Loading Tool Cycle Time:

Number of Loading Tool Passes Required to Fill Truck: 17 passes

Excavators and Front Shovels:

Machine Cycle Time vs. Job Condition Rating: AVERAGE  
 Selected Value within this Basic Rating: AVERAGE

Track Loaders – Material Description: \_\_\_\_\_

## Cycle Time Elements (min.):

Load: NA                      Maneuver: NA                      Dump: 0.100

Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): NA minutes

Cycle Time Factors		Factor (min.)	Source
Material:	NA	NA	(Cat HB)
Stockpile:	NA	NA	(Cat HB)
Truck Ownership:	NA	NA	(Cat HB)
Operation:	NA	NA	(Cat HB)
Dump Target:	NA	NA	(Cat HB)
Net Cycle Time Adjustment:		NA	minutes
Adjusted Loader Cycle Time:		<b>0.282</b>	minutes
Net Load Time per Truck:		<b>4.612</b>	minutes

Truck Cycle Time:

Truck Exchange Time:	0.50	Minutes	Adjusted for site altitude:	0.500	Minutes
Truck Load Time:	4.612	Minutes	Adjusted for site altitude:	5.557	Minutes
Truck Maneuver and Dump Time:	0.90	Minutes	Adjusted for site altitude:	0.900	Minutes

Truck Travel (Haul & Return) Time:

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

maintained 3.0

## Truck/Loader Worksheet Cont'd

## Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	800.00	5.00	3.00	8.00	936	0.903

Haul Time: **0.903** minutes

## Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	800.00	-5.00	3.00	-2.00	3159	0.317

Return Time: **0.317** minutesTotal Truck Cycle Time: **8.177** minutes

## Loading Tool unit

Production 180.62 LCY/Hour Adjusted for job efficiency: 149.91 LCY/HourTruck Unit Production 133.79 LCY/Hour Adjusted for job efficiency: 111.05 LCY/HourOptimal No. of Trucks: 1 Truck(s) Selected Number of Trucks: 1 Truck(s)Adjusted hourly truck team production: 111.05 LCY/HourAdjusted single truck/loader team production: 111.05 LCY/HourAdjusted multiple truck/loader team production: **111.05** LCY/Hour**JOB TIME AND COST**Fleet size: 1 Team(s) Total job time: **83.52** HoursUnit cost: \$9.326 /LCY Total job cost: **\$86,485**

Truck/Loader Worksheet Cont'd

**TRUCK/LOADER TEAM WORK**Task description: **Strip and Place 10 acres of Cover over 2 feet from borrowRDA**Site: **New Elk Mine**Permit Action: **RN8**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **020**State: **Colorado**Abbreviation: **None**Date: **10/20/2023**County: **Las Animas**Filename: **20**User: **AMG**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Shift basis: **1 per day**

Equipment Description	
Truck Loader Team -Truck:	Cat 725
-Loader:	Cat 319D L 8'-10" Stick
Support Equipment -Load Area:	Cat D7R DS Series II LGP
-Dump Area:	Cat D7R DS Series II LGP
Road Maintenance -Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 3,500 Gal.

**Cost Breakdown:**

	Truck/Loader Team		Support Equipment		Maintenance Equipment	
	Truck	Excavator	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	50	50	25	25
Ownership cost/hour:	\$130.23	\$74.99	\$114.76	\$114.76	\$149.33	\$16.65
Operating cost/hour:	\$77.33	\$51.92	\$45.99	\$45.99	\$23.20	\$9.40
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$32.54	\$37.32	\$41.30	\$41.30	\$28.56	\$0.00
Unit Subtotals:	\$240.10	\$164.23	\$202.05	\$202.05	\$201.08	\$26.05
Number of Units:	1	1	1	1	1	1
Group Subtotals:	Work: \$404.33		Support: \$404.10		Maint: \$227.13	

Total work team cost/hour: **\$1,035.56****MATERIAL QUANTITIES**Initial volume: **32,267**

CCY

Swell factor: **1.000**Loose volume: **32,267**

LCY

Source of estimated volume: **Operator Provided**Source of estimated swell factor: **Cat Handbook**Material Purchase Cost: **\$0.00**Total Cost: **\$0.00****HOURLY PRODUCTION****Truck Capacity:**

Truck Payload (weight) Basis:

Material weight: **2,650** Pounds/LCYDescription: **Decomposed rock - 25% Rock, 75% Earth**

## Truck/Loader Worksheet Cont'd

Rated Payload:	<u>52,000</u>	Pounds
Payload Capacity:	<u>19.62</u>	LCY

Truck Bed (volume) Basis:

Struck Volume:	<u>14.50</u>	LCY
Heaped Volume:	<u>18.70</u>	LCY
Average Volume:	<u>16.60</u>	LCY
Adjusted Volume:	<u>18.70</u>	LCY

Final Truck Volume Based on Number of Loader Passes: 18.23 LCYLoading Tool CapacityBucket Size Class: Medium

Rated Capacity:	<u>1.100</u>	LCY (heaped)
Bucket Fill Factor:	<u>0.975</u>	Loose material - uniform aggregates to 1/8" (95-100%) <u>0.975</u>
Adjusted Capacity:	<u>1.073</u>	LCY

Job Condition Corrections:Site Altitude (ft.): 7680 feet

	Truck	Loader	Source
Altitude Adj:	1.000	0.830	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	<b>0.830</b>	<b>0.689</b>	

Loading Tool Cycle Time:Number of Loading Tool Passes Required to Fill  
Truck: 17 passesExcavators and Front Shovels:

Machine Cycle Time vs. Job Condition Rating: AVERAGE  
 Selected Value within this Basic Rating: AVERAGE

Track Loaders – Material Description: \_\_\_\_\_

## Cycle Time Elements (min.):

Load: NA      Maneuver: NA      Dump: 0.100Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): NA minutes

Cycle Time Factors		Factor (min.)	Source
Material:	NA	NA	(Cat HB)
Stockpile:	NA	NA	(Cat HB)
Truck Ownership:	NA	NA	(Cat HB)
Operation:	NA	NA	(Cat HB)
Dump Target:	NA	NA	(Cat HB)
Net Cycle Time Adjustment:		<u>NA</u>	minutes
Adjusted Loader Cycle Time:		<u>0.282</u>	minutes
Net Load Time per Truck:		<u>4.612</u>	minutes

Truck Cycle Time:

Truck Exchange Time:	<u>0.50</u>	Minutes	Adjusted for site altitude:	<u>0.500</u>	Minutes
Truck Load Time:	<u>4.612</u>	Minutes	Adjusted for site altitude:	<u>5.557</u>	Minutes
Truck Maneuver and Dump Time:	<u>0.90</u>	Minutes	Adjusted for site altitude:	<u>0.900</u>	Minutes

## Truck/Loader Worksheet Cont'd

Truck Travel (Haul & Return) Time:  
maintained 2.0

Road Condition: Hard, smooth, stabilized, surfaced, watered,

## Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	800.00	5.00	2.00	7.00	1050	0.821

Haul Time: **0.821** minutes

## Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	800.00	-5.00	2.00	-3.00	3159	0.317

Return Time: **0.317** minutes

Total Truck Cycle Time: **8.095** minutes

Loading Tool unit

Production 180.62 LCY/Hour

Adjusted for job efficiency: 149.91 LCY/Hour

Truck Unit Production

135.15 LCY/Hour

Adjusted for job efficiency: 112.17 LCY/Hour

Optimal No. of Trucks: 1 Truck(s)

Selected Number of Trucks: 1 Truck(s)

Adjusted hourly truck team production: 112.17 LCY/Hour

Adjusted single truck/loader team production: 112.17 LCY/Hour

Adjusted multiple truck/loader team production: **112.17** LCY/Hour

**JOB TIME AND COST**

Fleet size: 1 Team(s)

Total job time: **287.66** Hours

Unit cost: \$9.232 /LCY

Total job cost: **\$297,889**

Truck/Loader Worksheet Cont'd

**TRUCK/LOADER TEAM WORK**Task description: **Strip and Place 4 acres of Cover over 2 feet from RDA back**Site: **New Elk Mine**Permit Action: **RN8**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **021**State: **Colorado**Abbreviation: **None**Date: **10/20/2023**County: **Las Animas**Filename: **21**User: **AMG**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Shift basis: **1 per day**

Equipment Description	
Truck Loader Team -Truck:	Cat 725
-Loader:	Cat 319D L 8'-10" Stick
Support Equipment -Load Area:	Cat D7R DS Series II LGP
-Dump Area:	Cat D7R DS Series II LGP
Road Maintenance -Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 3,500 Gal.

**Cost Breakdown:**

	Truck/Loader Team		Support Equipment		Maintenance Equipment	
	Truck	Excavator	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	50	50	25	25
Ownership cost/hour:	\$130.23	\$74.99	\$114.76	\$114.76	\$149.33	\$16.65
Operating cost/hour:	\$77.33	\$51.92	\$45.99	\$45.99	\$23.20	\$9.40
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$32.54	\$37.32	\$41.30	\$41.30	\$28.56	\$0.00
Unit Subtotals:	\$240.10	\$164.23	\$202.05	\$202.05	\$201.08	\$26.05
Number of Units:	1	1	1	1	1	1
Group Subtotals:	Work: \$404.33		Support: \$404.10		Maint: \$227.13	

Total work team cost/hour: **\$1,035.56****MATERIAL QUANTITIES**Initial volume: **12,907**

CCY

Swell factor: **1.000**Loose volume: **12,907**

LCY

Source of estimated volume: **Operator Provided**Source of estimated swell factor: **Cat Handbook**Material Purchase Cost: **\$0.00**Total Cost: **\$0.00****HOURLY PRODUCTION****Truck Capacity:**

Truck Payload (weight) Basis:

Material weight: **2,650** Pounds/LCYDescription: **Decomposed rock - 25% Rock, 75% Earth**

## Truck/Loader Worksheet Cont'd

Rated Payload:	<u>52,000</u>	Pounds
Payload Capacity:	<u>19.62</u>	LCY

Truck Bed (volume) Basis:

Struck Volume:	<u>14.50</u>	LCY
Heaped Volume:	<u>18.70</u>	LCY
Average Volume:	<u>16.60</u>	LCY
Adjusted Volume:	<u>18.70</u>	LCY

Final Truck Volume Based on Number of Loader Passes: 18.23 LCYLoading Tool CapacityBucket Size Class: Medium

Rated Capacity:	<u>1.100</u>	LCY (heaped)
Bucket Fill Factor:	<u>0.975</u>	Loose material - uniform aggregates to 1/8" (95-100%) <u>0.975</u>
Adjusted Capacity:	<u>1.073</u>	LCY

Job Condition Corrections:Site Altitude (ft.): 7680 feet

	Truck	Loader	Source
Altitude Adj:	1.000	0.830	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	<b>0.830</b>	<b>0.689</b>	

Loading Tool Cycle Time:Number of Loading Tool Passes Required to Fill  
Truck: 17 passesExcavators and Front Shovels:

Machine Cycle Time vs. Job Condition Rating: AVERAGE  
 Selected Value within this Basic Rating: AVERAGE

Track Loaders – Material Description: \_\_\_\_\_

## Cycle Time Elements (min.):

Load: NA      Maneuver: NA      Dump: 0.100Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): NA minutes

Cycle Time Factors		Factor (min.)	Source
Material:	NA	NA	(Cat HB)
Stockpile:	NA	NA	(Cat HB)
Truck Ownership:	NA	NA	(Cat HB)
Operation:	NA	NA	(Cat HB)
Dump Target:	NA	NA	(Cat HB)

Net Cycle Time Adjustment:	<u>NA</u>	minutes
Adjusted Loader Cycle Time:	<u>0.282</u>	minutes
Net Load Time per Truck:	<u>4.612</u>	minutes

Truck Cycle Time:

Truck Exchange Time:	<u>0.50</u>	Minutes	Adjusted for site altitude:	<u>0.500</u>	Minutes
Truck Load Time:	<u>4.612</u>	Minutes	Adjusted for site altitude:	<u>5.557</u>	Minutes
Truck Maneuver and Dump Time:	<u>0.90</u>	Minutes	Adjusted for site altitude:	<u>0.900</u>	Minutes

## Truck/Loader Worksheet Cont'd

Truck Travel (Haul & Return) Time:  
maintained 2.0

Road Condition: Hard, smooth, stabilized, surfaced, watered,

## Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	800.00	5.00	2.00	7.00	1050	0.821

Haul Time: **0.821** minutes

## Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	800.00	-5.00	2.00	-3.00	3159	0.317

Return Time: **0.317** minutes

Total Truck Cycle Time: **8.095** minutes

## Loading Tool unit

Production 180.62 LCY/Hour

Adjusted for job efficiency: 149.91 LCY/Hour

## Truck Unit Production

135.15 LCY/Hour

Adjusted for job efficiency: 112.17 LCY/Hour

Optimal No. of Trucks: 1 Truck(s)

Selected Number of Trucks: 1 Truck(s)

Adjusted hourly truck team production: 112.17 LCY/Hour

Adjusted single truck/loader team production: 112.17 LCY/Hour

Adjusted multiple truck/loader team production: **112.17** LCY/Hour

**JOB TIME AND COST**

Fleet size: 1 Team(s)

Total job time: **115.07** Hours

Unit cost: \$9.232 /LCY

Total job cost: **\$119,158**

## Truck/Loader Worksheet Cont'd

**TRUCK/LOADER TEAM WORK**Task description: **Strip and Place 5 acres of Cover over 2 feet from borrow RDA**Site: **New Elk Mine**Permit Action: **RN8**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **022**State: **Colorado**Abbreviation: **None**Date: **10/20/2023**County: **Las Animas**Filename: **22**User: **AMG**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Shift basis: **1 per day**

	Equipment Description
Truck Loader Team -Truck:	Cat 725
-Loader:	Cat 319D L 8'-10" Stick
Support Equipment -Load Area:	Cat D7R DS Series II LGP
-Dump Area:	Cat D7R DS Series II LGP
Road Maintenance -Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 3,500 Gal.

**Cost Breakdown:****Truck/Loader Team****Support Equipment****Maintenance Equipment**

	Truck	Excavator	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	50	50	25	25
Ownership cost/hour:	\$130.23	\$74.99	\$114.76	\$114.76	\$149.33	\$16.65
Operating cost/hour:	\$77.33	\$51.92	\$45.99	\$45.99	\$23.20	\$9.40
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$32.54	\$37.32	\$41.30	\$41.30	\$28.56	\$0.00
Unit Subtotals:	\$240.10	\$164.23	\$202.05	\$202.05	\$201.08	\$26.05
Number of Units:	1	1	1	1	1	1
Group Subtotals:	Work: \$404.33		Support: \$404.10		Maint: \$227.13	

Total work team cost/hour: **\$1,035.56****MATERIAL QUANTITIES**Initial volume: **26,517**

CCY

Swell factor: **1.000**Loose volume: **26,517**

LCY

Source of estimated volume: **Operator Provided**Source of estimated swell factor: **Cat Handbook**Material Purchase Cost: **\$0.00**Total Cost: **\$0.00****HOURLY PRODUCTION****Truck Capacity:**

Truck Payload (weight) Basis:

Material weight: **2,650** Pounds/LCYDescription: **Decomposed rock - 25% Rock, 75% Earth**

## Truck/Loader Worksheet Cont'd

Rated Payload:	<u>52,000</u>	Pounds
Payload Capacity:	<u>19.62</u>	LCY

Truck Bed (volume) Basis:

Struck Volume:	<u>14.50</u>	LCY
Heaped Volume:	<u>18.70</u>	LCY
Average Volume:	<u>16.60</u>	LCY
Adjusted Volume:	<u>18.70</u>	LCY

Final Truck Volume Based on Number of Loader Passes: 18.23 LCYLoading Tool CapacityBucket Size Class: Medium

Rated Capacity:	<u>1.100</u>	LCY (heaped)
Bucket Fill Factor:	<u>0.975</u>	Loose material - uniform aggregates to 1/8" (95-100%) <u>0.975</u>
Adjusted Capacity:	<u>1.073</u>	LCY

Job Condition Corrections:Site Altitude (ft.): 7680 feet

	Truck	Loader	Source
Altitude Adj:	1.000	0.830	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	<b>0.830</b>	<b>0.689</b>	

Loading Tool Cycle Time:Number of Loading Tool Passes Required to Fill  
Truck: 17 passesExcavators and Front Shovels:

Machine Cycle Time vs. Job Condition Rating: AVERAGE  
 Selected Value within this Basic Rating: AVERAGE

Track Loaders – Material Description: \_\_\_\_\_

## Cycle Time Elements (min.):

Load: NA      Maneuver: NA      Dump: 0.100Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): NA minutes

Cycle Time Factors		Factor (min.)	Source
Material:	NA	NA	(Cat HB)
Stockpile:	NA	NA	(Cat HB)
Truck Ownership:	NA	NA	(Cat HB)
Operation:	NA	NA	(Cat HB)
Dump Target:	NA	NA	(Cat HB)
Net Cycle Time Adjustment:		<u>NA</u>	minutes
Adjusted Loader Cycle Time:		<u>0.282</u>	minutes
Net Load Time per Truck:		<u>4.612</u>	minutes

Truck Cycle Time:

Truck Exchange Time:	<u>0.50</u>	Minutes	Adjusted for site altitude:	<u>0.500</u>	Minutes
Truck Load Time:	<u>4.612</u>	Minutes	Adjusted for site altitude:	<u>5.557</u>	Minutes
Truck Maneuver and Dump Time:	<u>0.90</u>	Minutes	Adjusted for site altitude:	<u>0.900</u>	Minutes

## Truck/Loader Worksheet Cont'd

Truck Travel (Haul & Return) Time:  
maintained 2.0

Road Condition: Hard, smooth, stabilized, surfaced, watered,

## Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	800.00	5.00	2.00	7.00	1050	0.821

Haul Time: **0.821** minutes

## Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	800.00	-5.00	2.00	-3.00	3159	0.317

Return Time: **0.317** minutes

Total Truck Cycle Time: **8.095** minutes

Loading Tool unit

Production 180.62 LCY/Hour

Adjusted for job efficiency: 149.91 LCY/Hour

Truck Unit Production

135.15 LCY/Hour

Adjusted for job efficiency: 112.17 LCY/Hour

Optimal No. of Trucks: 1 Truck(s)

Selected Number of Trucks: 1 Truck(s)

Adjusted hourly truck team production: 112.17 LCY/Hour

Adjusted single truck/loader team production: 112.17 LCY/Hour

Adjusted multiple truck/loader team production: **112.17** LCY/Hour

**JOB TIME AND COST**

Fleet size: 1 Team(s)

Total job time: **236.40** Hours

Unit cost: \$9.232 /LCY

Total job cost: **\$244,805**

Truck/Loader Worksheet Cont'd

**TRUCK/LOADER TEAM WORK**Task description: **Replace topsoil over borrow area RDA**Site: **New Elk Mine**Permit Action: **RN8**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **023**State: **Colorado**Abbreviation: **None**Date: **10/20/2023**County: **Las Animas**Filename: **23**User: **AMG**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Shift basis: **1 per day**

Equipment Description	
Truck Loader Team -Truck:	Cat 725
-Loader:	Cat 319D L 8'-10" Stick
Support Equipment -Load Area:	Cat D7R DS Series II LGP
-Dump Area:	Cat D7R DS Series II LGP
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

**Cost Breakdown:**

	Truck/Loader Team		Support Equipment		Maintenance Equipment	
	Truck	Excavator	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	50	50	NA	NA
Ownership cost/hour:	\$130.23	\$74.99	\$114.76	\$114.76	NA	NA
Operating cost/hour:	\$77.33	\$51.92	\$45.99	\$45.99	NA	NA
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	\$0.00	\$0.00	NA	NA
Ripper op. cost/hour:	NA	\$0.00	\$0.00	\$0.00	NA	NA
Operator cost/hour:	\$32.54	\$37.32	\$41.30	\$41.30	NA	NA
Unit Subtotals:	\$240.10	\$164.23	\$202.05	\$202.05	NA	NA
Number of Units:	1	1	1	1	0	0
Group Subtotals:	Work: \$404.33		Support: \$404.10		Maint: \$0.00	

Total work team cost/hour: **\$808.43****MATERIAL QUANTITIES**Initial volume: **6,050**

CCY

Swell factor: **1.000**Loose volume: **6,050**

LCY

Source of estimated volume: **Division of Reclamation, Mining & Safety**Source of estimated swell factor: **Cat Handbook**Material Purchase Cost: **\$0.00**Total Cost: **\$0.00****HOURLY PRODUCTION****Truck Capacity:**

Truck Payload (weight) Basis:

Material weight: **1,600**

Pounds/LCY

Description: **Top Soil**

## Truck/Loader Worksheet Cont'd

Rated Payload:	<u>52,000</u>	Pounds
Payload Capacity:	<u>32.50</u>	LCY

Truck Bed (volume) Basis:

Struck Volume:	<u>14.50</u>	LCY
Heaped Volume:	<u>18.70</u>	LCY
Average Volume:	<u>16.60</u>	LCY
Adjusted Volume:	<u>18.70</u>	LCY

Final Truck Volume Based on Number of Loader Passes: 18.23 LCYLoading Tool CapacityBucket Size Class: Medium

Rated Capacity:	<u>1.100</u>	LCY (heaped)
Bucket Fill Factor:	<u>0.975</u>	Loose material - uniform aggregates to 1/8" (95-100%) 0.975
Adjusted Capacity:	<u>1.073</u>	LCY

Job Condition Corrections:Site Altitude (ft.): 7680 feet

	Truck	Loader	Source
Altitude Adj:	1.000	0.830	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	<b>0.830</b>	<b>0.689</b>	

Loading Tool Cycle Time:Number of Loading Tool Passes Required to Fill  
Truck: 17 passesExcavators and Front Shovels:

Machine Cycle Time vs. Job Condition Rating: AVERAGE  
 Selected Value within this Basic Rating: AVERAGE

Track Loaders – Material Description: \_\_\_\_\_

## Cycle Time Elements (min.):

Load: NA      Maneuver: NA      Dump: 0.100Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): NA minutes

Cycle Time Factors		Factor (min.)	Source
Material:	NA	NA	(Cat HB)
Stockpile:	NA	NA	(Cat HB)
Truck Ownership:	NA	NA	(Cat HB)
Operation:	NA	NA	(Cat HB)
Dump Target:	NA	NA	(Cat HB)
Net Cycle Time Adjustment:		<u>NA</u>	minutes
Adjusted Loader Cycle Time:		<u>0.282</u>	minutes
Net Load Time per Truck:		<u>4.612</u>	minutes

Truck Cycle Time:

Truck Exchange Time:	<u>0.50</u>	Minutes	Adjusted for site altitude:	<u>0.500</u>	Minutes
Truck Load Time:	<u>4.612</u>	Minutes	Adjusted for site altitude:	<u>5.557</u>	Minutes
Truck Maneuver and Dump Time:	<u>0.90</u>	Minutes	Adjusted for site altitude:	<u>0.900</u>	Minutes

## Truck/Loader Worksheet Cont'd

Truck Travel (Haul & Return) Time:  
maintained 2.0

Road Condition: Hard, smooth, stabilized, surfaced, watered,

## Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	800.00	5.00	2.00	7.00	1050	0.821

Haul Time: **0.821** minutes

## Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	800.00	-5.00	2.00	-3.00	3159	0.317

Return Time: **0.317** minutes

Total Truck Cycle Time: **8.095** minutes

Loading Tool unit

Production 180.62 LCY/Hour

Adjusted for job efficiency: 149.91 LCY/Hour

Truck Unit Production

135.15 LCY/Hour

Adjusted for job efficiency: 112.17 LCY/Hour

Optimal No. of Trucks: 1 Truck(s)

Selected Number of Trucks: 1 Truck(s)

Adjusted hourly truck team production: 112.17 LCY/Hour

Adjusted single truck/loader team production: 112.17 LCY/Hour

Adjusted multiple truck/loader team production: **112.17** LCY/Hour

**JOB TIME AND COST**

Fleet size: 1 Team(s)

Total job time: **53.94** Hours

Unit cost: \$7.207 /LCY

Total job cost: **\$43,603**

Truck/Loader Worksheet Cont'd

**TRUCK/LOADER TEAM WORK**Task description: **Backfill and Regrade Transformer and Rock Dust Cut Slope**Site: **New Elk Mine**Permit Action: RN8Permit/Job#: C1981012**PROJECT IDENTIFICATION**Task #: 024State: ColoradoAbbreviation: NoneDate: 10/20/2023County: Las AnimasFilename: 24User: AMGAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Shift basis: 1 per day

Equipment Description	
Truck Loader Team -Truck:	Generic 10-12 cy, 6x4
-Loader:	CAT 950H
Support Equipment -Load Area:	Cat D9T - 9SU
-Dump Area:	Cat D9T - 9SU
Road Maintenance -Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 5,000 Gal.

**Cost Breakdown:**

	Truck/Loader Team		Support Equipment		Maintenance Equipment	
	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	100	100	50	50
Ownership cost/hour:	\$21.85	\$49.32	\$238.76	\$238.76	\$149.33	\$57.13
Operating cost/hour:	\$62.55	\$39.80	\$162.29	\$162.29	\$46.40	\$33.25
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$0.00	\$40.71	\$41.30	\$41.30	\$28.56	\$21.12
Unit Subtotals:	\$84.40	\$129.83	\$442.35	\$442.35	\$224.28	\$111.50
Number of Units:	3	1	1	1	1	1
Group Subtotals:	Work: \$383.03		Support: \$884.70		Maint: \$335.78	

Total work team cost/hour: **\$1,603.51****MATERIAL QUANTITIES**Initial volume: 17,500

CCY

Swell factor: 1.125Loose volume: **19,688**

LCY

Source of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Operator EstimateMaterial Purchase Cost: \$0.00Total Cost: \$0.00**HOURLY PRODUCTION****Truck Capacity:**

Truck Payload (weight) Basis:

Material weight: 1 Pounds/LCYDescription: User Provided

## Truck/Loader Worksheet Cont'd

Rated Payload:	<u>35,400</u>	Pounds
Payload Capacity:	<u>35,400.00</u>	LCY

Truck Bed (volume) Basis:

Struck Volume:	<u>10.00</u>	LCY
Heaped Volume:	<u>12.00</u>	LCY
Average Volume:	<u>11.00</u>	LCY
Adjusted Volume:	<u>12.00</u>	LCY

Final Truck Volume Based on Number of Loader Passes: 9.46 LCYLoading Tool CapacityBucket Size Class: NA

Rated Capacity:	<u>4.300</u>	LCY (heaped)
Bucket Fill Factor:	<u>1.100</u>	Other - rock/dirt mixtures (100-120%) 1.100
Adjusted Capacity:	<b><u>4.730</u></b>	LCY

Job Condition Corrections:Site Altitude (ft.): 7500 feet

	Truck	Loader	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	<b>0.830</b>	<b>0.830</b>	

Loading Tool Cycle Time:Number of Loading Tool Passes Required to Fill  
Truck: 2 passesExcavators and Front Shovels:

Machine Cycle Time vs. Job Condition Rating: NA  
 Selected Value within this Basic Rating: NA

Track Loaders – Material Description: \_\_\_\_\_

## Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.500 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Material 3/4" to 6" diameter	0.00	(Cat HB)
Stockpile:	Conveyor or dozer piled 10 ft. high or less	0.01	(Cat HB)
Truck Ownership:	Common ownership of trucks and loaders - 0.04	-0.040	(Cat HB)
Operation:	Constant operation -0.04	-0.040	(Cat HB)
Dump Target:	Nominal target 0.00	0.000	(Cat HB)
Net Cycle Time Adjustment:		<u>-0.070</u>	minutes
Adjusted Loader Cycle Time:		<b><u>0.430</u></b>	minutes
Net Load Time per Truck:		<b><u>0.530</u></b>	minutes

Truck Cycle Time:

Truck Exchange Time:	<u>0.50</u>	Minutes	Adjusted for site altitude:	<u>0.500</u>	Minutes
Truck Load Time:	<u>0.530</u>	Minutes	Adjusted for site altitude:	<u>0.530</u>	Minutes
Truck Maneuver and Dump Time:	<u>0.90</u>	Minutes	Adjusted for site altitude:	<u>0.900</u>	Minutes

## Truck/Loader Worksheet Cont'd

Truck Travel (Haul & Return) Time:  
maintained 3.0

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

## Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1500.00	4.00	3.00	7.00	1568	0.989

Haul Time: **0.989** minutes

## Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1500.00	-4.00	3.00	-1.00	2938	0.567

Return Time: **0.567** minutes

Total Truck Cycle Time: **3.486** minutes

Loading Tool unit

Production 551.07 LCY/Hour

Adjusted for job efficiency: 457.39 LCY/Hour

Truck Unit Production

162.82 LCY/Hour

Adjusted for job efficiency: 135.14 LCY/Hour

Optimal No. of Trucks: 3 Truck(s)

Selected Number of Trucks: 3 Truck(s)

Adjusted hourly truck team production: 405.43 LCY/Hour

Adjusted single truck/loader team production: 405.43 LCY/Hour

Adjusted multiple truck/loader team production: **405.43** LCY/Hour

**JOB TIME AND COST**

Fleet size: 1 Team(s)

Total job time: **48.56** Hours

Unit cost: \$3.955 /LCY

Total job cost: **\$77,866**

Truck/Loader Worksheet Cont'd

**TRUCK/LOADER TEAM WORK**Task description: **Replace Topsoil to Transformer and Rock Dust Cut Slope**Site: **New Elk Mine**Permit Action: **RN8**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **025**State: **Colorado**Abbreviation: **None**Date: **10/20/2023**County: **Las Animas**Filename: **25**User: **AMG**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Shift basis: **1 per day**

	Equipment Description
Truck Loader Team -Truck:	Generic 10-12 cy, 6x4
-Loader:	CAT 950H
Support Equipment -Load Area:	Cat D9T - 9SU
-Dump Area:	Cat D9T - 9SU
Road Maintenance -Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 5,000 Gal.

**Cost Breakdown:****Truck/Loader Team****Support Equipment****Maintenance Equipment**

	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	65	100	100	50	50
Ownership cost/hour:	\$21.85	\$49.32	\$238.76	\$238.76	\$149.33	\$57.13
Operating cost/hour:	\$62.55	\$25.87	\$162.29	\$162.29	\$46.40	\$33.25
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$0.00	\$40.71	\$41.30	\$41.30	\$28.56	\$21.12
Unit Subtotals:	\$84.40	\$115.90	\$442.35	\$442.35	\$224.28	\$111.50
Number of Units:	3	1	1	1	1	1
Group Subtotals:	Work: \$369.10		Support: \$884.70		Maint: \$335.78	

Total work team cost/hour: **\$1,589.58****MATERIAL QUANTITIES**Initial volume: **400**

CCY

Swell factor: **1.000**Loose volume: **400**

LCY

Source of estimated volume: **Division of Reclamation, Mining & Safety**Source of estimated swell factor: **Operator Estimate**Material Purchase Cost: **\$0.00**Total Cost: **\$0.00****HOURLY PRODUCTION****Truck Capacity:**

Truck Payload (weight) Basis:

Material weight: **2,055**

Pounds/LCY

Description: **User Provided**

## Truck/Loader Worksheet Cont'd

Rated Payload:	<u>35,400</u>	Pounds
Payload Capacity:	<u>17.23</u>	LCY

Truck Bed (volume) Basis:

Struck Volume:	<u>10.00</u>	LCY
Heaped Volume:	<u>12.00</u>	LCY
Average Volume:	<u>11.00</u>	LCY
Adjusted Volume:	<u>12.00</u>	LCY

Final Truck Volume Based on Number of Loader Passes: 9.46 LCYLoading Tool CapacityBucket Size Class: NA

Rated Capacity:	<u>4.300</u>	LCY (heaped)
Bucket Fill Factor:	<u>1.100</u>	Other - rock/dirt mixtures (100-120%) 1.100
Adjusted Capacity:	<b>4.730</b>	LCY

Job Condition Corrections:Site Altitude (ft.): 7500 feet

	Truck	Loader	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	<b>0.830</b>	<b>0.830</b>	

Loading Tool Cycle Time:Number of Loading Tool Passes Required to Fill  
Truck: 2 passesExcavators and Front Shovels:

Machine Cycle Time vs. Job Condition Rating: NA  
 Selected Value within this Basic Rating: NA

Track Loaders – Material Description: \_\_\_\_\_

## Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.500 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Material 3/4" to 6" diameter	0.00	(Cat HB)
Stockpile:	Conveyor or dozer piled 10 ft. high or less	0.01	(Cat HB)
Truck Ownership:	Common ownership of trucks and loaders -	0.04	(Cat HB)
Operation:	Constant operation -0.04	-0.04	(Cat HB)
Dump Target:	Nominal target 0.00	0.00	(Cat HB)
Net Cycle Time Adjustment:		-0.070	minutes
Adjusted Loader Cycle Time:		<b>0.430</b>	minutes
Net Load Time per Truck:		<b>0.530</b>	minutes

Truck Cycle Time:

Truck Exchange Time:	<u>0.50</u>	Minutes	Adjusted for site altitude:	<u>0.500</u>	Minutes
Truck Load Time:	<u>0.530</u>	Minutes	Adjusted for site altitude:	<u>0.530</u>	Minutes
Truck Maneuver and Dump Time:	<u>0.90</u>	Minutes	Adjusted for site altitude:	<u>0.900</u>	Minutes

## Truck/Loader Worksheet Cont'd

Truck Travel (Haul & Return) Time:  
maintained 3.0

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

## Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	3000.00	4.00	3.00	7.00	1568	1.946

Haul Time: 1.946 minutes

## Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	3000.00	-4.00	3.00	-1.00	2938	1.064

Return Time: 1.064 minutes

Total Truck Cycle Time: 4.940 minutes

Loading Tool unit

Production 551.07 LCY/Hour

Adjusted for job efficiency: 457.39 LCY/Hour

Truck Unit Production

114.90 LCY/Hour

Adjusted for job efficiency: 95.37 LCY/Hour

Optimal No. of Trucks: 5 Truck(s)

Selected Number of Trucks: 3 Truck(s)

Adjusted hourly truck team production: 286.10 LCY/Hour

Adjusted single truck/loader team production: 286.10 LCY/Hour

Adjusted multiple truck/loader team production: 286.10 LCY/Hour

**JOB TIME AND COST**

Fleet size: 1 Team(s)

Total job time: 1.40 Hours

Unit cost: \$5.556 /LCY

Total job cost: \$2,222

## Truck/Loader Worksheet Cont'd

**TRUCK/LOADER TEAM WORK**Task description: **Clean Ponds 004, 007, and 008 Twice During Liability Period**Site: **New Elk Mine**Permit Action: **RN8**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **026**State: **Colorado**Abbreviation: **None**Date: **10/20/2023**County: **Las Animas**Filename: **26**User: **AMG**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Shift basis: **1 per day**

	Equipment Description
Truck Loader Team -Truck:	Generic 8-10 cy, 6x4
-Loader:	Cat 336D L 10'-6" Stick
Support Equipment -Load Area:	NA
-Dump Area:	Cat D9T - 9SU
Road Maintenance -Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 5,000 Gal.

**Cost Breakdown:**Truck/Loader TeamSupport EquipmentMaintenance Equipment

	Truck	Excavator	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	75	NA	100	50	50
Ownership cost/hour:	\$16.85	\$95.93	NA	\$238.76	\$149.33	\$57.13
Operating cost/hour:	\$49.69	\$54.87	NA	\$162.29	\$46.40	\$33.25
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$0.00	\$37.32	NA	\$41.30	\$28.56	\$21.12
Unit Subtotals:	\$66.54	\$188.12	NA	\$442.35	\$224.28	\$111.50
Number of Units:	3	1	0	1	1	1
Group Subtotals:	Work: \$387.74		Support: \$442.35		Maint: \$335.78	

Total work team cost/hour: **\$1,165.87****MATERIAL QUANTITIES**Initial volume: **19,095**

CCY

Swell factor: **1.000**Loose volume: **19,095**

LCY

Source of estimated volume: **Division of Reclamation, Mining & Safety**Source of estimated swell factor: **Cat Handbook**Material Purchase Cost: **\$0.00**Total Cost: **\$0.00****HOURLY PRODUCTION****Truck Capacity:**Truck Payload (weight) Basis:Material weight: **2,700**

Pounds/LCY

Description: **Earth - Wet excavated**

## Truck/Loader Worksheet Cont'd

Rated Payload:	<u>27,280</u>	Pounds
Payload Capacity:	<u>10.10</u>	LCY

Truck Bed (volume) Basis:

Struck Volume:	<u>8.00</u>	LCY
Heaped Volume:	<u>10.00</u>	LCY
Average Volume:	<u>9.00</u>	LCY
Adjusted Volume:	<u>10.00</u>	LCY

Final Truck Volume Based on Number of Loader Passes: 8.81 LCYLoading Tool CapacityBucket Size Class: Medium

Rated Capacity:	<u>2.260</u>	LCY (heaped)
Bucket Fill Factor:	<u>0.975</u>	Loose material - mixed moist aggregates (95-100%) 0.975
Adjusted Capacity:	<u>2.204</u>	LCY

Job Condition Corrections:Site Altitude (ft.): 7500 feet

	Truck	Loader	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	<b>0.830</b>	<b>0.830</b>	

Loading Tool Cycle Time:Number of Loading Tool Passes Required to Fill  
Truck: 4 passesExcavators and Front Shovels:

Machine Cycle Time vs. Job Condition Rating: BELOW AVERAGE  
 Selected Value within this Basic Rating: SEVERE

Track Loaders – Material Description: \_\_\_\_\_

## Cycle Time Elements (min.):

Load: NA      Maneuver: NA      Dump: 0.100Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): NA minutes

Cycle Time Factors		Factor (min.)	Source
Material:	NA	NA	(Cat HB)
Stockpile:	NA	NA	(Cat HB)
Truck Ownership:	NA	NA	(Cat HB)
Operation:	NA	NA	(Cat HB)
Dump Target:	NA	NA	(Cat HB)
Net Cycle Time Adjustment:		NA	minutes
Adjusted Loader Cycle Time:		<b>0.390</b>	minutes
Net Load Time per Truck:		<b>1.270</b>	minutes

Truck Cycle Time:

Truck Exchange Time:	<u>0.50</u>	Minutes	Adjusted for site altitude:	<u>0.500</u>	Minutes
Truck Load Time:	<u>1.270</u>	Minutes	Adjusted for site altitude:	<u>1.270</u>	Minutes
Truck Maneuver and Dump Time:	<u>0.80</u>	Minutes	Adjusted for site altitude:	<u>0.800</u>	Minutes

## Truck/Loader Worksheet Cont'd

Truck Travel (Haul & Return) Time:  
penetration 4.0

Road Condition: Rutted dirt, little maintenance, no water, 1" tire

## Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	5000.00	5.00	4.00	9.00	1249	4.024

Haul Time: 4.024 minutes

## Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	5000.00	-5.00	4.00	-1.00	2938	1.754

Return Time: 1.754 minutes

Total Truck Cycle Time: 8.348 minutes

Loading Tool unit

Production 298.78 LCY/Hour

Adjusted for job efficiency: 247.99 LCY/Hour

Truck Unit Production

63.35 LCY/Hour

Adjusted for job efficiency: 52.58 LCY/Hour

Optimal No. of Trucks: 5 Truck(s)

Selected Number of Trucks: 3 Truck(s)

Adjusted hourly truck team production: 157.74 LCY/Hour

Adjusted single truck/loader team production: 157.74 LCY/Hour

Adjusted multiple truck/loader team production: 157.74 LCY/Hour

**JOB TIME AND COST**

Fleet size: 1 Team(s)

Total job time: 121.05 Hours

Unit cost: \$7.391 /LCY

Total job cost: \$141,133

Truck/Loader Worksheet Cont'd

**TRUCK/LOADER TEAM WORK**Task description: **Replace Topsoil on NW vent Fan Aea (TR72)**Site: **New Elk Mine**Permit Action: **RN8**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **027**State: **Colorado**Abbreviation: **None**Date: **10/20/2023**County: **Las Animas**Filename: **27**User: **AMG**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Shift basis: **1 per day**

		Equipment Description
Truck Loader Team -Truck:		Generic 8-10 cy, 6x4
-Loader:		CAT 928Hz
Support Equipment -Load Area:		NA
-Dump Area:		Cat D8T - 8SU
Road Maintenance -Motor Grader:		NA
-Water Truck:		NA

**Cost Breakdown:****Truck/Loader Team****Support Equipment****Maintenance Equipment**

	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	45	NA	100	NA	NA
Ownership cost/hour:	\$16.85	\$47.37	NA	\$241.38	NA	NA
Operating cost/hour:	\$49.69	\$15.53	NA	\$143.92	NA	NA
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	NA	NA
Operator cost/hour:	\$0.00	\$40.71	NA	\$41.30	NA	NA
Unit Subtotals:	\$66.54	\$103.61	NA	\$426.60	NA	NA
Number of Units:	1	1	0	1	0	0
Group Subtotals:	Work: \$170.15		Support: \$426.60		Maint: \$0.00	

Total work team cost/hour: **\$596.75****MATERIAL QUANTITIES**Initial volume: **694**

CCY

Swell factor: **1.215**Loose volume: **843**

LCY

Source of estimated volume: **Division of Reclamation, Mining & Safety**Source of estimated swell factor: **Cat Handbook**Material Purchase Cost: **\$0.00**Total Cost: **\$0.00****HOURLY PRODUCTION****Truck Capacity:****Truck Payload (weight) Basis:**Material weight: **1,600**

Pounds/LCY

Description: **Top Soil**

Rated Payload:	<u>27,280</u>	Pounds
Payload Capacity:	<u>17.05</u>	LCY

**Truck Bed (volume) Basis:**

Struck Volume:	<u>8.00</u>	LCY
Heaped Volume:	<u>10.00</u>	LCY
Average Volume:	<u>9.00</u>	LCY
Adjusted Volume:	<u>10.00</u>	LCY

Final Truck Volume Based on Number of Loader Passes: 9.90 LCY

**Loading Tool Capacity**

Bucket Size Class: NA

Rated Capacity:	<u>3.000</u>	LCY (heaped)
Bucket Fill Factor:	<u>1.100</u>	Other - rock/dirt mixtures (100-120%) 1.100
Adjusted Capacity:	<u>3.300</u>	LCY

**Job Condition Corrections:**

Site Altitude (ft.): 7350 feet

	Truck	Loader	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	<b>0.830</b>	<b>0.830</b>	

**Loading Tool Cycle Time:**

Number of Loading Tool Passes Required to Fill Truck: 3 passes

**Excavators and Front Shovels:**

Machine Cycle Time vs. Job Condition Rating: NA  
 Selected Value within this Basic Rating: NA

Track Loaders – Material Description: \_\_\_\_\_

**Cycle Time Elements (min.):**

Load: NA      Maneuver: NA      Dump: 0.100

Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.475 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Mixed material 0.02	0.020	(Cat HB)
Stockpile:	Dumped by truck 0.02	0.020	(Cat HB)
Truck Ownership:	Common ownership of trucks and loaders - 0.04	-0.040	(Cat HB)
Operation:	Constant operation -0.04	-0.040	(Cat HB)
Dump Target:	Nominal target 0.00	0.000	(Cat HB)
Net Cycle Time Adjustment:		-0.040	minutes
Adjusted Loader Cycle Time:		<b>0.435</b>	minutes
Net Load Time per Truck:		<b>0.970</b>	minutes

**Truck Cycle Time:**

Truck Exchange Time:	<u>0.50</u>	Minutes	Adjusted for site altitude:	<u>0.500</u>	Minutes
Truck Load Time:	<u>0.970</u>	Minutes	Adjusted for site altitude:	<u>0.970</u>	Minutes
Truck Maneuver and Dump Time:	<u>0.80</u>	Minutes	Adjusted for site altitude:	<u>0.800</u>	Minutes

Truck Travel (Haul & Return) Time:

Road Condition: Rutted dirt, little maintenance, no water, 2" tire

penetration 5.0

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	8.00	5.00	13.00	834	0.607
2	250.00	6.00	5.00	11.00	1018	0.247

Haul Time: **0.854** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	250.00	-6.00	5.00	-1.00	2938	0.127
2	500.00	-8.00	5.00	-3.00	2938	0.228

Return Time: **0.355** minutes

Total Truck Cycle Time: **3.479** minutes

Loading Tool unit

Production

404.08 LCY/Hour

Adjusted for job efficiency: 335.39 LCY/Hour

Truck Unit Production

170.74 LCY/Hour

Adjusted for job efficiency: 141.71 LCY/Hour

Optimal No. of Trucks: 2 Truck(s)

Selected Number of Trucks: 1 Truck(s)

Adjusted hourly truck team production: 141.71 LCY/Hour

Adjusted single truck/loader team production: 141.71 LCY/Hour

Adjusted multiple truck/loader team production: **141.71** LCY/Hour

### **JOB TIME AND COST**

Fleet size: 1 Team(s)

Total job time: **5.95** Hours

Unit cost: \$4,211 /LCY

Total job cost: **\$3,551**

## DEMOLITION WORK

Task description: Demolish and Remove All Structures

Site: New Elk Mine

Permit Action: RN8

Permit/Job#: C1981012

### PROJECT IDENTIFICATION

Task #: 028

State: Colorado

Abbreviation: None

Date: 10/20/2023

County: Las Animas

Filename: 28

User: AMG

Agency or organization name: DRMS

### UNIT COSTS

Location adjustment: 94.00 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Pump House at North River Stockpile	25'X20'X10'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	5,000.00	CF	\$0.24	\$1,187.50
-Pad	25'X20'X6'	Demo. and on-site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul	250.00	SF	\$1.26	\$314.30
-Footers	1'X2'X88	Demo. and on-site disposal in existing pit, 1.0 ft. x 2 ft. - Max. 10,000 ft. haul	88.00	LF	\$5.03	\$442.53
East Portal Fan	30'X14'X10'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	4,200.00	CF	\$0.24	\$997.50
-Pad	20'X10'X12"	Demo. and on-site disposal in existing pit, 12 in. thick - Max. 10,000 ft. haul	200.00	SF	\$2.51	\$502.86
-Steel Duct Work	18'X18'X10'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	3,240.00	CF	\$0.24	\$769.50
-Fan and Related Structures	10,000lbs	USER PROVIDED ITEM	10,000.00	LBS	\$0.25	\$2,500.00
Oil House	33'X32'X16'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	16,896.00	CF	\$0.24	\$4,012.80
-Pad	33'X32'X4"	Demo. and on-site disposal in existing pit, 4 in. thick - Max. 10,000 ft. haul	1,056.00	SF	\$0.84	\$885.03
Hoist House	54'X42'X24'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	54,432.00	CF	\$0.24	\$12,927.60
-Pad	51'X42'X24"	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	159.00	CY	\$144.50	\$22,975.50
-Hoist Unit and Controls	18,000lbs	USER PROVIDED ITEM	18,000.00	LBS	\$0.25	\$4,500.00

Hoist House 2	20'X40'X20'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	16,000.00	CF	\$0.24	\$3,800.00
-Sheave	30 Tons	USER PROVIDED ITEM	30.00	TON	\$24.34	\$730.20
-Pad	50'X30'X5.4"	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	300.00	CY	\$144.50	\$43,350.00
Industrial Building - Segment 1	246'X50'X23'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	282,900.00	CF	\$0.24	\$67,188.75
Industrial Building - Segment 2	246'X49'X38'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	458,052.00	CF	\$0.24	\$108,787.35
Industrial Building - Segment 3	246'X40.5'X21'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	209,223.00	CF	\$0.24	\$49,690.46
-Pad	246'X139.5'X6"	Demo. and on-site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul	34,317.00	SF	\$1.26	\$43,143.33
Transfer Building	42'X22'X31.5'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	29,106.00	CF	\$0.24	\$6,912.68
Breaker Building	65'X45'X65'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	190,125.00	CF	\$0.24	\$45,154.69
-Pad	65'X45'X24"	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	217.00	CY	\$144.50	\$31,356.50
Slope Conveyor Drive House Building	50' x 37.5' x 15'h	Bldg. (MN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	28,125.00	CF	\$0.32	\$9,011.25
-Drive and Internal Equipment	3,706 CF	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	3,706.00	CF	\$0.24	\$880.18
-Foundation	45'X37'X5'	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	308.00	CY	\$144.50	\$44,506.00
-Slope Belt	1,000'L X 6'w x6'h	Conveyor, demolition, on-site disposal, existing pit, 10,000 ft. haul	36,000.00	CF	\$0.38	\$13,680.00
-Transfer Belt	1,000'L x 6'wx6'h	Conveyor, demolition, on-site disposal, existing pit, 10,000 ft. haul	36,000.00	CF	\$0.38	\$13,680.00

-Drive Belt	1000'Lx6'wx6'h	Conveyor, demolition, on-site disposal, existing pit, 10,000 ft. haul	36,000.00	CF	\$0.38	\$13,680.00
-Retaining Wall	40'X6'X2'	Wall, concrete, demolition only, average reinforcing - 24 in. thick	240.00	SF	\$5.51	\$1,322.33
Breaker Building Rock Box	14'X24'X10'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	3,360.00	CF	\$0.24	\$798.00
-Pad	20 CY	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	20.00	CY	\$144.50	\$2,890.00
-Retaining Wall	3.5'X12"X80 LF	Demo. and on-site disposal in existing pit, 12 in. thick - Max. 10,000 ft. haul	280.00	SF	\$4.91	\$1,375.67
Sewage Plant Building	20'X20'X12'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	4,800.00	CF	\$0.24	\$1,140.00
-Pad	40 CY	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	40.00	CY	\$144.50	\$5,780.00
-32,000 Gallon Sludge Tank	32,000 G	Comprehensive storage tank removal, non-leaking - 9,000 to 12,000 gal. tank	1.00	EA	\$7,978.93	\$7,978.93
-Pump Sudge From Tank	32,000 G	Remove sludge, water, and rem. product from tank - 9,000 to 12,000 gal.	1.00	EA	\$432.00	\$432.00
Water Pipe Vaults (fig.2a)	16' x 10' x 8'	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	134.80	CY	\$144.50	\$19,478.60
-400,000 Gallon Water Tank	20'X43' Diameter	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	29,029.00	CF	\$0.24	\$6,894.39
-Pad	2'X44'	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	113.00	CY	\$144.50	\$16,328.50
-25,000 Gallon Water Tank	21'X11' Diameter	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	1,995.00	CF	\$0.24	\$473.81
-Pad	2'X12'	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	8.00	CY	\$144.50	\$1,156.00
Water Tank	21.5'X24'	Bldg. (SN) demo./on-site disposal in	8,714.00	CF	\$0.24	\$2,069.58

		existing pit or cut - Max. 10,000 ft. haul				
-Footers	67.5 LF (5)	Demo. and on-site disposal in existing pit, 1.0 ft. x 2 ft. - Max. 10,000 ft. haul	338.00	LF	\$5.03	\$1,699.70
Emergency Escape Hoist	20'X20'X20'	Bldg. (SN) demo./on- site disposal in existing pit or cut - Max. 10,000 ft. haul	8,000.00	CF	\$0.24	\$1,900.00
Prep Plant	78'X65'X82'	Bldg. (SN) demo./on- site disposal in existing pit or cut - Max. 10,000 ft. haul	415,740.00	CF	\$0.24	\$98,738.25
-Pad	78'X65'X24"	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	376.00	CY	\$144.50	\$54,332.00
-Footers	2'X3'	Demo. and on-site disposal in existing pit, 2.0 ft. x 3 ft. - Max. 10,000 ft. haul	283.00	LF	\$15.09	\$4,269.37
Thickener Tank	100'DX12'	Demo. and on-site disposal in existing pit, 12 in. thick - Max. 10,000 ft. haul	3,770.00	SF	\$2.51	\$9,478.91
-Pad	100'DX12"	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	290.80	CY	\$144.50	\$42,020.60
Coal Silos (2)	70'X183'X3' (Each)	Explosive demolition, large projects - Concrete structures	1,408,600.00	CF	\$0.37	\$521,182.00
-Pad (2)	70'X24" (Each)	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	570.00	CY	\$144.50	\$82,365.00
-Footers	2'X3'X220 LF	Demo. and on-site disposal in existing pit, 2.0 ft. x 3 ft. - Max. 10,000 ft. haul	440.00	LF	\$15.09	\$6,637.88
River Crossing Bridge (metal foot bridge)	30' x 4'w x 3'h	Bridge Demolition - Steel	120.00	SF	\$11.90	\$1,428.00
Slope Rail Track	1,325 LF	Railroad track - Ties and track	1,325.00	LF	\$15.60	\$20,670.00
-Fencing	500 LF	Fencing, chain link, including posts and fabric - 8 ft. to 10 ft. high	500.00	LF	\$3.39	\$1,695.00
-Retaining Wall	3.5'X12"X150LF	Demo. and on-site disposal in existing pit, 12 in. thick - Max. 10,000 ft. haul	525.00	SF	\$4.91	\$2,579.38
Rock Dust Bin	5,000 CF	Bldg. (SN) demo./on- site disposal in existing pit or cut - Max. 10,000 ft. haul	5,000.00	CF	\$0.24	\$1,187.50

-Pad	12'X12'X1'th	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	5.33	CY	\$144.50	\$770.19
-Compressor Building	20'X20'X10'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	4,000.00	CF	\$0.24	\$950.00
-Equipment Removal	20'X20'X10'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	2,000.00	CF	\$0.24	\$475.00
-Pad	20'X20'X2'	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	27.00	CY	\$144.50	\$3,901.50
Refuse Substation	32'X17.5'X6'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	3,360.00	CF	\$0.24	\$798.00
-Remove Transformer	NA	NON-PCB Transformer Removal	1.00	EA	\$2,314.20	\$2,314.20
Plant Substation	32'X17.5'X6'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	3,360.00	CF	\$0.24	\$798.00
-Remove Transformer	NA	NON-PCB Transformer Removal	1.00	EA	\$2,314.20	\$2,314.20
East Portal Substation	32'X17.5'X6'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	3,360.00	CF	\$0.24	\$798.00
-Remove Transformer	NA	NON-PCB Transformer Removal	1.00	EA	\$2,314.20	\$2,314.20
Thickener Substation	15'DX12'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	2,120.00	CF	\$0.24	\$503.50
-Pad	15'DX12"	Demo. and on-site disposal in existing pit, 12 in. thick - Max. 10,000 ft. haul	176.70	SF	\$2.51	\$444.28
-Remove Transformer	NA	NON-PCB Transformer Removal	1.00	EA	\$2,314.20	\$2,314.20
Electric House	9'X9'X10'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	810.00	CF	\$0.24	\$192.38
-Concrete Portion	7'X7'X5'	Bldg. (SC) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	245.00	CF	\$0.28	\$68.48
Electric Power Upgrade Equip. Removal	96 CY	USER PROVIDED ITEM	96.00	CY	\$24.34	\$2,336.64
Bates Portal Access Rd Retaining Walls	12"X8'X 285LF	Demo. and on-site disposal in existing pit, 12 in. thick - Max. 10,000 ft. haul	285.00	SF	\$4.91	\$1,400.23

-Footer	6'X12"	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	285.00	LF	\$15.63	\$4,453.70
Bates Portal Ditch 26 Retaining Wall	50 CY	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	50.00	CY	\$144.50	\$7,225.00
Bates Portal Conveyor Drive Bldg.	24'X42'X30'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	30,240.00	CF	\$0.24	\$7,182.00
-Pad	24'X42'X2'	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	74.00	CY	\$144.50	\$10,693.00
Bates Portal Conveyor Transfer Bldg.	18'X18'X30'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	9,720.00	CF	\$0.24	\$2,308.50
-Pad	18'X18'X2'	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	24.00	CY	\$144.50	\$3,468.00
Bates Portal Vent Fan	20'X20'X14'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	1,520.00	CF	\$0.24	\$361.00
-Concrete Portion	20'X10'X6"	Demo. and on-site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul	200.00	SF	\$1.26	\$251.44
-Fan Removal	5,000 lbs	USER PROVIDED ITEM	5,000.00	LBS	\$0.25	\$1,250.00
-Fan Motor	5,000 lbs	USER PROVIDED ITEM	5,000.00	LBS	\$0.25	\$1,250.00
West Portal Fan	20'X20'X14'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	1,520.00	CF	\$0.24	\$361.00
-Concrete Portion	22.4'X22.4'X6"	Demo. and on-site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul	501.00	SF	\$1.26	\$629.86
-Fan Removal	3,500 lbs	USER PROVIDED ITEM	3,500.00	LBS	\$0.25	\$875.00
-Fan Motor	4,000 lbs	USER PROVIDED ITEM	4,000.00	LBS	\$0.25	\$1,000.00
West Portal Fan Transformer	8,000 lbs	NON-PCB Transformer Removal	1.00	EA	\$2,314.20	\$2,314.20
- Pad	15'X12'X1'	Demo. and on-site disposal in existing pit, 12 in. thick - Max. 10,000 ft. haul	180.00	SF	\$2.51	\$452.57
Acid Tank	10'DX12'	Comprehensive storage tank removal, non-leaking - 6,000 to 8,000 gal. tank	1.00	EA	\$5,536.95	\$5,536.95

Fuel Containment Sumps (2)	17'X10'X3'X8"	Demo. and on-site disposal in existing pit, 8 in. thick - Max. 10,000 ft. haul	1,004.00	SF	\$1.68	\$1,682.90
-Petroleum Contaminated Soil Removal	10 cy	Dispose of contaminated soil at approved landfill - Minimum	10.00	CY	\$145.00	\$1,450.00
Antifreeze Tank Sump	39'X11'X4'X8"	Demo. and on-site disposal in existing pit, 8 in. thick - Max. 10,000 ft. haul	829.00	SF	\$1.68	\$1,389.57
Stacking Tube - Raw Coal	9'DX59'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	3,753.00	CF	\$0.24	\$891.34
Water Pumphouse Tank	20'DX15'X8"	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	950.00	CF	\$0.24	\$225.63
Scale House	6'X4'X8'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	192.00	CF	\$0.24	\$45.60
-Scale	12'X30'X4'	Demo. and on-site disposal in existing pit, 12 in. thick - Max. 10,000 ft. haul	360.00	SF	\$2.51	\$905.15
Powerline Removal	19580 LF	Disposal of utility pole cross arms and hardware surplus material	19,580.00	LF	\$0.01	\$195.80
Sewage Treatment Tank - Buried	8.5'X5.5'X96'	Comprehensive storage tank removal, non-leaking - 9,000 to 12,000 gal. tank	1.00	EA	\$7,978.93	\$7,978.93
Slope Belt Conveyor	75 LF X 8'	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	1.22	EA	\$3,350.00	\$4,087.00
Transfer Belt Conveyor	8'X85 LF	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	1.38	EA	\$3,350.00	\$4,623.00
Tube Belt Conveyor	8'X582 LF	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	9.50	EA	\$3,350.00	\$31,825.00
Raw Coal to Transfer Bldg	6'X374 LF	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	6.00	EA	\$3,350.00	\$20,100.00
Raw Coal Reclaim to Prep Plant	6'X296 LF	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	4.80	EA	\$3,350.00	\$16,080.00
Clean Coal Reclaim to Transfer Bldg.	6'X497 LF	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	8.00	EA	\$3,350.00	\$26,800.00
Clean Coal from Prep Plant	6'X230 LF	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	3.74	EA	\$3,350.00	\$12,529.00

Refuse Belt-Overland	6'X1,050 LF	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	17.00	EA	\$3,350.00	\$56,950.00
Refuse Belt - Elevated	6'X406 LF	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	6.60	EA	\$3,350.00	\$22,110.00
Truck Dump	6'X170 LF	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	1.10	EA	\$3,350.00	\$3,685.00
Silo Loadout	8'X200 LF	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	3.25	EA	\$3,350.00	\$10,887.50
Transfer to Loadout	8'X114 LF	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	1.85	EA	\$3,350.00	\$6,197.50
Raw Coal Reclaim Tunnel	12'D CMP*253'	Pipe, corrugated metal (CMP) - 144 in. diameter pipe	253.00	LF	\$85.67	\$21,675.34
Clean Coal Reclaim Tunnel	12'D CMP*275'	Pipe, corrugated metal (CMP) - 144 in. diameter pipe	275.00	LF	\$85.67	\$23,560.16
Culvert #1	21"	Pipe, corrugated metal (CMP) - 21 in. diameter pipe	25.00	LF	\$6.78	\$169.45
Culvert #5	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	38.00	LF	\$4.37	\$165.88
Culvert #6	60"	Pipe, corrugated metal (CMP) - 60 in. diameter pipe	17.00	LF	\$24.21	\$411.60
Culvert #7	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	75.00	LF	\$4.37	\$327.40
Culvert #11	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	75.00	LF	\$4.37	\$327.40
Culvert #12	21"	Pipe, corrugated metal (CMP) - 21 in. diameter pipe	775.00	LF	\$6.78	\$5,252.80
Culvert #13	21"	Pipe, corrugated metal (CMP) - 21 in. diameter pipe	50.00	LF	\$6.78	\$338.89
Culvert #17	36"	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	69.00	LF	\$12.39	\$854.89
Culvert #19	33"	Pipe, corrugated metal (CMP) - 30 in. diameter pipe	38.00	LF	\$10.30	\$391.24
Culvert #21	36"	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	50.00	LF	\$12.39	\$619.49
Culvert #22	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	19.00	LF	\$4.37	\$82.94
Culvert #24	60"	Pipe, corrugated metal (CMP) - 60 in. diameter pipe	160.00	LF	\$24.21	\$3,873.86

Culvert #25	60"	Pipe, corrugated metal (CMP) - 60 in. diameter pipe	140.00	LF	\$24.21	\$3,389.62
Culvert #26	42"	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	13.00	LF	\$12.39	\$161.07
Culvert #28	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	31.00	LF	\$4.37	\$135.32
Culvert #29	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	38.00	LF	\$4.37	\$165.88
Culvert #31	18"	Pipe, corrugated metal (CMP) - 18 in. diameter pipe	50.00	LF	\$5.94	\$296.93
Culvert #32	33"	Pipe, corrugated metal (CMP) - 30 in. diameter pipe	44.00	LF	\$10.30	\$453.02
Culvert #33	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	125.00	LF	\$4.37	\$545.66
Culvert #34	15"	Pipe, corrugated metal (CMP) - 15 in. diameter pipe	31.00	LF	\$5.13	\$158.95
Culvert #35	6"	Pipe, corrugated metal (CMP) - 8 in. diameter pipe	19.00	LF	\$3.33	\$63.19
Culvert #36	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	31.00	LF	\$4.37	\$135.32
Culvert #37	36"	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	50.00	LF	\$12.39	\$619.49
Culvert #41	48"	Pipe, corrugated metal (CMP) - 48 in. diameter pipe	19.00	LF	\$18.05	\$343.03
Culvert #46	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	19.00	LF	\$4.37	\$82.94
Culvert #47	15"	Pipe, corrugated metal (CMP) - 15 in. diameter pipe	13.00	LF	\$5.13	\$66.66
Culvert #48	42"	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	313.00	LF	\$12.39	\$3,877.98
Culvert #50	18"	Pipe, corrugated metal (CMP) - 18 in. diameter pipe	25.00	LF	\$5.94	\$148.47
Culvert #52	36"	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	50.00	LF	\$12.39	\$619.49
Culvert #53	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	60.00	LF	\$7.73	\$463.72
Culvert #54	36"	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	50.00	LF	\$12.39	\$619.49

Culvert #55	8"	Pipe, corrugated metal (CMP) - 8 in. diameter pipe	25.00	LF	\$3.33	\$83.14
Culvert #59	18"	Pipe, corrugated metal (CMP) - 18 in. diameter pipe	28.00	LF	\$5.94	\$166.28
Culvert #60	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	31.00	LF	\$7.73	\$239.59
Culvert #61	8"	Pipe, corrugated metal (CMP) - 8 in. diameter pipe	25.00	LF	\$3.33	\$83.14
Culvert #62	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	13.00	LF	\$4.37	\$56.75
Culvert #64	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	50.00	LF	\$7.73	\$386.44
Culvert #65	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	19.00	LF	\$4.37	\$82.94
Culvert #66	18"	Pipe, corrugated metal (CMP) - 18 in. diameter pipe	18.00	LF	\$5.94	\$106.89
Culvert #67	18"	Pipe, corrugated metal (CMP) - 18 in. diameter pipe	22.00	LF	\$5.94	\$130.65
Culvert #68	18"	Pipe, corrugated metal (CMP) - 18 in. diameter pipe	48.00	LF	\$5.94	\$285.05
Culvert #69	18"	Pipe, corrugated metal (CMP) - 18 in. diameter pipe	80.00	LF	\$5.94	\$475.09
Bates Portal Conveyor to Breaker Bldg.	8'X970 LF	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	15.80	EA	\$3,350.00	\$52,930.00
Jansen Loadout Truck Scale	15'X40'	Demo. and on-site disposal in existing pit, 12 in. thick - Max. 10,000 ft. haul	600.00	SF	\$2.51	\$1,508.58
Jansen Coal Conveyor	2,740 LF	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	44.50	EA	\$3,350.00	\$149,075.00
-Footers	45cy	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	45.00	CY	\$144.50	\$6,502.50
-Transfer Points	10'X10'X10' (3)	Bldg. (MN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	3,000.00	CF	\$0.32	\$961.20
-Footers	3'X2'	Demo. and on-site disposal in existing pit, 2.0 ft. x 3 ft. - Max. 10,000 ft. haul	120.00	LF	\$15.09	\$1,810.33
Jansen Loadout Bin	38'X35'X40'	Bldg. (MN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	53,200.00	CF	\$0.32	\$17,045.28

Jansen Feed Hopper	20'X15'X16'	Bldg. (MN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	4,920.00	CF	\$0.32	\$1,576.37
Two Radial stackers @ RDA (p. 2.05-27)	2(150' l)	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	4.90	EA	\$3,350.00	\$16,415.00
RDA portable belt (p. 2.05-27)	500'Lx6'x8'	Conveyor, demolition, off-site disposal in approved landfill, 30 mile haul	24,000.00	CF	\$0.81	\$19,440.00
remove piping @ slurry wells	50 ft.	Pipe, steel, welded connections - 10 in. diameter pipe	50.00	LF	\$11.77	\$588.50
remove HPDE slurry line (MR 104)	9000 ft. l	Pipe, steel, welded connections - 10 in. diameter pipe	9,000.00	LF	\$11.77	\$105,930.00
Culvert #C75	42"	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	60.00	LF	\$12.39	\$743.38
Culvert #C76	42"	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	40.00	LF	\$12.39	\$495.59
Culvert #C14A	36"	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	70.00	LF	\$12.39	\$867.28
Culvert #C70	18"	Pipe, corrugated metal (CMP) - 18 in. diameter pipe	68.00	LF	\$5.94	\$403.82
Culvert #C71	18"	Pipe, corrugated metal (CMP) - 18 in. diameter pipe	54.00	LF	\$5.94	\$320.68
Culvert #C72	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	120.00	LF	\$7.73	\$927.44
Culvert #C73	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	190.00	LF	\$7.73	\$1,468.45
Culvert #C74	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	40.00	LF	\$7.73	\$309.15
Culvert #C16A	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	45.00	LF	\$7.73	\$347.79
Culvert #C16B	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	220.00	LF	\$7.73	\$1,700.31
Culvert #C12A	36"	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	160.00	LF	\$12.39	\$1,982.35
Culvert #C17A	36"	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	20.00	LF	\$12.39	\$247.79
Culvert #C17B	36"	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	75.00	LF	\$12.39	\$929.23
Culvert #C28	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	46.00	LF	\$7.73	\$355.52

Culvert #C28A	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	60.00	LF	\$7.73	\$463.72
Culvert #C29	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	34.00	LF	\$7.73	\$262.78
Bathhouse (TR61)	62'l x 21'w' x 12'h	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	15,624.00	CF	\$0.24	\$3,710.70
-bathhouse pad (TR61)	62'l x 21'w x 0.5'th	Demo. and on-site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul	1,302.00	SF	\$1.26	\$1,636.87
Belt feeder (MR101)	35' x 12' x 6'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	2,520.00	CF	\$0.24	\$598.50
36" Belt (MR101)	36" x 500 lf	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	8.10	EA	\$3,350.00	\$27,135.00
Elevating belt (MR101)	36" x 100 lf	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	1.62	EA	\$3,350.00	\$5,427.00
Office shop (MR105)	100'l x 50'w x 18'h	Bldg. (MN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	90,000.00	CF	\$0.32	\$28,836.00
-Office shop floor (MR105)	100'l x 50'w x 0.5'th	Demo. and on-site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul	5,000.00	SF	\$1.26	\$6,286.00
Pump house (MR105)	12'x 12'x 10'h	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	1,440.00	CF	\$0.24	\$342.00
-pump house floor	12'x12'x 0.5'th	Demo. and on-site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul	144.00	SF	\$1.26	\$181.04
Radial stacker pads (MR97)	3'x 3'x 1'	Demo. and on-site disposal in existing pit, 12 in. thick - Max. 200 ft. push	9.00	SF	\$2.50	\$22.52
200 foot conveyor extension (MR97)	200 lf	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	3.25	EA	\$3,350.00	\$10,887.50
Conveyor tube (MR97)	80'l x 10' dia	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	6,282.00	CF	\$0.24	\$1,491.98
Disposal of Powerline crossarms, cable, et.al.	19580 LF	Disposal of utility pole cross arms and hardware surplus material	19,580.00	LF	\$0.01	\$195.80
Fan and Duct (MR113)	(50'x12'x12')2	Bldg. (MN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	14,400.00	CF	\$0.32	\$4,613.76

8 Footers (MR113)	14'x 2'x6'	Demo. and on-site disposal in existing pit, 2.0 ft. x 3 ft. - Max. 10,000 ft. haul	112.00	LF	\$15.09	\$1,689.64
42" temp belt conveyor (MR113)	115'x3.5'x6'	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	1.87	EA	\$3,350.00	\$6,264.50
42" Silo #1 conveyor (MR113)	165'x3.5'x3'	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	2.68	EA	\$3,350.00	\$8,978.00
42" Silo #2 conveyor (MR113)	56'x3.5'x3'	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	0.91	EA	\$3,350.00	\$3,048.50
Retaining Wall North Elev. (MR113)	12"th. x 790'L	Demo. and on-site disposal in existing pit, 12 in. thick - Max. 10,000 ft. haul	790.00	SF	\$4.91	\$3,881.35
Retaining Wall East Elev. (MR113)	12"thx 360'L	Demo. and on-site disposal in existing pit, 12 in. thick - Max. 10,000 ft. haul	360.00	SF	\$4.91	\$1,768.72
footer (MR113)	12"x?	Demo. and on-site disposal in existing pit, 2.0 ft. x 3 ft. - Max. 10,000 ft. haul	110.00	LF	\$15.09	\$1,659.47
Truck Loadout (MR113)	9'x18'x22'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	3,564.00	CF	\$0.24	\$846.45
4 footers (MR113)	2'x4'x4'	Demo. and on-site disposal in existing pit, 2.0 ft. x 3 ft. - Max. 10,000 ft. haul	16.00	LF	\$15.09	\$241.38
Silo Belt Transfer structure (MR113)	25'x 15'x 22' (MR113)	Bldg. (MN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	8,250.00	CF	\$0.32	\$2,643.30
4 footers (MR113)	2'x 4' x4' (MR113)	Demo. and on-site disposal in existing pit, 2.0 ft. x 3 ft. - Max. 10,000 ft. haul	16.00	LF	\$15.09	\$241.38
35 Ton Coal Blending Bins (MR113)	30'x 12'x 22'	Bldg. (MN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	7,920.00	CF	\$0.32	\$2,537.57
6 Footers (MR113)	2'x 4'x 4'	Demo. and on-site disposal in existing pit, 2.0 ft. x 3 ft. - Max. 10,000 ft. haul	24.00	LF	\$15.09	\$362.07
Culvert C23	30" X 50'L	Pipe, corrugated metal (CMP) - 30 in. diameter pipe	50.00	LF	\$10.30	\$514.80
Culvert C82	30" X 25'L	Pipe, corrugated metal (CMP) - 30 in. diameter pipe	25.00	LF	\$10.30	\$257.40
Culvert C83	18" x 20'L	Pipe, corrugated metal (CMP) - 18 in. diameter pipe	20.00	LF	\$5.94	\$118.77

Culvert C84	18" X20'L	Pipe, corrugated metal (CMP) - 18 in. diameter pipe	20.00	LF	\$5.94	\$118.77
Culvert C85	36" X 65'L	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	65.00	LF	\$12.39	\$805.33
Power Pole Removal	2' x 40'	Utility Poles, Wood 35' - 45' high (each pole)	78.00	EA	\$307.50	\$23,985.00

**Job Hours:** 1,009.00

**Subtotal  
(unadjusted):** \$2,378,240.69

**Total Cost  
(adjusted for  
location):** \$2,235,546.25

**DEMOLITION WORK**Task description: **Demolish and Remove Structures @ C&W area**Site: **New Elk Mine**Permit Action: **RN8**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **029**  
Date: **10/20/2023**  
User: **AMG**State: **Colorado**  
County: **Las Animas**Abbreviation: **None**  
Filename: **29**Agency or organization name: **DRMS****UNIT COSTS****Location adjustment: 94.00 %**

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
C&W Train Shop	110 X 70 X 30	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	231,000.00	CF	\$0.24	\$54,862.50
C&W Train Shop Office	70 X 24 X 12	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	20,160.00	CF	\$0.24	\$4,788.00
C&W Train Shop Slab	134 X 70	Demo. and on-site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul	9,380.00	SF	\$1.26	\$11,792.54
10 Stall Garage	100 X 24 X 20	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	48,000.00	CF	\$0.24	\$11,400.00
10 Stall Garage Slab	100 X 24	Demo. and on-site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul	2,400.00	SF	\$1.26	\$3,017.28
10 Stall Garage Apron	100 X 10	Demo. and on-site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul	1,000.00	SF	\$1.26	\$1,257.20
Train Sand Loading Building	30 X 16 X 20	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	9,600.00	CF	\$0.24	\$2,280.00
Train Sand Loading Slab	30 X 16	Demo. and on-site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul	480.00	SF	\$1.26	\$603.46
Train Sand Loading Apron	35 X 5.7	Demo. and on-site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul	200.00	SF	\$1.26	\$251.44
Car Department Office	40 X 15 X 12	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	7,200.00	CF	\$0.24	\$1,710.00

Car Dept. Office Slab	56 X 20	Demo. and on-site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul	1,120.00	SF	\$1.26	\$1,408.06
Car Dept. Office Sidewalk	50 X 3.5	Demo. and on-site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul	175.00	SF	\$1.26	\$220.01
Fire Hose Building	8 X 8 X 8	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	512.00	CF	\$0.24	\$121.60
Fire Hose Building Slab	8 X 8	Demo. and on-site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul	64.00	SF	\$1.26	\$80.46
Fire Hose Propane Tank	16 X 3	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	144.00	CF	\$0.24	\$34.20

Job Hours: 24.00Subtotal  
(unadjusted): \$93,826.75Total Cost  
(adjusted for location): \$88,197.15

## BOREHOLE SEALING WORK

Task description: Exploration Drilling TR-74

Site: New Elk Mine

Permit Action: RN8

Permit/Job#: C1981012

### PROJECT IDENTIFICATION

Task #: 030

State: Colorado

Abbreviation: None

Date: 10/20/2023

County: Las Animas

Filename: 30

User: AMG

Agency or organization name: DRMS

### UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Total depth for all Drilling	SCHRAMM T450WS	5	3850	51.30	EA	\$522.23	\$26,790.40
Water Truck for all time	Water Tanker, 10,000 Gal.	5	3850	51.30	EA	\$322.27	\$16,532.45
Plug	PVC plug - 6 in. diameter borehole	5	NA	8.00	EA	\$63.91	\$511.30
Marker	Borehole location/identification marker (EA, material cost only)	NA	NA	8.00	EA	\$39.00	\$312.00
Cement	Portland cement grout ( Bag, material cost only...94 lb. bag)	5	3850	117.00	bag	\$19.95	\$2,334.15
Drill Pad Reclamation	Cat D6T LGP	NA	NA	16.00	EA	\$266.04	\$4,256.64
Road Reclamation	Cat D6T XL	NA	NA	16.00	EA	\$289.68	\$4,634.88

Job Hours: 60.00

Total Cost: \$55,372.00

**BOREHOLE SEALING WORK**Task description: **Plug and Seal All Boreholes and Monitoring Wells**Site: New Elk MinePermit Action: RN8Permit/Job#: C1981012**PROJECT IDENTIFICATION**Task #: 031State: ColoradoAbbreviation: NoneDate: 10/20/2023County: Las AnimasFilename: 31User: AMGAgency or organization name: DRMS**UNIT COSTS**

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
MW1 - MW10 Fill w/Cement	Portland cement grout ( Bag, material cost only...94 lb. bag)	4"	150	7.00	bag	\$19.95	\$139.65
-Plug	PVC plug - 4 in. diameter borehole	4"	NA	10.00	EA	\$35.35	\$353.55
-Cut Casings at Surface	Exposed casing removal - Calculate Circumference in Linear Feet	4"	NA	4.00	LF	\$4.55	\$18.20
-Borehole Marker	Borehole location/identification marker (EA, material cost only)	NA	NA	10.00	EA	\$39.00	\$390.00
-Drill Rig Time	SCHRAMM T450WS	NA	NA	20.00	EA	\$522.23	\$10,444.60
-Water Truck Time	Water Tanker, 2,500 Gal.	NA	NA	20.00	EA	\$34.27	\$685.40
PAW1 - PAW4; PAW8,9 Fill w/Cement	Portland cement grout ( Bag, material cost only...94 lb. bag)	4"	137 LF	6.00	bag	\$19.95	\$119.70
-Plug	PVC plug - 4 in. diameter borehole	4"	NA	6.00	EA	\$35.35	\$212.13
-Cut Casings at Surface	Exposed casing removal - Calculate Circumference in Linear Feet	NA	NA	4.00	LF	\$4.55	\$18.20
-Borehole Marker	Borehole location/identification marker (EA, material cost only)	NA	NA	6.00	EA	\$39.00	\$234.00
-Drill Rig Time	SCHRAMM T450WS	NA	NA	12.00	EA	\$522.23	\$6,266.76
-Water Truck Time	Water Tanker, 2,500 Gal.	NA	NA	12.00	EA	\$34.27	\$411.24
NEW2 - NEW4 Fill w/Cement	Portland cement grout ( Bag, material cost only...94 lb. bag)	4"	1210 LF	53.00	bag	\$19.95	\$1,057.35
-Plug	PVC plug - 4 in. diameter borehole	4"	NA	3.00	EA	\$35.35	\$106.06
-Cut Casings at Surface	Exposed casing removal - Calculate	4"	NA	4.00	LF	\$4.55	\$18.20

	Circumference in Linear Feet						
-Borehole Markers	Borehole location/identification marker (EA, material cost only)	NA	NA	3.00	EA	\$39.00	\$117.00
-Drill Rig Time	SCHRAMM T450WS	NA	NA	18.00	EA	\$522.23	\$9,400.14
-Water Truck Time	Water Tanker, 2,500 Gal.	NA	NA	18.00	EA	\$34.27	\$616.86
RW1 & SW1 - SW6 Fill w/Cement	Portland cement grout ( Bag, material cost only...94 lb. bag)	4"	161 LF	7.00	bag	\$19.95	\$139.65
-Plug	PVC plug - 4 in. diameter borehole	4"	NA	7.00	EA	\$35.35	\$247.48
-Cut Casing at Surface	Exposed casing removal - Calculate Circumference in Linear Feet	4"	NA	4.00	LF	\$4.55	\$18.20
-Borehole Marker	Borehole location/identification marker (EA, material cost only)	NA	NA	7.00	EA	\$39.00	\$273.00
-Drill Rig Time	SCHRAMM T450WS	NA	NA	14.00	EA	\$522.23	\$7,311.22
-Water Truck Time	Water Tanker, 2,500 Gal.	NA	NA	14.00	EA	\$34.27	\$479.78
Dewatering Holes Fill w/Cement	Portland cement grout ( Bag, material cost only...94 lb. bag)	4"	450	19.00	bag	\$19.95	\$379.05
-Plug	PVC plug - 4 in. diameter borehole	4"	NA	2.00	EA	\$35.35	\$70.71
-Cut Casing at Surface	Exposed casing removal - Calculate Circumference in Linear Feet	4"	NA	4.00	LF	\$4.55	\$18.20
-Borehole Marker	Borehole location/identification marker (EA, material cost only)	NA	NA	2.00	EA	\$39.00	\$78.00
-Drill Rig Time	SCHRAMM T450WS	NA	NA	10.00	EA	\$522.23	\$5,222.30
-Water Truck Time	Water Tanker, 2,500 Gal.	NA	NA	10.00	EA	\$34.27	\$342.70
Seal 3 Slurry wells ( MR95)	Portland cement grout ( Bag, material cost only...94 lb. bag)	9"	1350	298.00	bag	\$19.95	\$5,945.10
-Drill rig and labor	Atlas Capco DM45/HP - 9.0"	NA	NA	12.00	EA	\$741.31	\$8,895.72
-Water Truck time	Water Tanker, 2,500 Gal.	na	na	12.00	EA	\$34.27	\$411.24
-slurry well plugs	PVC plug - 8 in. diameter borehole	9"	NA	3.00	EA	\$87.55	\$262.66
-slurry hole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	3.00	EA	\$39.00	\$117.00
Seal NE-16-11 (MR96)	Portland cement grout ( Bag, material cost only...94 lb. bag)	9"	392	86.00	bag	\$19.95	\$1,715.70

-plug	PVC plug - 8 in. diameter borehole	9"	NA	1.00	EA	\$87.55	\$87.55
-marker	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$39.00	\$39.00
-Rig and labor	Altas Capco DM25SP - 6-3/4"	NA	NA	4.00	EA	\$660.55	\$2,642.20
-water truck time	Water Tanker, 2,500 Gal.	NA	NA	4.00	EA	\$34.27	\$137.08
Plug 6 "exploration" wells (MR114)	Portland cement grout ( Bag, material cost only...94 lb. bag)	6"	2270	223.00	bag	\$19.95	\$4,448.85
-plugs	PVC plug - 6 in. diameter borehole	6"	NA	6.00	EA	\$63.91	\$383.48
-drill rig and labor	Altas Capco DM25SP - 6-3/4"	NA	NA	36.00	EA	\$660.55	\$23,779.80
-water truck time	Water Tanker, 2,500 Gal.	NA	NA	36.00	EA	\$34.27	\$1,233.72
Seal NE01-12, NE17-12, NE18-12 (MR107)	Portland cement grout ( Bag, material cost only...94 lb. bag)	6"	2500	245.00	bag	\$19.95	\$4,887.75
-plug	PVC plug - 6 in. diameter borehole	6"	NA	3.00	EA	\$63.91	\$191.74
-Mark holes	Borehole location/identification marker (EA, material cost only)	NA	NA	3.00	EA	\$39.00	\$117.00
-Rig and Labor	Altas Capco DM25SP - 6-3/4"	NA	NA	6.00	EA	\$660.55	\$3,963.30
-water truck time	Water Tanker, 2,500 Gal.	NA	NA	8.00	EA	\$34.27	\$274.16
Seal 2 alluvial wells (MR116)	Portland cement grout ( Bag, material cost only...94 lb. bag)	4"	60	2.62	bag	\$19.95	\$52.27
-marker	Borehole location/identification marker (EA, material cost only)	NA	NA	2.00	EA	\$39.00	\$78.00
-labor	General laborer - Colorado (total incl. fringes, empl. burden)	na	na	2.00	HR	\$23.53	\$47.06
Plug and Seal NE-05-11 (4wells) and 08-11(4 wells)	Portland cement grout ( Bag, material cost only...94 lb. bag)	9"	5200	1,148.00	bag	\$19.95	\$22,902.60
-marker	Borehole location/identification marker (EA, material cost only)	NA	NA	8.00	EA	\$39.00	\$312.00
-cut casing	Exposed casing removal - Calculate Circumference in Linear Feet	9"	72	8.00	LF	\$4.55	\$36.40
-rig and labor	Atlas Capco DM45/HP - 9.0"	NA	NA	45.00	EA	\$741.31	\$33,358.95
-water tanker	Water Tanker, 2,500 Gal.	NA	NA	45.00	EA	\$34.27	\$1,542.15

**Job Hours:** 73.00

**Total Cost:** \$163,052.00

**BOREHOLE SEALING WORK**Task description: Seal Additional WellsSite: New Elk MinePermit Action: RN8Permit/Job#: C1981012**PROJECT IDENTIFICATION**Task #: 032State: ColoradoAbbreviation: NoneDate: 10/20/2023County: Las AnimasFilename: 32User: AMGAgency or organization name: DRMS**UNIT COSTS**

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Seal SF2	Portland cement grout ( Bag, material cost only...94 lb. bag)	7.625	700.6	122.28	bag	\$19.95	\$2,439.49
Plug Hole	PVC plug - 8 in. diameter borehole	8	NA	1.00	EA	\$87.55	\$87.55
Marker	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$39.00	\$39.00
Cut Casing	Exposed casing removal - Calculate Circumference in Linear Feet	7.625	NA	1.00	LF	\$4.55	\$4.55
Seal NM20	Portland cement grout ( Bag, material cost only...94 lb. bag)	7.625	507	88.48	bag	\$19.95	\$1,765.18
Plug Hole	PVC plug - 8 in. diameter borehole	8	NA	1.00	EA	\$87.55	\$87.55
Cut Casing	Exposed casing removal - Calculate Circumference in Linear Feet	7.625	NA	1.00	LF	\$4.55	\$4.55
Mark Hole	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$39.00	\$39.00
Seal NM21	Portland cement grout ( Bag, material cost only...94 lb. bag)	7.625	1244.5	217.21	bag	\$19.95	\$4,333.34
Plug Hole	PVC plug - 8 in. diameter borehole	8	NA	1.00	EA	\$87.55	\$87.55
Cut Casing	Exposed casing removal - Calculate Circumference in Linear Feet	7.625	NA	1.00	LF	\$4.55	\$4.55
Mark Hole	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$39.00	\$39.00

Seal NM22	Portland cement grout ( Bag, material cost only...94 lb. bag)	7.625	562.7	98.21	bag	\$19.95	\$1,959.29
Plug Hole	PVC plug - 8 in. diameter borehole	8	NA	1.00	EA	\$87.55	\$87.55
Cut Casing	Exposed casing removal - Calculate Circumference in Linear Feet	7.625	NA	1.00	LF	\$4.55	\$4.55
Mark Hole	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$39.00	\$39.00
Seal NM23	Portland cement grout ( Bag, material cost only...94 lb. bag)	7.625	1388.91	242.41	bag	\$19.95	\$4,836.08
Plug Hole	PVC plug - 8 in. diameter borehole	8	NA	1.00	EA	\$87.55	\$87.55
Cut Casing	Exposed casing removal - Calculate Circumference in Linear Feet	7.625	NA	1.00	LF	\$4.55	\$4.55
Mark Hole	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$39.00	\$39.00
Drill Rig	Atlas Capco DM45/HP - 9.0"	7.625	NA	36.00	EA	\$741.31	\$26,687.16
Flatbed Equipment Truck	Flatbed Truck, 4x2, 15K GVW	NA	NA	36.00	EA	\$28.57	\$1,028.52
Water Truck	Water Tanker, 5,000 Gal.	NA	NA	36.00	EA	\$123.62	\$4,450.32

Job Hours: 36.00Total Cost: \$48,155.00

**SCRAPER TEAM WORK**Task description: **Haul Raw Coal Stockpile to Development Waste Pile**Site: **New Elk Mine**Permit Action: **RN8**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **033**State: **Colorado**Abbreviation: **None**Date: **10/20/2023**County: **Las Animas**Filename: **33**User: **AMG**Agency or organization name: **DRMS****HOURLY EQUIPMENT**COSTShift 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.

**Cost Breakdown:**

	Scraper Work Team		Support Equipment		Maintenance Equipment	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	45	NA	NA	50	50
Ownership cost/hour:	\$230.18	\$238.76	NA	NA	\$149.33	\$57.13
Operating cost/hour:	\$281.21	\$73.03	NA	NA	\$46.40	\$33.25
%Utilization-ripper:	NA	20	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$18.32	NA	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$1.80	NA	NA	\$0.00	\$0.00
Operator cost/hour:	\$30.90	\$41.30	NA	NA	\$28.56	\$21.12
Unit Subtotals:	\$542.29	\$373.21	NA	NA	\$224.28	\$111.50
Number of Units:	2	1	0	0	1	1
Group Subtotals:	Work:	\$1,457.79	Support:	\$0.00	Maint:	\$335.78

Total work team cost/hour: **\$1,793.57****MATERIAL QUANTITIES**Initial volume: **5,900**

CCY

Swell factor: **1.185**Loose volume: **6,992**

LCY

Source of estimated volume: **Division of Reclamation, Mining & Safety**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight: **1,600 lbs/LCY**  
 Material description: **Coal - Bituminous, Raw**  
 Rated Payload: **52,800 pounds**  
 Payload Capacity: **33.00 LCY**

Struck Volume: **15.70** LCY  
 Heaped Volume: **22.00** LCY  
 Average Volume: **18.85** LCY  
 Adjusted Capacity: **18.85** 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 3.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2500.00	3.00	3.00	6.00	1855	1.43

Haul Time: 1.43 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2500.00	-3.00	3.00	0.00	2921	0.95

Return Time: 0.95 minutes

Total Scraper team cycle time: 3.38 minutes  
 Adjusted for job conditions: 277.73 LCY/Hour  
 Selected Number of Scrapers: 2 Scraper(s)  
 Adjusted single scraper team (unit) hourly production: 555.46 LCY/Hour  
 Adjusted multiple scraper team (fleet) hourly production: 555.46 LCY/Hour

Unadjusted unit production/hour: 334.62 LCY/Hour

Optimal Number of Scrapers per push dozer: \_\_\_\_\_

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: 12.59 HoursUnit cost: \$3.229 /LCY Total job cost: \$22,575

**SCRAPER TEAM WORK**Task description: **Haul Clean Coal Stockpile to Development Waste Pile**Site: **New Elk Mine**Permit Action: **RN8**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **034**State: **Colorado**Abbreviation: **None**Date: **10/20/2023**County: **Las Animas**Filename: **34**User: **AMG**Agency or organization name: **DRMS****HOURLY EQUIPMENT**COSTShift 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.

**Cost Breakdown:**

	Scraper Work Team		Support Equipment		Maintenance Equipment	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	35	NA	NA	50	50
Ownership cost/hour:	\$230.18	\$238.76	NA	NA	\$149.33	\$57.13
Operating cost/hour:	\$281.21	\$56.80	NA	NA	\$46.40	\$33.25
%Utilization-ripper:	NA	20	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$18.32	NA	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$1.80	NA	NA	\$0.00	\$0.00
Operator cost/hour:	\$30.90	\$41.30	NA	NA	\$28.56	\$21.12
Unit Subtotals:	\$542.29	\$356.98	NA	NA	\$224.28	\$111.50
Number of Units:	2	1	0	0	1	1
Group Subtotals:	Work:	\$1,441.56	Support:	\$0.00	Maint:	\$335.78

Total work team cost/hour: **\$1,777.34****MATERIAL QUANTITIES**Initial volume: **7,600**

CCY

Swell factor: **1.185**Loose volume: **9,006**

LCY

Source of estimated volume: **Division of Reclamation, Mining & Safety**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight: **1,600 lbs/LCY**  
 Material description: **Coal - Bituminous, Raw**  
 Rated Payload: **52,800 pounds**  
 Payload Capacity: **33.00 LCY**

Struck Volume: **15.70** LCY  
 Heaped Volume: **22.00** LCY  
 Average Volume: **18.85** LCY  
 Adjusted Capacity: **18.85** 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 3.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	3500.00	3.00	3.00	6.00	1855	1.97

Haul Time: 1.97 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	3500.00	-3.00	3.00	0.00	2921	1.29

Return Time: 1.29 minutes

Total Scraper team cycle time: 4.26 minutes  
 Adjusted for job conditions: 220.36 LCY/Hour  
 Selected Number of Scrapers: 2 Scraper(s)  
 Adjusted single scraper team (unit) hourly production: 440.72 LCY/Hour  
 Adjusted multiple scraper team (fleet) hourly production: 440.72 LCY/Hour

Unadjusted unit production/hour: 265.49 LCY/Hour  
 Optimal Number of Scrapers per push  
 dozer: \_\_\_\_\_

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: 20.43 Hours  
 Unit cost: \$4.033 /LCY Total job cost: \$36,320

**SCRAPER TEAM WORK**Task description: Replace Cover material on DWDA #2Site: New Elk MinePermit Action: RN8Permit/Job#: C1981012**PROJECT IDENTIFICATION**Task #: 035State: ColoradoAbbreviation: NoneDate: 10/20/2023County: Las AnimasFilename: 35User: AMGAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift 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.

**Cost Breakdown:**

	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:	\$230.18	\$238.76	NA	NA	\$149.33	\$57.13
Operating cost/hour:	\$281.21	\$162.29	NA	NA	\$46.40	\$33.25
%Utilization-ripper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$18.32	NA	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	NA	\$0.00	\$0.00
Operator cost/hour:	\$30.90	\$41.30	NA	NA	\$28.56	\$21.12
Unit Subtotals:	\$542.29	\$460.67	NA	NA	\$224.28	\$111.50
Number of Units:	2	1	0	0	1	1
Group Subtotals:	Work:	\$1,545.25	Support:	\$0.00	Maint:	\$335.78

Total work team cost/hour: **\$1,881.03****MATERIAL QUANTITIES**Initial volume: 1,613

CCY

Swell factor: 1.125Loose volume: **1,815**

LCY

Source of estimated volume: Map 11, PAP cover requirement.Source of estimated swell factor: Operator Estimate**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>2,132 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>24.77 LCY</u>	Adjusted Capacity:	<b><u>18.85</u></b>	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 3.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1600.00	3.00	3.00	6.00	1855	0.96

Haul Time: 0.96 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	-10.00	3.00	-7.00	2938	0.41

Return Time: 0.41 minutes

Total Scraper team cycle time: 2.37 minutes  
 Adjusted for job conditions: 396.09 LCY/Hour  
 Selected Number of Scrapers: 2 Scraper(s)  
 Adjusted single scraper team (unit) hourly production: 792.18 LCY/Hour  
 Adjusted multiple scraper team (fleet) hourly production: 792.18 LCY/Hour

Unadjusted unit production/hour: 477.22 LCY/Hour  
 Optimal Number of Scrapers per push  
 dozer: \_\_\_\_\_

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: 2.29 Hours  
 Unit cost: \$2.375 /LCY Total job cost: \$4,309

**SCRAPER TEAM WORK**Task description: Replace Topsoil to DWDA #2Site: New Elk MinePermit Action: RN8Permit/Job#: C1981012**PROJECT IDENTIFICATION**Task #: 036State: ColoradoAbbreviation: NoneDate: 10/20/2023County: Las AnimasFilename: 36User: AMGAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift 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.

**Cost Breakdown:**

	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:	\$230.18	\$238.76	NA	NA	\$149.33	\$57.13
Operating cost/hour:	\$281.21	\$162.29	NA	NA	\$46.40	\$33.25
%Utilization-ripper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$18.32	NA	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	NA	\$0.00	\$0.00
Operator cost/hour:	\$30.90	\$41.30	NA	NA	\$28.56	\$21.12
Unit Subtotals:	\$542.29	\$460.67	NA	NA	\$224.28	\$111.50
Number of Units:	2	1	0	0	1	1
Group Subtotals:	Work:	\$1,545.25	Support:	\$0.00	Maint:	\$335.78

Total work team cost/hour: **\$1,881.03****MATERIAL QUANTITIES**Initial volume: 3,900

CCY

Swell factor: 1.000Loose volume: **3,900**

LCY

Source of estimated volume: Division of Reclamation, Mining & SafetySource 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:	<b><u>18.85</u></b>	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 3.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1600.00	3.00	3.00	6.00	1855	0.96

Haul Time: 0.96 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1600.00	-3.00	3.00	0.00	2921	0.64

Return Time: 0.64 minutes

Total Scraper team cycle time: 2.60 minutes  
 Adjusted for job conditions: 361.05 LCY/Hour  
 Selected Number of Scrapers: 2 Scraper(s)  
 Adjusted single scraper team (unit) hourly production: 722.10 LCY/Hour  
 Adjusted multiple scraper team (fleet) hourly production: 722.10 LCY/Hour

Unadjusted unit production/hour: 435.00 LCY/Hour  
 Optimal Number of Scrapers per push  
 dozer: \_\_\_\_\_

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: 5.40 Hours  
 Unit cost: \$2.605 /LCY Total job cost: \$10,159

**SCRAPER TEAM WORK**Task description: Replace Topsoil to Area East of Pond 5Site: New Elk MinePermit Action: RN8Permit/Job#: C1981012**PROJECT IDENTIFICATION**Task #: 037State: ColoradoAbbreviation: NoneDate: 10/20/2023County: Las AnimasFilename: 37User: AMGAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift 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.

**Cost Breakdown:**

	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:	\$230.18	\$238.76	NA	NA	\$149.33	\$57.13
Operating cost/hour:	\$281.21	\$162.29	NA	NA	\$46.40	\$33.25
%Utilization-ripper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$18.32	NA	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	NA	\$0.00	\$0.00
Operator cost/hour:	\$30.90	\$41.30	NA	NA	\$28.56	\$21.12
Unit Subtotals:	\$542.29	\$460.67	NA	NA	\$224.28	\$111.50
Number of Units:	2	1	0	0	1	1
Group Subtotals:	Work:	\$1,545.25	Support:	\$0.00	Maint:	\$335.78

Total work team cost/hour: **\$1,881.03****MATERIAL QUANTITIES**Initial volume: 425

CCY

Swell factor: 1.000Loose volume: **425**

LCY

Source of estimated volume: Division of Reclamation, Mining & SafetySource 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:	<b><u>18.85</u></b>	LCY

Cycle Time:Scraper Loading Time: 0.40 MinutesManeuver and Spread Time: 0.60 MinutesJob 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 3.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	700.00	5.00	3.00	8.00	1381	0.56

Haul Time: 0.56 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	700.00	-5.00	3.00	-2.00	2938	0.30

Return Time: 0.30 minutesTotal Scraper team cycle time: 1.86 minutesAdjusted for job conditions: 504.69 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 1,009.39 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 1,009.39 LCY/HourUnadjusted unit production/hour: 608.06 LCY/HourOptimal Number of Scrapers per push  
dozer: \_\_\_\_\_JOB TIME AND COSTFleet size: 1 Team(s) Total job time: 0.42 HoursUnit cost: \$1.864 /LCY Total job cost: \$792

**SCRAPER TEAM WORK**Task description: **Replace Topsoil to Pond 005**Site: **New Elk Mine**Permit Action: **RN8**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **038**State: **Colorado**Abbreviation: **None**Date: **10/20/2023**County: **Las Animas**Filename: **38**User: **AMG**Agency or organization name: **DRMS****HOURLY EQUIPMENT**COSTShift 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.

**Cost Breakdown:**

	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:	\$230.18	\$238.76	NA	NA	\$149.33	\$57.13
Operating cost/hour:	\$281.21	\$162.29	NA	NA	\$46.40	\$33.25
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	NA	\$0.00	\$0.00
Operator cost/hour:	\$30.90	\$41.30	NA	NA	\$28.56	\$21.12
Unit Subtotals:	\$542.29	\$442.35	NA	NA	\$224.28	\$111.50
Number of Units:	2	1	0	0	1	1
Group Subtotals:	Work:	\$1,526.93	Support:	\$0.00	Maint:	\$335.78

Total work team cost/hour: **\$1,862.71****MATERIAL QUANTITIES**Initial volume: **300**

CCY

Swell factor: **1.000**Loose volume: **300**

LCY

Source of estimated volume: **Division of Reclamation, Mining & Safety**Source of estimated swell factor: **Operator Estimate****HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<b><u>2,055 lbs/LCY</u></b>	Struck Volume:	<b><u>15.70</u></b>	LCY
Material description:	<b><u>User Provided</u></b>	Heaped Volume:	<b><u>22.00</u></b>	LCY
Rated Payload:	<b><u>52,800 pounds</u></b>	Average Volume:	<b><u>18.85</u></b>	LCY
Payload Capacity:	<b><u>25.69 LCY</u></b>	Adjusted Capacity:	<b><u>18.85</u></b>	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 3.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	700.00	5.00	3.00	8.00	1381	0.56

Haul Time: 0.56 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	700.00	-5.00	3.00	-2.00	2938	0.30

Return Time: 0.30 minutes

Total Scraper team cycle time: 1.86 minutes  
 Adjusted for job conditions: 504.69 LCY/Hour  
 Selected Number of Scrapers: 2 Scraper(s)  
 Adjusted single scraper team (unit) hourly production: 1,009.39 LCY/Hour  
 Adjusted multiple scraper team (fleet) hourly production: 1,009.39 LCY/Hour

Unadjusted unit production/hour: 608.06 LCY/Hour  
 Optimal Number of Scrapers per push  
 dozer: \_\_\_\_\_

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: 0.30 Hours  
 Unit cost: \$1.845 /LCY Total job cost: \$554

**SCRAPER TEAM WORK**Task description: Replace Topsoil to Area Under ConveyorSite: New Elk MinePermit Action: RN8Permit/Job#: C1981012**PROJECT IDENTIFICATION**Task #: 039State: ColoradoAbbreviation: NoneDate: 10/20/2023County: Las AnimasFilename: 39User: AMGAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift 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.

**Cost Breakdown:**

	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:	\$230.18	\$238.76	NA	NA	\$149.33	\$57.13
Operating cost/hour:	\$281.21	\$162.29	NA	NA	\$46.40	\$33.25
%Utilization-ripper:	NA	20	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$18.32	NA	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$1.80	NA	NA	\$0.00	\$0.00
Operator cost/hour:	\$30.90	\$41.30	NA	NA	\$28.56	\$21.12
Unit Subtotals:	\$542.29	\$462.47	NA	NA	\$224.28	\$111.50
Number of Units:	2	1	0	0	1	1
Group Subtotals:	Work:	\$1,547.05	Support:	\$0.00	Maint:	\$335.78

Total work team cost/hour: **\$1,882.83****MATERIAL QUANTITIES**Initial volume: 1,300

CCY

Swell factor: 1.000Loose volume: **1,300**

LCY

Source of estimated volume: Division of Reclamation, Mining & SafetySource 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:	<b><u>18.85</u></b>	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 3.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	200.00	5.00	3.00	8.00	1381	0.20

Haul Time: 0.20 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	200.00	-5.00	3.00	-2.00	2938	0.10

Return Time: 0.10 minutes

Total Scraper team cycle time: 1.30 minutes  
 Adjusted for job conditions: 722.10 LCY/Hour  
 Selected Number of Scrapers: 2 Scraper(s)  
 Adjusted single scraper team (unit) hourly production: 1,444.20 LCY/Hour  
 Adjusted multiple scraper team (fleet) hourly production: 1,444.20 LCY/Hour

Unadjusted unit production/hour: 870.00 LCY/Hour  
 Optimal Number of Scrapers per push  
 dozer: \_\_\_\_\_

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: 0.90 Hours  
 Unit cost: \$1.304 /LCY Total job cost: \$1,695

**SCRAPER TEAM WORK**Task description: Replace Topsoil to Raw Coal Storage StockpileSite: New Elk MinePermit Action: RN8Permit/Job#: C1981012**PROJECT IDENTIFICATION**Task #: 040State: ColoradoAbbreviation: NoneDate: 10/20/2023County: Las AnimasFilename: 40User: AMGAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift 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.

**Cost Breakdown:**

	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:	\$230.18	\$238.76	NA	NA	\$149.33	\$57.13
Operating cost/hour:	\$281.21	\$162.29	NA	NA	\$46.40	\$33.25
%Utilization-ripper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$18.32	NA	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	NA	\$0.00	\$0.00
Operator cost/hour:	\$30.90	\$41.30	NA	NA	\$28.56	\$21.12
Unit Subtotals:	\$542.29	\$460.67	NA	NA	\$224.28	\$111.50
Number of Units:	2	1	0	0	1	1
Group Subtotals:	Work:	\$1,545.25	Support:	\$0.00	Maint:	\$335.78

Total work team cost/hour: **\$1,881.03****MATERIAL QUANTITIES**Initial volume: 1,060

CCY

Swell factor: 1.000Loose volume: **1,060**

LCY

Source of estimated volume: Division of Reclamation, Mining & SafetySource 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:	<b><u>18.85</u></b>	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 3.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1600.00	0.00	3.00	3.00	2824	0.75

Haul Time: 0.75 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1600.00	0.00	3.00	3.00	2874	0.67

Return Time: 0.67 minutes

Total Scraper team cycle time: 2.42 minutes  
 Adjusted for job conditions: 387.90 LCY/Hour  
 Selected Number of Scrapers: 2 Scraper(s)  
 Adjusted single scraper team (unit) hourly production: 775.81 LCY/Hour  
 Adjusted multiple scraper team (fleet) hourly production: 775.81 LCY/Hour

Unadjusted unit production/hour: 467.36 LCY/Hour  
 Optimal Number of Scrapers per push  
 dozer: \_\_\_\_\_

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: 1.37 Hours  
 Unit cost: \$2.425 /LCY Total job cost: \$2,570

**SCRAPER TEAM WORK**Task description: Replace Topsoil to Small DR Area in Large DNR AreaSite: New Elk MinePermit Action: RN8Permit/Job#: C1981012**PROJECT IDENTIFICATION**Task #: 041State: ColoradoAbbreviation: NoneDate: 10/20/2023County: Las AnimasFilename: 41User: AMGAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift 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.

**Cost Breakdown:**

	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:	\$230.18	\$238.76	NA	NA	\$149.33	\$57.13
Operating cost/hour:	\$281.21	\$162.29	NA	NA	\$46.40	\$33.25
%Utilization-ripper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$18.32	NA	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	NA	\$0.00	\$0.00
Operator cost/hour:	\$30.90	\$41.30	NA	NA	\$28.56	\$21.12
Unit Subtotals:	\$542.29	\$460.67	NA	NA	\$224.28	\$111.50
Number of Units:	2	1	0	0	1	1
Group Subtotals:	Work:	\$1,545.25	Support:	\$0.00	Maint:	\$335.78

Total work team cost/hour: **\$1,881.03****MATERIAL QUANTITIES**Initial volume: 70

CCY

Swell factor: 1.000Loose volume: 70

LCY

Source of estimated volume: Division of Reclamation, Mining & SafetySource 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:	<b><u>18.85</u></b>	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 3.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2000.00	0.00	3.00	3.00	2824	0.90

Haul Time: 0.90 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2000.00	0.00	3.00	3.00	2874	0.81

Return Time: 0.81 minutes

Total Scraper team cycle time: 2.71 minutes  
 Adjusted for job conditions: 346.39 LCY/Hour  
 Selected Number of Scrapers: 2 Scraper(s)  
 Adjusted single scraper team (unit) hourly production: 692.79 LCY/Hour  
 Adjusted multiple scraper team (fleet) hourly production: 692.79 LCY/Hour

Unadjusted unit production/hour: 417.34 LCY/Hour  
 Optimal Number of Scrapers per push  
 dozer: \_\_\_\_\_

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: 0.10 Hours  
 Unit cost: \$2.715 /LCY Total job cost: \$190

**SCRAPER TEAM WORK**Task description: Replace Topsoil to Clean Coal StockpileSite: New Elk MinePermit Action: RN8Permit/Job#: C1981012**PROJECT IDENTIFICATION**Task #: 042State: ColoradoAbbreviation: NoneDate: 10/20/2023County: Las AnimasFilename: 42User: AMGAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift 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.

**Cost Breakdown:**

	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:	\$230.18	\$238.76	NA	NA	\$149.33	\$57.13
Operating cost/hour:	\$281.21	\$162.29	NA	NA	\$46.40	\$33.25
%Utilization-ripper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$18.32	NA	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	NA	\$0.00	\$0.00
Operator cost/hour:	\$30.90	\$41.30	NA	NA	\$28.56	\$21.12
Unit Subtotals:	\$542.29	\$460.67	NA	NA	\$224.28	\$111.50
Number of Units:	2	1	0	0	1	1
Group Subtotals:	Work:	\$1,545.25	Support:	\$0.00	Maint:	\$335.78

Total work team cost/hour: **\$1,881.03****MATERIAL QUANTITIES**Initial volume: 600

CCY

Swell factor: 1.000Loose volume: **600**

LCY

Source of estimated volume: Division of Reclamation, Mining & SafetySource 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:	<b><u>18.85</u></b>	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 3.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2300.00	0.00	3.00	3.00	2824	1.00

Haul Time: 1.00 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2300.00	0.00	3.00	3.00	2874	0.91

Return Time: 0.91 minutes

Total Scraper team cycle time: 2.91 minutes  
 Adjusted for job conditions: 322.59 LCY/Hour  
 Selected Number of Scrapers: 2 Scraper(s)  
 Adjusted single scraper team (unit) hourly production: 645.18 LCY/Hour  
 Adjusted multiple scraper team (fleet) hourly production: 645.18 LCY/Hour

Unadjusted unit production/hour: 388.66 LCY/Hour  
 Optimal Number of Scrapers per push  
 dozer: \_\_\_\_\_

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: 0.93 Hours  
 Unit cost: \$2.916 /LCY Total job cost: \$1,749

**SCRAPER TEAM WORK**Task description: **Replace Topsoil to East Extension of River Pumphouse**Site: **New Elk Mine**Permit Action: **RN8**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **043**State: **Colorado**Abbreviation: **None**Date: **10/20/2023**County: **Las Animas**Filename: **43**User: **AMG**Agency or organization name: **DRMS****HOURLY EQUIPMENT**COSTShift 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.

**Cost Breakdown:**

	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:	\$230.18	\$238.76	NA	NA	\$149.33	\$57.13
Operating cost/hour:	\$281.21	\$162.29	NA	NA	\$46.40	\$33.25
%Utilization-ripper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$18.32	NA	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	NA	\$0.00	\$0.00
Operator cost/hour:	\$30.90	\$41.30	NA	NA	\$28.56	\$21.12
Unit Subtotals:	\$542.29	\$460.67	NA	NA	\$224.28	\$111.50
Number of Units:	2	1	0	0	1	1
Group Subtotals:	Work:	\$1,545.25	Support:	\$0.00	Maint:	\$335.78

Total work team cost/hour: **\$1,881.03****MATERIAL QUANTITIES**Initial volume: **180**

CCY

Swell factor: **1.000**Loose volume: **180**

LCY

Source of estimated volume: **Division of Reclamation, Mining & Safety**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<b><u>2,055 lbs/LCY</u></b>	Struck Volume:	<b><u>15.70</u></b>	LCY
Material description:	<b><u>User Provided</u></b>	Heaped Volume:	<b><u>22.00</u></b>	LCY
Rated Payload:	<b><u>52,800 pounds</u></b>	Average Volume:	<b><u>18.85</u></b>	LCY
Payload Capacity:	<b><u>25.69 LCY</u></b>	Adjusted Capacity:	<b><u>18.85</u></b>	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 3.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1100.00	5.00	3.00	8.00	1381	0.85

Haul Time: 0.85 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1100.00	-5.00	3.00	-2.00	2938	0.44

Return Time: 0.44 minutes

Total Scraper team cycle time: 2.29 minutes  
 Adjusted for job conditions: 409.93 LCY/Hour  
 Selected Number of Scrapers: 2 Scraper(s)  
 Adjusted single scraper team (unit) hourly production: 819.85 LCY/Hour  
 Adjusted multiple scraper team (fleet) hourly production: 819.85 LCY/Hour

Unadjusted unit production/hour: 493.89 LCY/Hour  
 Optimal Number of Scrapers per push  
 dozer: \_\_\_\_\_

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: 0.22 Hours  
 Unit cost: \$2.294 /LCY Total job cost: \$413

**SCRAPER TEAM WORK**Task description: **Replace Topsoil to Embedded Waste Area**Site: **New Elk Mine**Permit Action: **RN8**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **044**State: **Colorado**Abbreviation: **None**Date: **10/20/2023**County: **Las Animas**Filename: **44**User: **AMG**Agency or organization name: **DRMS****HOURLY EQUIPMENT**COSTShift 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.

**Cost Breakdown:**

	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:	\$230.18	\$238.76	NA	NA	\$149.33	\$57.13
Operating cost/hour:	\$281.21	\$162.29	NA	NA	\$46.40	\$33.25
%Utilization-ripper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$18.32	NA	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	NA	\$0.00	\$0.00
Operator cost/hour:	\$30.90	\$41.30	NA	NA	\$28.56	\$21.12
Unit Subtotals:	\$542.29	\$460.67	NA	NA	\$224.28	\$111.50
Number of Units:	2	1	0	0	1	1
Group Subtotals:	Work:	\$1,545.25	Support:	\$0.00	Maint:	\$335.78

Total work team cost/hour: **\$1,881.03****MATERIAL QUANTITIES**Initial volume: **1,950**

CCY

Swell factor: **1.000**Loose volume: **1,950**

LCY

Source of estimated volume: **Division of Reclamation, Mining & Safety**Source of estimated swell factor: **Operator Estimate****HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<b><u>2,055 lbs/LCY</u></b>	Struck Volume:	<b><u>15.70</u></b>	LCY
Material description:	<b><u>User Provided</u></b>	Heaped Volume:	<b><u>22.00</u></b>	LCY
Rated Payload:	<b><u>52,800 pounds</u></b>	Average Volume:	<b><u>18.85</u></b>	LCY
Payload Capacity:	<b><u>25.69 LCY</u></b>	Adjusted Capacity:	<b><u>18.85</u></b>	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 3.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	900.00	0.00	3.00	3.00	2824	0.51

Haul Time: 0.51 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	900.00	0.00	3.00	3.00	2874	0.43

Return Time: 0.43 minutes

Total Scraper team cycle time: 1.94 minutes  
 Adjusted for job conditions: 483.88 LCY/Hour  
 Selected Number of Scrapers: 2 Scraper(s)  
 Adjusted single scraper team (unit) hourly production: 967.76 LCY/Hour  
 Adjusted multiple scraper team (fleet) hourly production: 967.76 LCY/Hour

Unadjusted unit production/hour: 582.99 LCY/Hour  
 Optimal Number of Scrapers per push  
 dozer: \_\_\_\_\_

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: 2.01 Hours  
 Unit cost: \$1.944 /LCY Total job cost: \$3,790

**SCRAPER TEAM WORK**Task description: **Replace Topsoil to RDA**Site: **New Elk Mine**Permit Action: **RN8**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **045**State: **Colorado**Abbreviation: **None**Date: **10/20/2023**County: **Las Animas**Filename: **45**User: **AMG**Agency or organization name: **DRMS****HOURLY EQUIPMENT**COSTShift 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.

**Cost Breakdown:**

	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:	\$230.18	\$238.76	NA	NA	\$149.33	\$57.13
Operating cost/hour:	\$281.21	\$162.29	NA	NA	\$46.40	\$33.25
%Utilization-ripper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$18.32	NA	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	NA	\$0.00	\$0.00
Operator cost/hour:	\$30.90	\$41.30	NA	NA	\$28.56	\$21.12
Unit Subtotals:	\$542.29	\$460.67	NA	NA	\$224.28	\$111.50
Number of Units:	2	1	0	0	1	1
Group Subtotals:	Work:	\$1,545.25	Support:	\$0.00	Maint:	\$335.78

Total work team cost/hour: **\$1,881.03****MATERIAL QUANTITIES**Initial volume: **27,824**

CCY

Swell factor: **1.000**Loose volume: **27,824**

LCY

Source of estimated volume: **Map 11 sheet 3; Permit page 2.05-38**Source of estimated swell factor: **Operator Estimate****HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<b><u>2,055 lbs/LCY</u></b>	Struck Volume:	<b><u>15.70</u></b>	LCY
Material description:	<b><u>User Provided</u></b>	Heaped Volume:	<b><u>22.00</u></b>	LCY
Rated Payload:	<b><u>52,800 pounds</u></b>	Average Volume:	<b><u>18.85</u></b>	LCY
Payload Capacity:	<b><u>25.69 LCY</u></b>	Adjusted Capacity:	<b><u>18.85</u></b>	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 3.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	-3.00	3.00	0.00	2921	0.30
2	650.00	2.00	3.00	5.00	2218	3.08
3	2200.00	7.00	3.00	10.00	1068	1.81
4	600.00	8.00	3.00	11.00	1018	0.59

Haul Time: 5.78 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	600.00	-8.00	3.00	-5.00	2938	0.27
2	2200.00	-7.00	3.00	-4.00	2938	0.80
3	650.00	-2.00	3.00	1.00	2913	0.22
4	500.00	3.00	3.00	6.00	2736	0.19

Return Time: 1.48 minutes

Total Scraper team cycle time: 8.26 minutes  
 Adjusted for job conditions: 113.65 LCY/Hour  
 Selected Number of Scrapers: 2 Scraper(s)  
 Adjusted single scraper team (unit) hourly production: 227.30 LCY/Hour  
 Adjusted multiple scraper team (fleet) hourly production: 227.30 LCY/Hour

Unadjusted unit production/hour: 136.92 LCY/Hour  
 Optimal Number of Scrapers per push  
 dozer: \_\_\_\_\_

**JOB TIME AND COST**

Fleet size: 1 Team(s) Total job time: 122.41 Hours  
 Unit cost: \$8.276 /LCY Total job cost: \$230,263

**SCRAPER TEAM WORK**Task description: **Replace Topsoil to Four Bench Slopes**Site: **New Elk Mine**Permit Action: **RN8**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **046**State: **Colorado**Abbreviation: **None**Date: **10/20/2023**County: **Las Animas**Filename: **46**User: **AMG**Agency or organization name: **DRMS****HOURLY EQUIPMENT**COSTShift 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.

**Cost Breakdown:**

	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:	\$230.18	\$238.76	NA	NA	\$149.33	\$57.13
Operating cost/hour:	\$281.21	\$162.29	NA	NA	\$46.40	\$33.25
%Utilization-ripper:	NA	100	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$18.32	NA	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$8.98	NA	NA	\$0.00	\$0.00
Operator cost/hour:	\$30.90	\$41.30	NA	NA	\$28.56	\$21.12
Unit Subtotals:	\$542.29	\$469.65	NA	NA	\$224.28	\$111.50
Number of Units:	2	1	0	0	1	1
Group Subtotals:	Work:	\$1,554.23	Support:	\$0.00	Maint:	\$335.78

Total work team cost/hour: **\$1,890.01****MATERIAL QUANTITIES**Initial volume: **3,580**

CCY

Swell factor: **1.000**Loose volume: **3,580**

LCY

Source of estimated volume: **PAP map 11 sheet 3; 5.5 acres**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<b><u>2,055 lbs/LCY</u></b>	Struck Volume:	<b><u>15.70</u></b>	LCY
Material description:	<b><u>User Provided</u></b>	Heaped Volume:	<b><u>22.00</u></b>	LCY
Rated Payload:	<b><u>52,800 pounds</u></b>	Average Volume:	<b><u>18.85</u></b>	LCY
Payload Capacity:	<b><u>25.69 LCY</u></b>	Adjusted Capacity:	<b><u>18.85</u></b>	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 3.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	-3.00	3.00	0.00	2921	0.30
2	650.00	2.00	3.00	5.00	2218	3.08
3	2200.00	7.00	3.00	10.00	1068	1.81
4	450.00	-15.00	3.00	-12.00	1749	0.36

Haul Time: 5.55 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	450.00	15.00	3.00	18.00	990	0.47
2	2200.00	-7.00	3.00	-4.00	2938	0.80
3	650.00	-2.00	3.00	1.00	2913	0.22
4	500.00	3.00	3.00	6.00	2736	0.19

Return Time: 1.68 minutes

Total Scraper team cycle time: 8.23 minutes  
 Adjusted for job conditions: 114.06 LCY/Hour  
 Selected Number of Scrapers: 2 Scraper(s)  
 Adjusted single scraper team (unit) hourly production: 228.12 LCY/Hour  
 Adjusted multiple scraper team (fleet) hourly production: 228.12 LCY/Hour

Unadjusted unit production/hour: 137.42 LCY/Hour  
 Optimal Number of Scrapers per push  
 dozer: \_\_\_\_\_

**JOB TIME AND COST**

Fleet size: 1 Team(s) Total job time: 15.69 Hours  
 Unit cost: \$8.285 /LCY Total job cost: \$29,660

**SCRAPER TEAM WORK**Task description: **Replace Topsoil to RDA Pond**Site: **New Elk Mine**Permit Action: **RN8**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **047**State: **Colorado**Abbreviation: **None**Date: **10/20/2023**County: **Las Animas**Filename: **47**User: **AMG**Agency or organization name: **DRMS****HOURLY EQUIPMENT**COSTShift 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.

**Cost Breakdown:**

	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:	\$230.18	\$238.76	NA	NA	\$149.33	\$57.13
Operating cost/hour:	\$281.21	\$162.29	NA	NA	\$46.40	\$33.25
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	NA	\$0.00	\$0.00
Operator cost/hour:	\$30.90	\$41.30	NA	NA	\$28.56	\$21.12
Unit Subtotals:	\$542.29	\$442.35	NA	NA	\$224.28	\$111.50
Number of Units:	2	1	0	0	1	1
Group Subtotals:	Work:	\$1,526.93	Support:	\$0.00	Maint:	\$335.78

Total work team cost/hour: **\$1,862.71****MATERIAL QUANTITIES**Initial volume: **1,975**

CCY

Swell factor: **1.000**Loose volume: **1,975**

LCY

Source of estimated volume: **Division of Reclamation, Mining & Safety**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<b><u>2,055 lbs/LCY</u></b>	Struck Volume:	<b><u>15.70</u></b>	LCY
Material description:	<b><u>User Provided</u></b>	Heaped Volume:	<b><u>22.00</u></b>	LCY
Rated Payload:	<b><u>52,800 pounds</u></b>	Average Volume:	<b><u>18.85</u></b>	LCY
Payload Capacity:	<b><u>25.69 LCY</u></b>	Adjusted Capacity:	<b><u>18.85</u></b>	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 3.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2500.00	10.00	3.00	13.00	834	3.01

Haul Time: 3.01 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2500.00	-10.00	3.00	-7.00	2938	0.90

Return Time: 0.90 minutes

Total Scraper team cycle time: 4.91 minutes  
 Adjusted for job conditions: 191.19 LCY/Hour  
 Selected Number of Scrapers: 2 Scraper(s)  
 Adjusted single scraper team (unit) hourly production: 382.37 LCY/Hour  
 Adjusted multiple scraper team (fleet) hourly production: 382.37 LCY/Hour

Unadjusted unit production/hour: 230.35 LCY/Hour  
 Optimal Number of Scrapers per push  
 dozer: \_\_\_\_\_

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: 5.17 Hours  
 Unit cost: \$4.871 /LCY Total job cost: \$9,621

**SCRAPER TEAM WORK**Task description: **Replace Topsoil to Bates Portal Face-Up**Site: **New Elk Mine**Permit Action: **RN8**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **048**State: **Colorado**Abbreviation: **None**Date: **10/20/2023**County: **Las Animas**Filename: **48**User: **AMG**Agency or organization name: **DRMS****HOURLY EQUIPMENT**COSTShift 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.

**Cost Breakdown:**

	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:	\$230.18	\$238.76	NA	NA	\$149.33	\$57.13
Operating cost/hour:	\$281.21	\$162.29	NA	NA	\$46.40	\$33.25
%Utilization-ripper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$18.32	NA	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	NA	\$0.00	\$0.00
Operator cost/hour:	\$30.90	\$41.30	NA	NA	\$28.56	\$21.12
Unit Subtotals:	\$542.29	\$460.67	NA	NA	\$224.28	\$111.50
Number of Units:	2	1	0	0	1	1
Group Subtotals:	Work:	\$1,545.25	Support:	\$0.00	Maint:	\$335.78

Total work team cost/hour: **\$1,881.03****MATERIAL QUANTITIES**Initial volume: **1,150**

CCY

Swell factor: **1.000**Loose volume: **1,150**

LCY

Source of estimated volume: **Division of Reclamation, Mining & Safety**Source of estimated swell factor: **Operator Estimate****HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<b><u>2,055 lbs/LCY</u></b>	Struck Volume:	<b><u>15.70</u></b>	LCY
Material description:	<b><u>User Provided</u></b>	Heaped Volume:	<b><u>22.00</u></b>	LCY
Rated Payload:	<b><u>52,800 pounds</u></b>	Average Volume:	<b><u>18.85</u></b>	LCY
Payload Capacity:	<b><u>25.69 LCY</u></b>	Adjusted Capacity:	<b><u>18.85</u></b>	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 3.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2500.00	10.00	3.00	13.00	834	3.01

Haul Time: 3.01 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2500.00	-10.00	3.00	-7.00	2938	0.90

Return Time: 0.90 minutes

Total Scraper team cycle time: 4.91 minutes  
 Adjusted for job conditions: 191.19 LCY/Hour  
 Selected Number of Scrapers: 2 Scraper(s)  
 Adjusted single scraper team (unit) hourly production: 382.37 LCY/Hour  
 Adjusted multiple scraper team (fleet) hourly production: 382.37 LCY/Hour

Unadjusted unit production/hour: 230.35 LCY/Hour  
 Optimal Number of Scrapers per push  
 dozer: \_\_\_\_\_

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: 3.01 Hours  
 Unit cost: \$4.919 /LCY Total job cost: \$5,657

**SCRAPER TEAM WORK**Task description: Replace Topsoil to West DWDASite: New Elk MinePermit Action: RN8Permit/Job#: C1981012**PROJECT IDENTIFICATION**Task #: 049State: ColoradoAbbreviation: NoneDate: 10/20/2023County: Las AnimasFilename: 49User: AMGAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

	Equipment Description
-Scraper:	Cat 627G w/push-pull
-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.

**Cost Breakdown:**

	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:	\$249.04	\$238.76	NA	NA	\$149.33	\$57.13
Operating cost/hour:	\$289.36	\$162.29	NA	NA	\$46.40	\$33.25
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	NA	\$0.00	\$0.00
Operator cost/hour:	\$30.90	\$41.30	NA	NA	\$28.56	\$21.12
Unit Subtotals:	\$569.30	\$442.35	NA	NA	\$224.28	\$111.50
Number of Units:	2	1	0	0	1	1
Group Subtotals:	Work:	\$1,580.95	Support:	\$0.00	Maint:	\$335.78

Total work team cost/hour: \$1,916.73**MATERIAL QUANTITIES**Initial volume: 39,912

CCY

Swell factor: 1.125Loose volume: 44,901

LCY

Source of estimated volume: Division of Reclamation, Mining & SafetySource 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: 0.90 Minutes  
 Maneuver and Spread Time: 0.60 Minutes

Job Condition Correction:

Site Altitude: 7600 feet

	Scraper	Push Dozer	Source
Altitude Adj:	0.960	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	0.797	0.830	

Travel Time:Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	5.00	3.00	8.00	1381	0.78

Haul Time: 0.78 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	-5.00	3.00	-2.00	2938	0.41

Return Time: 0.41 minutes

Total Scraper team cycle time: 2.69 minutes  
 Adjusted for job conditions: 670.19 LCY/Hour  
 Selected Number of Scrapers: 2 Scraper(s)  
 Adjusted single scraper team (unit) hourly production: 670.19 LCY/Hour  
 Adjusted multiple scraper team (fleet) hourly production: 670.19 LCY/Hour

Unadjusted unit production/hour: 840.89 LCY/Hour  
 Optimal Number of Scrapers per push  
 dozer: \_\_\_\_\_

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: 67.00 Hours  
 Unit cost: \$2.860 /LCY Total job cost: \$128,416

## COMPACTION WORK

Task description: Compact Final RDA Surface

Site: New Elk Mine

Permit Action: RN8

Permit/Job#: C1981012

### PROJECT IDENTIFICATION

Task #: 050

State: Colorado

Abbreviation: None

Date: 10/20/2023

County: Las Animas

Filename: 50

User: AMG

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: CAT 815F

Horsepower: 240

Compactor Type: Soil - tamping foot

Shift Basis: 1 per day

Data Source: (CRG)

#### Cost Breakdown:

Ownership Cost/Hour:	\$147.57	Utilization %	NA
Operating Cost/Hour:	\$117.19		100
Operator Cost/Hour:	\$26.02		NA
Total Unit Cost/Hour:	\$290.78		
Total Fleet Cost/Hour:	<b>\$290.78</b>		

### MATERIAL QUANTITIES

Loose volume: 26,250

LCY

Shrinkage factor: 0.870

Compacted volume: **22,838**

CCY

Source of estimated volume: 8.13 acre RDA surface X 2 ft. lift

Source of estimated shrinkage factor: Cat Handbook

### HOURLY PRODUCTION

Unadjusted hourly production =  $(W \times S \times L \times C) / P$

Compacted width per pass (W):	<u>6.50</u>	feet
Average Compactor Speed (S):	<u>4.00</u>	mph
Compacted thickness of each lift (L):	<u>8.00</u>	inches
Conversion Constant (C):	<u>16.3</u>	(5,280ft./12in./27cu.ft.)
Required number of machine passes (P):	<u>4</u>	passes
Unadjusted Hourly Unit Production:	<u>847.60</u>	CCY/hour

#### Job Condition Correction Factors

Site Altitude: 7,500 feet

		Source
Altitude Adj:	<u>1.00</u>	(CAT HB)
Job Efficiency:	<u>0.83</u>	(1 shift/day)
Net Correction:	<u>0.8300</u>	multiplier

Adjusted Hourly Unit Production: 703.51 CCY/Hour

Adjusted Hourly Fleet Production: **703.51** CCY/Hour

### JOB TIME AND COST

Fleet size: 1 Compactor(s)

Total job time: **32.46** Hours

Unit cost: \$0.413 per CCY

Total job cost: **\$9,439**

## SAFEGUARDING UNDERGROUND OPENINGS

Task description: Seal Portals and Vent Shafts

Site: New Elk Mine

Permit Action: RN8

Permit/Job#: C1981012

### PROJECT IDENTIFICATION

Task #: 051

State: Colorado

Abbreviation: None

Date: 10/20/2023

County: Las Animas

Filename: 51

User: AMG

Agency or organization name: DRMS

### UNIT COSTS

Opening Description	Dimensions	Closure Method	Quantity	Unit	Unit Cost	Total Cost
Seal East Portal	12'X10'	Adit closure - bulkhead seal, $\geq$ 36 sq. ft. (per sq. ft.)	120.00	SF	\$429.32	\$51,518.40
Backfill East Portal	12'X10'X50'	Adit closure - backfilling (per cu. yd.)	222.00	CY	\$90.00	\$19,980.00
Drain Pipe	100 LF	PVC drain pipe, 6 in. diameter (per ln. ft. incl. mat. & labor)	100.00	LF	\$11.85	\$1,185.00
Seal West Portals (2)	15'X10'	Adit closure - bulkhead seal, $\geq$ 36 sq. ft. (per sq. ft.)	300.00	SF	\$429.32	\$128,796.00
Backfill West Portals (2)	600 CY	Adit closure - backfilling (per cu. yd.)	600.00	CY	\$90.00	\$54,000.00
Drain Pipes	100 LF (2)	PVC drain pipe, 6 in. diameter (per ln. ft. incl. mat. & labor)	200.00	LF	\$11.85	\$2,370.00
Seal Bates Portals (3)	14'X18'	Adit closure - bulkhead seal, $\geq$ 36 sq. ft. (per sq. ft.)	756.00	SF	\$429.32	\$324,565.92
Backfill Bates Portals (3)	14'X18'X50'	Adit closure - backfilling (per cu. yd.)	466.00	CY	\$90.00	\$41,940.00
Drain Pipes (3)	100 LF (3)	PVC drain pipe, 6 in. diameter (per ln. ft. incl. mat. & labor)	300.00	LF	\$11.85	\$3,555.00
East Portal Fan Shaft Concrete Cap	16' D	Shaft closure - concrete cap, poured-in-place (per Cubic Feet)	200.00	CF	\$31.50	\$6,300.00
Apache Canyon East Shaft Concrete Cap	16" D	Shaft closure - concrete cap, poured-in-place (per Cubic Feet)	200.00	CF	\$31.50	\$6,300.00
Apache Canyon West Shaft Concrete Cap	16" D	Shaft closure - concrete cap, poured-in-place (per Cubic Feet)	200.00	CF	\$31.50	\$6,300.00

Job Hours: 270.00

Total Cost: \$646,810.32

## MOTOR GRADER WORK

Task description: Regrading 30,000 LCY Refuse (RDA)

Site: New Elk Mine

Permit Action: RN8

Permit/Job#: C1981012

### PROJECT IDENTIFICATION

Task #: 052

State: Colorado

Abbreviation: None

Date: 10/20/2023

County: Las Animas

Filename: 52

User: AMG

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: CAT 16M

Horsepower: 297

Ripper Attachment: Multi-Shank Ripper

Shift Basis: 1 per day

Data Source: (CRG)

#### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$212.21	NA
Operating Cost/Hour:	\$124.88	100
Ripper Ownership Cost/Hour:	\$5.83	NA
Ripper Operating Cost/Hour:	\$4.02	100
Operator Cost/Hour:	\$28.56	NA
Total Unit Cost/Hour:	\$375.50	
Total Fleet Cost/Hour:	<b>\$751.00</b>	

### MATERIAL QUANTITIES

Total Area to be graded or ripped: 19.00 acres

Source of estimated acreage: Operator provided

### HOURLY PRODUCTION

Average Grader Speed:	<u>1.50</u>	mph
Selected Application:	<u>Finish grading (0-2.5 mph) - 1.5</u>	
Selected Blade Angle:	<u>0</u>	degrees
Effective Blade Length:	<u>16.00</u>	feet
Width of blade overlap per pass:	<u>2.00</u>	feet
Net grading or ripping width per pass:	<u>14.00</u>	feet
Unadjusted Hourly Unit Production:	<u>2.5455</u>	acres/hour

#### Job Condition Correction Factors

Site Altitude: 7680 feet

		Source
Altitude Adj:	<u>1.00</u>	(CAT HB)
Job Efficiency:	<u>0.90</u>	(1sh/d, fav.)
Net Correction:	<u>0.9000</u>	multiplier

Adjusted Hourly Unit Production: 2.2909 acres/Hour

Adjusted Hourly Fleet Production: **4.5818** acres/Hour

### JOB TIME AND COST

Fleet size: 2 Grader(s) Total job time: **4.15** Hours

Unit cost: \$163.91 per acre Total job cost: **\$3,114**

## MOTOR GRADER WORK

Task description: Finish Grade Refuse Disposal Area

Site: New Elk Mine

Permit Action: RN8

Permit/Job#: C1981012

### PROJECT IDENTIFICATION

Task #: 053

State: Colorado

Abbreviation: None

Date: 10/20/2023

County: Las Animas

Filename: 53

User: AMG

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: CAT 14M

Horsepower: 259

Ripper Attachment: \_\_\_\_\_

Shift Basis: 1 per day

Data Source: (CRG)

#### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$149.33	NA
Operating Cost/Hour:	\$92.79	100
Ripper Ownership Cost/Hour:	\$0.00	NA
Ripper Operating Cost/Hour:	\$0.00	
Operator Cost/Hour:	\$28.56	NA
Total Unit Cost/Hour:	\$270.68	
Total Fleet Cost/Hour:	<b>\$270.68</b>	

### MATERIAL QUANTITIES

Total Area to be graded or ripped: 8.30 acres

Source of estimated acreage: Map 11

### HOURLY PRODUCTION

Average Grader Speed:	<u>1.50</u>	mph
Selected Application:	<u>Finish grading (0-2.5 mph) - 1.5</u>	
Selected Blade Angle:	<u>30</u>	degrees
Effective Blade Length:	<u>12.10</u>	feet
Width of blade overlap per pass:	<u>2.00</u>	feet
Net grading or ripping width per pass:	<u>10.10</u>	feet
Unadjusted Hourly Unit Production:	<u>1.8364</u>	acres/hour

#### Job Condition Correction Factors

Site Altitude: 7500 feet

		Source
Altitude Adj:	<u>1.00</u>	(CAT HB)
Job Efficiency:	<u>0.85</u>	(1sh/d, mod.)
Net Correction:	<u>0.8500</u>	multiplier

Adjusted Hourly Unit Production: 1.5609 acres/Hour

Adjusted Hourly Fleet Production: 1.5609 acres/Hour

### JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: 5.32 Hours

Unit cost: \$173.41 per acre Total job cost: \$1,439

## MOTOR GRADER WORK

Task description: Finish Grade West DWDA Area

Site: New Elk Mine

Permit Action: RN8

Permit/Job#: C1981012

### PROJECT IDENTIFICATION

Task #: 054

State: Colorado

Abbreviation: None

Date: 10/20/2023

County: Las Animas

Filename: 54

User: AMG

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: CAT 14M

Horsepower: 259

Ripper Attachment: \_\_\_\_\_

Shift Basis: 1 per day

Data Source: (CRG)

#### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$149.33	NA
Operating Cost/Hour:	\$92.79	100
Ripper Ownership Cost/Hour:	\$0.00	NA
Ripper Operating Cost/Hour:	\$0.00	
Operator Cost/Hour:	\$28.56	NA
Total Unit Cost/Hour:	\$270.68	
Total Fleet Cost/Hour:	<b>\$270.68</b>	

### MATERIAL QUANTITIES

Total Area to be graded or ripped: 10.20 acres

Source of estimated acreage: NECC

### HOURLY PRODUCTION

Average Grader Speed:	<u>1.50</u>	mph
Selected Application:	<u>Finish grading (0-2.5 mph) - 1.5</u>	
Selected Blade Angle:	<u>45</u>	degrees
Effective Blade Length:	<u>9.90</u>	feet
Width of blade overlap per pass:	<u>2.00</u>	feet
Net grading or ripping width per pass:	<u>7.90</u>	feet
Unadjusted Hourly Unit Production:	<u>1.4364</u>	acres/hour

#### Job Condition Correction Factors

Site Altitude: 7680 feet

		Source
Altitude Adj:	<u>1.00</u>	(CAT HB)
Job Efficiency:	<u>0.85</u>	(1sh/d, mod.)
Net Correction:	<u>0.8500</u>	multiplier

Adjusted Hourly Unit Production: 1.2209 acres/Hour

Adjusted Hourly Fleet Production: 1.2209 acres/Hour

### JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: 8.35 Hours

Unit cost: \$221.70 per acre Total job cost: \$2,261

## HYDRAULIC EXCAVATOR WORK

Task description: 100 year ditch

Site: New Elk Mine

Permit Action: RN8

Permit/Job#: C1981012

### PROJECT IDENTIFICATION

Task #: 055

State: Colorado

Abbreviation: None

Date: 10/20/2023

County: Las Animas

Filename: 55

User: AMG

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat 315D L 8'-6" Stick

Attachment 1: ROPS Cab

Horsepower: 115

Weight (MT): 17.32

Shift Basis: 1 per day

Data Source: (CRG)

#### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$77.08	NA
Operating Cost/Hour:	\$52.37	100
Operator Cost/Hour:	\$37.32	NA
Total Unit Cost/Hour:	\$166.77	
Total Fleet Cost/Hour:	\$166.77	

### MATERIAL QUANTITIES

Initial volume: 4,000

CCY

Swell factor: 1.000

Loose volume: 4,000

LCY

Source of estimated volume: Operator Provided

Source of estimated swell factor: Cat Handbook

### HOURLY PRODUCTION

Excavator Cycle Time (load bucket, swing loaded, dump bucket, swing empty):

Basic Job Condition Description:	<u>AVERAGE</u>
Secondary Job Condition within Basic Description:	<u>AVERAGE</u>
Cycle Time Value:	<u>0.256</u> minutes

#### Load Bucket Capacity

Bucket Size Class: Medium

Rated Capacity:	<u>0.80</u>	LCY (heaped)
Bucket Fill Factor:	<u>1.025</u>	Rock - Earth Mixture (100%-105%) 1.025
Adjusted Capacity:	<u>0.82</u>	LCY

#### Job Condition Correction Factors

Site Altitude: 7820 feet

		Source
Altitude Adj:	<u>0.90</u>	(CAT HB)
Job Efficiency:	<u>0.83</u>	(1 shift/day)
Net Correction:	<u>0.75</u>	multiplier

Unadjusted Hourly Unit Production:	<u>192.19</u>	LCY/Hour
Adjusted Hourly Unit Production:	<u>143.56</u>	LCY/Hour
Adjusted Hourly Fleet Production:	<u>143.56</u>	LCY/Hour

### JOB TIME AND COST

Fleet size:	<u>1</u>	Excavator	Total job time:	<u>27.86</u>	Hours
Unit cost:	<u>\$1.162</u>	/LCY	Total job cost:	<u>\$4,647</u>	

## HYDRAULIC EXCAVATOR WORK

## HYDRAULIC EXCAVATOR WORK

Task description: Replace Topsoil to Zig Zag Road

Site: New Elk Mine

Permit Action: RN8

Permit/Job#: C1981012

### PROJECT IDENTIFICATION

Task #: 056

State: Colorado

Abbreviation: None

Date: 10/20/2023

County: Las Animas

Filename: 56

User: AMG

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat 320D L 9'-6" Stick

Attachment 1: ROPS Cab

Horsepower: 148

Weight (MT): 21.55

Shift Basis: 1 per day

Data Source: (CRG)

#### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$70.85	NA
Operating Cost/Hour:	\$50.01	100
Operator Cost/Hour:	\$37.32	NA
Total Unit Cost/Hour:	\$158.18	
Total Fleet Cost/Hour:	\$158.18	

### MATERIAL QUANTITIES

Initial volume: 108

CCY

Swell factor: 1.000

Loose volume: 108

LCY

Source of estimated volume: 0.2 ac. X assume 4" topsoil

Source of estimated swell factor: Operator Estimate

### HOURLY PRODUCTION

Excavator Cycle Time (load bucket, swing loaded, dump bucket, swing empty):

Basic Job Condition Description: BELOW AVERAGE

Secondary Job Condition within Basic Description: AVERAGE

Cycle Time Value: 0.323 minutes

#### Load Bucket Capacity

Bucket Size Class: Medium

Rated Capacity: 1.54 LCY (heaped)

Bucket Fill Factor: 1.100 Other - rock/dirt mixtures (100-120%) 1.100

Adjusted Capacity: 1.69 LCY

#### Job Condition Correction Factors

Site Altitude: 7700 feet

		Source
Altitude Adj:	<u>0.87</u>	(CAT HB)
Job Efficiency:	<u>0.83</u>	(1 shift/day)
Net Correction:	<u>0.72</u>	multiplier

Unadjusted Hourly Unit Production: 314.67 LCY/Hour

Adjusted Hourly Unit Production: 227.23 LCY/Hour

Adjusted Hourly Fleet Production: 227.23 LCY/Hour

### JOB TIME AND COST

Fleet size: 1 Excavator Total job time: 0.47 Hours

Unit cost: \$0.696 /LCY Total job cost: \$75

## SITE MAINTENANCE

Task description: Site Maintenance during the 10 year liability period

Site: New Elk Mine

Permit Action: RN8

Permit/Job#: C1981012

### PROJECT IDENTIFICATION

Task #: 057

State: Colorado

Abbreviation: None

Date: 10/20/2023

County: Las Animas

Filename: 57

User: AMG

Agency or organization name: DRMS

### UNIT COSTS

Maintenance Item	Hours per Year	Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Rill and gully repair	400.00	Cat D3K LGP - 3P	400.00	EA	\$163.26	\$65,304.00

Job Hours: 400.00

Total Cost: \$65,304.00

## BULLDOZER RIPPING WORK

Task description: Rip Mine Entry Area Prior to Regrading

Site: New Elk Mine

Permit Action: RN8

Permit/Job#: C1981012

### PROJECT IDENTIFICATION

Task #: 058

State: Colorado

Abbreviation: None

Date: 10/20/2023

County: Las Animas

Filename: 58

User: AMG

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU

Horsepower: 405

Ripper Attachment: 3-Shank Ripper

Shift Basis: 1 per day

Data Source: (CRG)

#### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$238.76	NA
Operating Cost/Hour:	\$162.29	100
Ripper Ownership Cost/Hour:	\$18.32	NA
Ripper Operating Cost/Hour:	\$8.98	100
Operator Cost/Hour:	\$41.30	NA
Total Unit Cost/Hour:	\$469.65	
Total Fleet Cost/Hour:	<b>\$1,408.96</b>	

### MATERIAL QUANTITIES

Selected estimating method: Area

#### Alternate Methods:

Seismic: NA

Bank Volume: NA

BCY NA

Area: 17.86 acres

Rip Depth (ft): 2.00

Volume: 57,628

BCY or CCY

Source of estimated quantity: Map 11

### HOURLY PRODUCTION

#### Seismic:

Seismic Velocity: NA feet/second

#### Area:

Average Ripping Depth:	<u>4.05</u>	feet/pass
Average Ripping Width:	<u>7.67</u>	feet/pass
Average Ripping Length:	<u>200.00</u>	feet/pass
Average Dozer Speed:	<u>88.00</u>	feet/minute
Average Maneuver Time:	<u>0.25</u>	minutes/pass
Production per unit area:	<u>0.838</u>	acres/hour

#### Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.838 Acres/hr

Site Altitude: 7,500 feet

Altitude Adj: 1.00 (CAT HB)

Job Efficiency: 0.83 (1 shift/day)

Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.70 Acres/hr

Adjusted Hourly Fleet Production: 2.09 Acres/hr

### JOB TIME AND COST

Fleet size: 3

Grader(s)

Total job time: 8.56 Hours

Unit cost: \$675.582

Per acre

Total job cost: \$12,066

## BULLDOZER RIPPING WORK

Task description: Rip Wedge Area Prior to Regrading

Site: New Elk Mine

Permit Action: RN8

Permit/Job#: C1981012

### PROJECT IDENTIFICATION

Task #: 059

State: Colorado

Abbreviation: None

Date: 10/20/2023

County: Las Animas

Filename: 59

User: AMG

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU

Horsepower: 405

Ripper Attachment: 3-Shank Ripper

Shift Basis: 1 per day

Data Source: (CRG)

#### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$238.76	NA
Operating Cost/Hour:	\$162.29	100
Ripper Ownership Cost/Hour:	\$18.32	NA
Ripper Operating Cost/Hour:	\$8.98	100
Operator Cost/Hour:	\$41.30	NA
Total Unit Cost/Hour:	\$469.65	
Total Fleet Cost/Hour:	<b>\$1,408.96</b>	

### MATERIAL QUANTITIES

Selected estimating method: Area

#### Alternate Methods:

Seismic: NA

Bank Volume: NA

BCY NA

Area: 1.60 acres

Rip Depth (ft): 2.00

Volume: 5,163

BCY or CCY

Source of estimated quantity: Map 11

### HOURLY PRODUCTION

#### Seismic:

Seismic Velocity: NA feet/second

#### Area:

Average Ripping Depth:	<u>4.05</u>	feet/pass
Average Ripping Width:	<u>7.67</u>	feet/pass
Average Ripping Length:	<u>200.00</u>	feet/pass
Average Dozer Speed:	<u>88.00</u>	feet/minute
Average Maneuver Time:	<u>0.25</u>	minutes/pass
Production per unit area:	<u>0.838</u>	acres/hour

#### Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.838 Acres/hr

Site Altitude: 7,500 feet

Altitude Adj: 1.00 (CAT HB)

Job Efficiency: 0.83 (1 shift/day)

Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.70 Acres/hr

Adjusted Hourly Fleet Production: 2.09 Acres/hr

### JOB TIME AND COST

Fleet size: 3 Grader(s)

Total job time: 0.77 Hours

Unit cost:

\$675.582

Per acre

Total job cost:

\$1,081

## BULLDOZER RIPPING WORK

Task description: Rip Prep Plant Area Prior to Regrading

Site: New Elk Mine

Permit Action: RN8

Permit/Job#: C1981012

### PROJECT IDENTIFICATION

Task #: 060

State: Colorado

Abbreviation: None

Date: 10/20/2023

County: Las Animas

Filename: 60

User: AMG

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU

Horsepower: 405

Ripper Attachment: 3-Shank Ripper

Shift Basis: 1 per day

Data Source: (CRG)

#### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$238.76	NA
Operating Cost/Hour:	\$162.29	100
Ripper Ownership Cost/Hour:	\$18.32	NA
Ripper Operating Cost/Hour:	\$8.98	100
Operator Cost/Hour:	\$41.30	NA
Total Unit Cost/Hour:	\$469.65	
Total Fleet Cost/Hour:	<b>\$1,408.96</b>	

### MATERIAL QUANTITIES

Selected estimating method: Area

#### Alternate Methods:

Seismic: NA

Bank Volume: NA

BCY NA

Area: 5.37 acres

Rip Depth (ft): 2.00

Volume: 17,327

BCY or CCY

Source of estimated quantity: Map 11

### HOURLY PRODUCTION

#### Seismic:

Seismic Velocity: NA feet/second

#### Area:

Average Ripping Depth:	<u>4.05</u>	feet/pass
Average Ripping Width:	<u>7.67</u>	feet/pass
Average Ripping Length:	<u>200.00</u>	feet/pass
Average Dozer Speed:	<u>88.00</u>	feet/minute
Average Maneuver Time:	<u>0.25</u>	minutes/pass
Production per unit area:	<u>0.838</u>	acres/hour

#### Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.838 Acres/hr

Site Altitude: 7,500 feet

Altitude Adj: 1.00 (CAT HB)

Job Efficiency: 0.83 (1 shift/day)

Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.70 Acres/hr

Adjusted Hourly Fleet Production: 2.09 Acres/hr

### JOB TIME AND COST

Fleet size: 3 Grader(s)

Total job time: 2.57 Hours

Unit cost: 

\$675.582

 Per acre

Total job cost: 

\$3,628

## BULLDOZER RIPPING WORK

Task description: Rip West Portal DNR Areas

Site: New Elk Mine

Permit Action: RN8

Permit/Job#: C1981012

### PROJECT IDENTIFICATION

Task #: 061

State: Colorado

Abbreviation: None

Date: 10/20/2023

County: Las Animas

Filename: 61

User: AMG

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU

Horsepower: 405

Ripper Attachment: 3-Shank Ripper

Shift Basis: 1 per day

Data Source: (CRG)

#### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$238.76	NA
Operating Cost/Hour:	\$162.29	100
Ripper Ownership Cost/Hour:	\$18.32	NA
Ripper Operating Cost/Hour:	\$8.98	100
Operator Cost/Hour:	\$41.30	NA
Total Unit Cost/Hour:	\$469.65	
Total Fleet Cost/Hour:	<b>\$1,408.96</b>	

### MATERIAL QUANTITIES

Selected estimating method: Area

#### Alternate Methods:

Seismic: NA

Bank Volume: NA

BCY NA

Area: 24.92 acres

Rip Depth (ft): 1.50

Volume: 60,306

BCY or CCY

Source of estimated quantity: Map 16 (subtract out DWDA#3 area Map12)

### HOURLY PRODUCTION

#### Seismic:

Seismic Velocity: NA feet/second

#### Area:

Average Ripping Depth:	<u>4.05</u>	feet/pass
Average Ripping Width:	<u>7.67</u>	feet/pass
Average Ripping Length:	<u>200.00</u>	feet/pass
Average Dozer Speed:	<u>88.00</u>	feet/minute
Average Maneuver Time:	<u>0.25</u>	minutes/pass
Production per unit area:	<u>0.838</u>	acres/hour

#### Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.838 Acres/hr

Site Altitude: 7,500 feet

Altitude Adj: 1.00 (CAT HB)

Job Efficiency: 0.83 (1 shift/day)

Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.70 Acres/hr

Adjusted Hourly Fleet Production: 2.09 Acres/hr

### JOB TIME AND COST

Fleet size: 3 Grader(s)

Total job time: 11.95 Hours

Unit cost:

\$675.582

Per acre

Total job cost:

\$16,836

## BULLDOZER RIPPING WORK

Task description: Rip East Portal - Only DNR Area

Site: New Elk Mine

Permit Action: RN8

Permit/Job#: C1981012

### PROJECT IDENTIFICATION

Task #: 062

State: Colorado

Abbreviation: None

Date: 10/20/2023

County: Las Animas

Filename: 62

User: AMG

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU

Horsepower: 405

Ripper Attachment: 3-Shank Ripper

Shift Basis: 1 per day

Data Source: (CRG)

#### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$238.76	NA
Operating Cost/Hour:	\$162.29	100
Ripper Ownership Cost/Hour:	\$18.32	NA
Ripper Operating Cost/Hour:	\$8.98	100
Operator Cost/Hour:	\$41.30	NA
Total Unit Cost/Hour:	\$469.65	
Total Fleet Cost/Hour:	<b>\$1,408.96</b>	

### MATERIAL QUANTITIES

Selected estimating method: Area

#### Alternate Methods:

Seismic: NA

Bank Volume: NA

BCY NA

Area: 35.00 acres

Rip Depth (ft): 2.00

Volume: 112,933

BCY or CCY

Source of estimated quantity: Map 11

### HOURLY PRODUCTION

#### Seismic:

Seismic Velocity: NA feet/second

#### Area:

Average Ripping Depth:	<u>4.05</u>	feet/pass
Average Ripping Width:	<u>7.67</u>	feet/pass
Average Ripping Length:	<u>200.00</u>	feet/pass
Average Dozer Speed:	<u>88.00</u>	feet/minute
Average Maneuver Time:	<u>0.25</u>	minutes/pass
Production per unit area:	<u>0.838</u>	acres/hour

#### Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.838 Acres/hr

Site Altitude: 7,500 feet

Altitude Adj: 1.00 (CAT HB)

Job Efficiency: 0.83 (1 shift/day)

Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.70 Acres/hr

Adjusted Hourly Fleet Production: 2.09 Acres/hr

### JOB TIME AND COST

Fleet size: 3 Grader(s)

Total job time: 16.78 Hours

Unit cost: 

\$675.582

 Per acre

Total job cost: 

\$23,646

## BULLDOZER RIPPING WORK

Task description: Rip Zig Zag Road and Slurry Line Road

Site: New Elk Mine

Permit Action: RN8

Permit/Job#: C1981012

### PROJECT IDENTIFICATION

Task #: 063

State: Colorado

Abbreviation: None

Date: 10/20/2023

County: Las Animas

Filename: 63

User: AMG

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU

Horsepower: 405

Ripper Attachment: 3-Shank Ripper

Shift Basis: 1 per day

Data Source: (CRG)

#### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$238.76	NA
Operating Cost/Hour:	\$162.29	100
Ripper Ownership Cost/Hour:	\$18.32	NA
Ripper Operating Cost/Hour:	\$8.98	100
Operator Cost/Hour:	\$41.30	NA
Total Unit Cost/Hour:	\$469.65	
Total Fleet Cost/Hour:	<b>\$1,408.96</b>	

### MATERIAL QUANTITIES

Selected estimating method: Area

#### Alternate Methods:

Seismic: NA

Bank Volume: NA

BCY NA

Area: 0.80 acres

Rip Depth (ft): 1.00

Volume: 1,291

BCY or CCY

Source of estimated quantity: PAP Page 2.05-7c, Map 12, Map 11-sheet 1

### HOURLY PRODUCTION

#### Seismic:

Seismic Velocity: NA feet/second

#### Area:

Average Ripping Depth:	<u>2.63</u>	feet/pass
Average Ripping Width:	<u>7.67</u>	feet/pass
Average Ripping Length:	<u>75.00</u>	feet/pass
Average Dozer Speed:	<u>88.00</u>	feet/minute
Average Maneuver Time:	<u>0.25</u>	minutes/pass
Production per unit area:	<u>0.719</u>	acres/hour

#### Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.719 Acres/hr

Site Altitude: 7,700 feet

Altitude Adj: 1.00 (CAT HB)

Job Efficiency: 0.83 (1 shift/day)

Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.60 Acres/hr

Adjusted Hourly Fleet Production: 1.79 Acres/hr

### JOB TIME AND COST

Fleet size: 3 Grader(s)

Total job time: 0.45 Hours

Unit cost:      \$787.164      Per acre

Total job cost:              **\$630**

## REVEGETATION WORK

Task description: Reseed RDA Borrow Area

Site: New Elk Mine

Permit Action: RN8

Permit/Job#: C1981012

### PROJECT IDENTIFICATION

Task #: 064

State: Colorado

Abbreviation: None

Date: 10/20/2023

County: Las Animas

Filename: 64

User: AMG

Agency or organization name: DRMS

### SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Buffalograss - Bison	0.50	0.48	\$4.75
Blue Grama - Hachita	0.67	10.94	\$10.70
Little Bluestem - Cimarron	1.20	7.16	\$14.98
Sideoats Grama - Butte	2.50	8.21	\$22.50
Milk Vetch, Cicer - Monarch	0.33	1.10	\$2.71
Streambank Wheatgrass - Sodar	1.50	4.89	\$8.55
Sainfoin - Remont	1.67	0.73	\$5.28
Thickspike Wheatgrass - Critana	0.50	1.77	\$3.44
Western Wheatgrass - Arriba	2.00	5.05	\$13.00
Rabbitbrush, Rubber	0.15	2.23	\$9.64
Rose, Wood's	0.20	0.00	\$4.10
Daisy or Sunflower, Maximillians	0.11	0.62	\$6.16
Flax, Lewis Blue	0.11	0.73	\$1.82
Spike Muhly	0.33	12.12	\$3.20
Penstemon, Rocky Mountain	0.11	1.72	\$3.25
<b>Totals Seed Mix</b>	<b>11.88</b>	<b>57.76</b>	<b>\$114.07</b>

### Application

Description	Cost /Acre
Drill Seeding (DRMS Survey Cost)	\$232.00
<b>Total Seed Application Cost/Acre</b>	<b>\$232.00</b>

### MULCHING and MISCELLANEOUS

#### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$429.79	\$859.57
<b>Total Mulch Materials Cost/Acre</b>				<b>\$859.57</b>

#### Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$74.46
Power mulcher (MEANS 32 91 13.16 0350)	\$147.67

Total Mulch Application Cost/Acre		\$222.13
-----------------------------------	--	----------

### **JOB TIME AND COST**

No. of Acres:	<u>5</u>	Cost /Acre:	<u>\$1,427.77</u>
Estimated Failure Rate:	<u>33%</u>	Cost /Acre*:	<u>\$346.07</u>
*Selected Replanting Work Items:	<u>SEEDING</u>		
Initial Job Cost:	<u>\$7,138.85</u>		
Reseeding Job Cost:	<u>\$571.02</u>		
Total Job Cost:	<u>\$7,710</u>		
Job Hours:	<u>5.00</u>		

## REVEGETATION WORK

Task description: Reseed Facilities Area with Rangeland Mix

Site: New Elk Mine

Permit Action: RN8

Permit/Job#: C1981012

### PROJECT IDENTIFICATION

Task #: 065

State: Colorado

Abbreviation: None

Date: 10/20/2023

County: Las Animas

Filename: 65

User: AMG

Agency or organization name: DRMS

### FERTILIZING

#### **Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	30.00	pound	\$0.50	\$14.90
			<b>Total Fertilizer Materials Cost/Acre</b>	<b>\$14.90</b>

#### **Application**

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$41.82
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$41.82</b>

### SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Buffalograss - Bison	0.50	0.48	\$4.75
Blue Grama - Hachita	0.67	10.94	\$10.70
Little Bluestem - Cimarron	1.20	7.16	\$14.98
Sideoats Grama - Butte	2.50	8.21	\$22.50
Milk Vetch, Cicer - Monarch	0.33	1.10	\$2.71
Streambank Wheatgrass - Sodar	1.50	4.89	\$8.55
Sainfoin - Remont	1.67	0.73	\$5.28
Thickspike Wheatgrass - Critana	0.50	1.77	\$3.44
Western Wheatgrass - Arriba	2.00	5.05	\$13.00
Rabbitbrush, Rubber	0.15	2.23	\$9.64
Rose, Wood's	0.25	0.00	\$5.13
Daisy or Sunflower, Maximillians	0.11	0.62	\$6.16
Flax, Lewis Blue	0.11	0.73	\$1.82
Spike Muhly	0.33	12.12	\$3.20
Penstemon, Rocky Mountain	0.11	1.72	\$3.25
<b>Totals Seed Mix</b>	<b>11.93</b>	<b>57.76</b>	<b>\$115.09</b>

#### **Application**

Description	Cost /Acre
-------------	------------

Drill Seeding (DRMS Survey Cost)	\$232.00
<b>Total Seed Application Cost/Acre</b>	<b>\$232.00</b>

## **MULCHING and MISCELLANEOUS**

### **Materials**

<b>Description</b>	<b>Units / Acre</b>	<b>Unit</b>	<b>Cost / Unit</b>	<b>Cost /Acre</b>
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$429.79	\$859.57
<b>Total Mulch Materials Cost/Acre</b>				<b>\$859.57</b>

### **Application**

<b>Description</b>	<b>Cost /Acre</b>
Crimping, with tractor {DMG survey data}	\$74.46
Power mulcher (MEANS 32 91 13.16 0350)	\$147.67
<b>Total Mulch Application Cost/Acre</b>	<b>\$222.13</b>

## **JOB TIME AND COST**

No. of Acres:	97.26	Cost /Acre:	\$1,485.51
Estimated Failure Rate:	33%	Cost /Acre*:	\$347.09
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	<b>\$144,480.70</b>
Reseeding Job Cost:	<b>\$11,140.13</b>
Total Job Cost:	<b>\$155,621</b>
Job Hours:	<b>178.00</b>

## REVEGETATION WORK

Task description: Reseed RDA

Site: New Elk Mine

Permit Action: RN8

Permit/Job#: C1981012

### PROJECT IDENTIFICATION

Task #: 066

State: Colorado

Abbreviation: None

Date: 10/20/2023

County: Las Animas

Filename: 66

User: AMG

Agency or organization name: DRMS

### SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Buffalograss - Bison	0.50	0.48	\$4.75
Blue Grama - Hachita	0.67	10.94	\$10.70
Little Bluestem - Cimarron	1.20	7.16	\$14.98
Sideoats Grama - Butte	2.50	8.21	\$22.50
Milk Vetch, Cicer - Monarch	0.33	1.10	\$2.71
Streambank Wheatgrass - Sodar	1.50	4.89	\$8.55
Sainfoin - Remont	1.67	0.73	\$5.28
Thickspike Wheatgrass - Critana	0.50	1.77	\$3.44
Western Wheatgrass - Arriba	2.00	5.05	\$13.00
Rabbitbrush, Rubber	0.15	2.23	\$9.64
Rose, Wood's	0.20	0.00	\$4.10
Daisy or Sunflower, Maximillians	0.11	0.62	\$6.16
Flax, Lewis Blue	0.11	0.73	\$1.82
Spike Muhly	0.33	12.12	\$3.20
Penstemon, Rocky Mountain	0.11	1.72	\$3.25
<b>Totals Seed Mix</b>	<b>11.88</b>	<b>57.76</b>	<b>\$114.07</b>

### Application

Description	Cost /Acre
Drill Seeding (DRMS Survey Cost)	\$232.00
<b>Total Seed Application Cost/Acre</b>	<b>\$232.00</b>

### MULCHING and MISCELLANEOUS

#### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$429.79	\$859.57
<b>Total Mulch Materials Cost/Acre</b>				<b>\$859.57</b>

#### Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$74.46
Power mulcher (MEANS 32 91 13.16 0350)	\$147.67

<b>Total Mulch Application Cost/Acre</b>	<b>\$222.13</b>
--	-----------------

### **JOB TIME AND COST**

No. of Acres:	31.75	Cost /Acre:	\$1,427.77
Estimated Failure Rate:	33%	Cost /Acre*:	\$346.07

\*Selected Replanting Work Items: SEEDING

Initial Job Cost:	<b>\$45,331.70</b>
Reseeding Job Cost:	<b>\$3,625.95</b>
Total Job Cost:	<b>\$48,958</b>
Job Hours:	<b>95.25</b>

## REVEGETATION WORK

Task description: Reseed DWP with Rangeland Mix

Site: New Elk Mine

Permit Action: RN8

Permit/Job#: C1981012

### PROJECT IDENTIFICATION

Task #: 067

State: Colorado

Abbreviation: None

Date: 10/20/2023

County: Las Animas

Filename: 67

User: AMG

Agency or organization name: DRMS

### FERTILIZING

#### **Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	30.00	pound	\$0.50	\$14.90
			<b>Total Fertilizer Materials Cost/Acre</b>	<b>\$14.90</b>

#### **Application**

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$41.82
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$41.82</b>

### SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Buffalograss - Bison	0.50	0.48	\$4.75
Blue Grama - Hachita	0.67	10.94	\$10.70
Little Bluestem - Cimarron	1.20	7.16	\$14.98
Sideoats Grama - Butte	2.50	8.21	\$22.50
Smooth Brome - Manchar	1.00	3.33	\$3.33
Milk Vetch, Cicer - Monarch	0.33	1.10	\$2.71
Streambank Wheatgrass - Sodar	1.50	4.89	\$8.55
Sainfoin - Remont	1.67	0.73	\$5.28
Thickspike Wheatgrass - Critana	0.50	1.77	\$3.44
Western Wheatgrass - Arriba	2.00	5.05	\$13.00
Rabbitbrush, Rubber	0.15	2.23	\$9.64
Rose, Wood's	0.25	0.00	\$5.13
Daisy or Sunflower, Maximillians	0.11	0.62	\$6.16
Flax, Lewis Blue	0.11	0.73	\$1.82
Spike Muhly	0.33	12.12	\$3.20
Penstemon, Rocky Mountain	0.11	1.72	\$3.25
<b>Totals Seed Mix</b>	<b>12.93</b>	<b>61.08</b>	<b>\$118.42</b>

#### **Application**

--	--

<b>Description</b>	<b>Cost /Acre</b>
Drill Seeding (DRMS Survey Cost)	\$232.00
<b>Total Seed Application Cost/Acre</b>	<b>\$232.00</b>

## **MULCHING and MISCELLANEOUS**

### **Materials**

<b>Description</b>	<b>Units / Acre</b>	<b>Unit</b>	<b>Cost / Unit</b>	<b>Cost /Acre</b>
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$429.79	\$859.57
<b>Total Mulch Materials Cost/Acre</b>				<b>\$859.57</b>

### **Application**

<b>Description</b>	<b>Cost /Acre</b>
Crimping, with tractor {DMG survey data}	\$74.46
Power mulcher (MEANS 32 91 13.16 0350)	\$147.67
<b>Total Mulch Application Cost/Acre</b>	<b>\$222.13</b>

## **JOB TIME AND COST**

No. of Acres:	5.62	Cost /Acre:	\$1,488.84
Estimated Failure Rate:	33%	Cost /Acre*:	\$350.42
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	<b>\$8,367.28</b>
Reseeding Job Cost:	<b>\$649.89</b>
Total Job Cost:	<b>\$9,017</b>
Job Hours:	<b>11.24</b>

## REVEGETATION WORK

Task description: Reseed Disturbed Areas with Riparian Habitat

Site: New Elk Mine

Permit Action: RN8

Permit/Job#: C1981012

### PROJECT IDENTIFICATION

Task #: 068

State: Colorado

Abbreviation: None

Date: 10/20/2023

County: Las Animas

Filename: 68

User: AMG

Agency or organization name: DRMS

### SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Buffalograss - Bison	1.00	0.96	\$9.50
Blue Grama - Hachita	1.34	21.87	\$21.41
Little Bluestem - Cimarron	2.40	14.33	\$29.96
Sideoats Grama - Butte	5.00	16.41	\$45.00
Milk Vetch, Cicer - Monarch	0.66	2.20	\$5.41
Streambank Wheatgrass - Sodar	3.00	9.78	\$17.10
Sainfoin - Remont	3.34	1.46	\$10.55
Thickspike Wheatgrass - Critana	1.00	3.54	\$6.88
Western Wheatgrass - Arriba	4.00	10.10	\$26.00
Rabbitbrush, Rubber	0.30	4.47	\$19.29
Rose, Wood's	0.50	0.00	\$10.25
Daisy or Sunflower, Maximillians	0.22	1.25	\$12.32
Flax, Lewis Blue	0.22	1.46	\$3.63
Spike Muhly	0.66	24.24	\$6.40
Penstemon, Rocky Mountain	0.22	3.45	\$6.49
<b>Totals Seed Mix</b>	<b>23.86</b>	<b>115.51</b>	<b>\$230.19</b>

### Application

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

### MULCHING and MISCELLANEOUS

#### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$429.79	\$859.57
<b>Total Mulch Materials Cost/Acre</b>				<b>\$859.57</b>

#### Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$74.46
Power mulcher (MEANS 32 91 13.16 0350)	\$147.67

<b>Total Mulch Application Cost/Acre</b>	<b>\$222.13</b>
--	-----------------

### **JOB TIME AND COST**

No. of Acres:	10.57	Cost /Acre:	\$1,579.11
Estimated Failure Rate:	33%	Cost /Acre*:	\$497.41

\*Selected Replanting Work Items: SEEDING

Initial Job Cost:	<b>\$16,691.19</b>
Reseeding Job Cost:	<b>\$1,735.02</b>
Total Job Cost:	<b>\$18,426</b>
Job Hours:	<b>21.14</b>

## REVEGETATION WORK

Task description: Plant 6 Shrub Clumps

Site: New Elk Mine

Permit Action: RN8

Permit/Job#: C1981012

### PROJECT IDENTIFICATION

Task #: 069

State: Colorado

Abbreviation: None

Date: 10/20/2023

County: Las Animas

Filename: 69

User: AMG

Agency or organization name: DRMS

### NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
Juniper, Utah	74	Tubling, 10 cu. in. container {(MEANS)}	\$2.54	\$2.40	\$187.96
Pine, Pinyon	74	Tubling, 10 cu. in. container {(MEANS)}	\$2.54	\$2.40	\$187.96
Pine, Ponderosa	74	Tubling, 10 cu. in. container {(MEANS)}	\$2.14	\$2.40	\$158.36
Mahogany, Mountain	74	Tubling, 10 cu. in. container {(MEANS)}	\$2.16	\$2.40	\$159.84
Snowberry, Western	74	Tubling, 10 cu. in. container {(MEANS)}	\$2.16	\$2.40	\$159.84
Sumac, Skunkbrush	74	Tubling, 10 cu. in. container {(MEANS)}	\$4.56	\$2.40	\$337.44
Totals Nursery Stock Cost / Acre					<b>\$1,191.40</b>

### JOB TIME AND COST

No. of Acres:	1.4	Cost /Acre:	\$1,191.40
Estimated Failure Rate:	50%	Cost /Acre*:	\$1,191.40
*Selected Replanting Work Items:	NURSERY		

Initial Job Cost: **\$1,667.96**  
Reseeding Job Cost: **\$833.98**  
Total Job Cost: **\$2,502**  
Job Hours: **5.60**

## REVEGETATION WORK

Task description: Weed Control - Assume 1/4 of Area Three Times

Site: New Elk Mine

Permit Action: RN8

Permit/Job#: C1981012

### PROJECT IDENTIFICATION

Task #: 070

State: Colorado

Abbreviation: None

Date: 10/20/2023

County: Las Animas

Filename: 70

User: AMG

Agency or organization name: DRMS

### MULCHING and MISCELLANEOUS

#### **Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Herbicide - 2,4D @ 1.0 pt/ac	1.00	ACRE	\$4.01	\$4.01
Herbicide - Glyphosate (Journey)@ 1.0 pt/ac	1.00	ACRE	\$3.75	\$3.75
<b>Total Mulch Materials Cost/Acre</b>				<b>\$7.76</b>

#### **Application**

Description	Cost /Acre
Weed spray, hand, non-aquatic area, nox. [DMG]	\$183.16
<b>Total Mulch Application Cost/Acre</b>	<b>\$183.16</b>

### JOB TIME AND COST

No. of Acres:	102.71	Cost /Acre:	\$190.92
Estimated Failure Rate:	0%	Cost /Acre*:	\$0.00
*Selected Replanting Work Items:	NONE		

Initial Job Cost: **\$19,609.39**  
Reseeding Job Cost: **\$0.00**  
Total Job Cost: **\$19,609**  
Job Hours: **102.71**

## REVEGETATION WORK

Task description: Seed Rangeland Seed Mix on MR Areas

Site: New Elk Mine

Permit Action: RN8

Permit/Job#: C1981012

### PROJECT IDENTIFICATION

Task #: 071

State: Colorado

Abbreviation: None

Date: 10/20/2023

County: Las Animas

Filename: 71

User: AMG

Agency or organization name: DRMS

### SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Buffalograss - Bison	1.00	0.96	\$9.50
Blue Grama - Hachita	1.34	21.87	\$21.41
Little Bluestem - Cimarron	2.40	14.33	\$29.96
Sideoats Grama - Butte	5.00	16.41	\$45.00
Milk Vetch, Cicer - Monarch	0.66	2.20	\$5.41
Streambank Wheatgrass - Sodar	3.00	9.78	\$17.10
Sainfoin - Remont	3.34	1.46	\$10.55
Thickspike Wheatgrass - Critana	1.00	3.54	\$6.88
Western Wheatgrass - Arriba	4.00	10.10	\$26.00
Rabbitbrush, Rubber	0.30	4.47	\$19.29
Rose, Wood's	0.50	0.00	\$10.25
Daisy or Sunflower, Maximillians	0.22	1.25	\$12.32
Flax, Lewis Blue	0.22	1.46	\$3.63
Spike Muhly	0.66	24.24	\$6.40
Penstemon, Rocky Mountain	0.22	3.45	\$6.49
<b>Totals Seed Mix</b>	<b>23.86</b>	<b>115.51</b>	<b>\$230.19</b>

### Application

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

### MULCHING and MISCELLANEOUS

#### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$429.79	\$859.57
<b>Total Mulch Materials Cost/Acre</b>				<b>\$859.57</b>

#### Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$74.46

<b>Total Mulch Application Cost/Acre</b>		<b>\$74.46</b>
--	--	----------------

**JOB TIME AND COST**

No. of Acres:	2.22	Cost /Acre:	\$2,132.41
Estimated Failure Rate:	33%	Cost /Acre*:	\$497.41
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	<b>\$4,733.95</b>
Reseeding Job Cost:	<b>\$364.40</b>
Total Job Cost:	<b>\$5,098</b>
Job Hours:	<b>2.22</b>

## REVEGETATION WORK

Task description: Reseed C&W Facilities Area with Rangeland Mix

Site: New Elk Mine

Permit Action: RN8

Permit/Job#: C1981012

### PROJECT IDENTIFICATION

Task #: 072

State: Colorado

Abbreviation: None

Date: 10/20/2023

County: Las Animas

Filename: 72

User: AMG

Agency or organization name: DRMS

### FERTILIZING

#### **Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	30.00	pound	\$0.50	\$14.90
			<b>Total Fertilizer Materials Cost/Acre</b>	<b>\$14.90</b>

#### **Application**

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$41.82
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$41.82</b>

### SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Buffalograss - Bison	0.50	0.48	\$4.75
Blue Grama - Hachita	0.67	10.94	\$10.70
Little Bluestem - Cimarron	1.20	7.16	\$14.98
Sideoats Grama - Butte	2.50	8.21	\$22.50
Milk Vetch, Cicer - Monarch	0.33	1.10	\$2.71
Streambank Wheatgrass - Sodar	1.50	4.89	\$8.55
Sainfoin - Remont	1.67	0.73	\$5.28
Thickspike Wheatgrass - Critana	0.50	1.77	\$3.44
Western Wheatgrass - Arriba	2.00	5.05	\$13.00
Rabbitbrush, Rubber	0.15	2.23	\$9.64
Rose, Wood's	0.25	0.00	\$5.13
Daisy or Sunflower, Maximillians	0.11	0.62	\$6.16
Flax, Lewis Blue	0.11	0.73	\$1.82
Spike Muhly	0.33	12.12	\$3.20
Penstemon, Rocky Mountain	0.11	1.72	\$3.25
<b>Totals Seed Mix</b>	<b>11.93</b>	<b>57.76</b>	<b>\$115.09</b>

#### **Application**

Description	Cost /Acre
-------------	------------

Drill Seeding (DRMS Survey Cost)	\$232.00
<b>Total Seed Application Cost/Acre</b>	<b>\$232.00</b>

## **MULCHING and MISCELLANEOUS**

### **Materials**

<b>Description</b>	<b>Units / Acre</b>	<b>Unit</b>	<b>Cost / Unit</b>	<b>Cost /Acre</b>
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$429.79	\$859.57
<b>Total Mulch Materials Cost/Acre</b>				<b>\$859.57</b>

### **Application**

<b>Description</b>	<b>Cost /Acre</b>
Crimping, with tractor {DMG survey data}	\$74.46
Power mulcher (MEANS 32 91 13.16 0350)	\$147.67
<b>Total Mulch Application Cost/Acre</b>	<b>\$222.13</b>

## **JOB TIME AND COST**

No. of Acres:	6	Cost /Acre:	\$1,485.51
Estimated Failure Rate:	33%	Cost /Acre*:	\$347.09
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	<b>\$8,913.06</b>
Reseeding Job Cost:	<b>\$687.24</b>
Total Job Cost:	<b>\$9,600</b>
Job Hours:	<b>12.00</b>

## REVEGETATION WORK

Task description: Reseed Zig Zag with Rangland Mix

Site: New Elk Mine

Permit Action: RN8

Permit/Job#: C1981012

### PROJECT IDENTIFICATION

Task #: 073

State: Colorado

Abbreviation: None

Date: 10/20/2023

County: Las Animas

Filename: 73

User: AMG

Agency or organization name: DRMS

### FERTILIZING

#### **Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost / Acre
10-34-0, 18-46-0, 5-10-5	30.00	pound	\$0.50	\$14.90
			<b>Total Fertilizer Materials Cost/Acre</b>	<b>\$14.90</b>

#### **Application**

Description	Cost / Acre
NA-fertilizer application incl. with hydroseeding	\$262.23
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$262.23</b>

### SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost / Acre
Buffalograss - Bison	1.00	0.96	\$9.50
Blue Grama - Hachita	1.34	21.87	\$21.41
Little Bluestem - Cimarron	2.40	14.33	\$29.96
Sideoats Grama - Butte	5.00	16.41	\$45.00
Milk Vetch, Cicer - Monarch	0.66	2.20	\$5.41
Streambank Wheatgrass - Sodar	3.00	9.78	\$17.10
Sainfoin - Remont	3.34	1.46	\$10.55
Thickspike Wheatgrass - Critana	1.00	3.54	\$6.88
Western Wheatgrass - Arriba	4.00	10.10	\$26.00
Rabbitbrush, Rubber	0.30	4.47	\$19.29
Rose, Wood's	0.50	0.00	\$10.25
Daisy or Sunflower, Maximillians	0.22	1.25	\$12.32
Flax, Lewis Blue	0.22	1.46	\$3.63
Spike Muhly	0.66	24.24	\$6.40
Penstemon, Rocky Mountain	0.22	3.45	\$6.49
<b>Totals Seed Mix</b>	<b>23.86</b>	<b>115.51</b>	<b>\$230.19</b>

#### **Application**

Description	Cost / Acre
-------------	-------------

Hydro seeding (MEANS 32 92 19.14 0200)	\$1,313.33
<b>Total Seed Application Cost/Acre</b>	<b>\$1,313.33</b>

### **MULCHING and MISCELLANEOUS**

#### **Materials**

<b>Description</b>	<b>Units / Acre</b>	<b>Unit</b>	<b>Cost / Unit</b>	<b>Cost /Acre</b>
Hydromulch, 1 ton/ac. rate {Materials Only}	2.00	ACRE	\$1,655.28	\$3,310.56
<b>Total Mulch Materials Cost/Acre</b>				<b>\$3,310.56</b>

#### **Application**

<b>Description</b>	<b>Cost /Acre</b>
	\$
<b>Total Mulch Application Cost/Acre</b>	<b>\$0.00</b>

### **JOB TIME AND COST**

No. of Acres:	0.8	Cost /Acre:	\$5,131.21
Estimated Failure Rate:	33%	Cost /Acre*:	\$1,543.52
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	<b>\$4,104.97</b>
Reseeding Job Cost:	<b>\$407.49</b>
Total Job Cost:	<b>\$4,512</b>
Job Hours:	<b>1.60</b>

## REVEGETATION WORK

Task description: Reseed West DWDA Expansion Area with Rangeland Mix

Site: New Elk Mine

Permit Action: RN8

Permit/Job#: C1981012

### PROJECT IDENTIFICATION

Task #: 074

State: Colorado

Abbreviation: None

Date: 10/20/2023

County: Las Animas

Filename: 74

User: AMG

Agency or organization name: DRMS

### FERTILIZING

#### **Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	30.00	pound	\$0.50	\$14.90
			<b>Total Fertilizer Materials Cost/Acre</b>	<b>\$14.90</b>

#### **Application**

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$41.82
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$41.82</b>

### SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Buffalograss - Bison	0.50	0.48	\$4.75
Blue Grama - Hachita	0.67	10.94	\$10.70
Little Bluestem - Cimarron	1.20	7.16	\$14.98
Sideoats Grama - Butte	2.50	8.21	\$22.50
Milk Vetch, Cicer - Monarch	0.33	1.10	\$2.71
Streambank Wheatgrass - Sodar	1.50	4.89	\$8.55
Sainfoin - Remont	1.67	0.73	\$5.28
Thickspike Wheatgrass - Critana	0.50	1.77	\$3.44
Western Wheatgrass - Arriba	2.00	5.05	\$13.00
Rabbitbrush, Rubber	0.15	2.23	\$9.64
Rose, Wood's	0.25	0.00	\$5.13
Daisy or Sunflower, Maximillians	0.11	0.62	\$6.16
Flax, Lewis Blue	0.11	0.73	\$1.82
Spike Muhly	0.33	12.12	\$3.20
Penstemon, Rocky Mountain	0.11	1.72	\$3.25
<b>Totals Seed Mix</b>	<b>11.93</b>	<b>57.76</b>	<b>\$115.09</b>

#### **Application**

Description	Cost /Acre
-------------	------------

Drill Seeding (DRMS Survey Cost)	\$232.00
<b>Total Seed Application Cost/Acre</b>	<b>\$232.00</b>

**MULCHING and MISCELLANEOUS****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$429.79	\$859.57
<b>Total Mulch Materials Cost/Acre</b>				<b>\$859.57</b>

**Application**

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$74.46
Power mulcher (MEANS 32 91 13.16 0350)	\$147.67
<b>Total Mulch Application Cost/Acre</b>	<b>\$222.13</b>

**JOB TIME AND COST**

No. of Acres:	10.2	Cost /Acre:	\$1,485.51
Estimated Failure Rate:	33%	Cost /Acre*:	\$347.09
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	<b>\$15,152.20</b>
Reseeding Job Cost:	<b>\$1,168.30</b>
Total Job Cost:	<b>\$16,321</b>
Job Hours:	<b>20.40</b>

**REVEGETATION WORK**Task description: Seed NW Vent Fan and Access Road (TR72)Site: New Elk MinePermit Action: RN8Permit/Job#: C1981012**PROJECT IDENTIFICATION**Task #: 075State: ColoradoAbbreviation: NoneDate: 10/20/2023County: Las AnimasFilename: 75User: AMGAgency or organization name: DRMS**SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Native	0.67	10.94	\$9.20
Buffalograss - Native/Plains	0.50	0.48	\$6.03
Little Bluestem - Native	1.20	7.16	\$16.28
Sideoats Grama - Vaughn	2.50	8.21	\$20.94
Smooth Brome - Lincoln	1.00	3.33	\$3.33
Kleingrass - Select 75	0.33	3.77	\$3.26
Milk Vetch, Cicer - Monarch	0.33	1.10	\$2.71
Streambank Wheatgrass - Sodar	1.50	4.89	\$8.55
Sainfoin - Remont	1.67	0.73	\$5.28
Thickspike Wheatgrass - Critana	0.50	1.77	\$3.44
Western Wheatgrass - Native	2.00	5.05	\$12.00
<b>Totals Seed Mix</b>	<b>12.20</b>	<b>47.42</b>	<b>\$91.00</b>

**Application**

Description	Cost /Acre
Drill Seeding (DRMS Survey Cost)	\$232.00
<b>Total Seed Application Cost/Acre</b>	<b>\$232.00</b>

**MULCHING and MISCELLANEOUS****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$429.79	\$859.57
<b>Total Mulch Materials Cost/Acre</b>				<b>\$859.57</b>

**Application**

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$74.46
<b>Total Mulch Application Cost/Acre</b>	<b>\$74.46</b>

**JOB TIME AND COST**

No. of Acres:	1.55	Cost /Acre:	\$1,257.03
Estimated Failure Rate:	40%	Cost /Acre*:	\$1,257.03
*Selected Replanting Work Items:	SEEDING,MULCHING		

Initial Job Cost:	<b>\$1,948.40</b>
Reseeding Job Cost:	<b>\$779.36</b>
Total Job Cost:	<b>\$2,728</b>
Job Hours:	<b>1.55</b>

**EQUIPMENT MOBILIZATION/DEMOBILIZATION**Task description: **Mobilize/Demobilize Equipment for Initial Reclamation**Site: **New Elk Mine**Permit Action: **RN8**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **076**State: **Colorado**Abbreviation: **None**Date: **10/20/2023**County: **Las Animas**Filename: **76**User: **AMG**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:**

<b>Available Rig Capacities</b>	<b>0-25 Tons</b>	<b>26-50 Tons</b>	<b>51+ Tons</b>
Ownership Cost/Hour:	\$20.26	\$36.04	\$47.05
Operating Cost/Hour:	\$39.51	\$76.08	\$82.85
Operator Cost/Hour:	\$22.52	\$22.52	\$22.52
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53
Total Unit Cost/Hour:	\$82.29	\$158.17	\$175.95

**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 D9T - 9SU	60.01	\$238.76	\$175.95	3	\$1,244.13	\$527.85	\$750.00
CAT 14M	23.57	\$149.33	\$82.29	1	\$231.62	\$82.29	\$250.00
Cat 627G	41.80	\$230.18	\$158.17	2	\$776.70	\$316.34	\$500.00
Water Tanker, 5,000 Gal.	15.00	\$57.13	\$82.29	1	\$139.42	\$82.29	\$250.00
Atlas Capco DM45/HP - 9.0"	0.00	\$384.70	\$82.29	1	\$466.99	\$82.29	\$250.00
CAT 950H	20.13	\$49.32	\$82.29	1	\$131.61	\$82.29	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$6.73	\$82.29	2	\$178.04	\$164.58	\$500.00
Power Mulcher (Bowie LD-90)	6.00	\$25.94	\$82.29	1	\$108.23	\$82.29	\$250.00
Cat D7R DS Series II LGP	34.57	\$114.76	\$158.17	1	\$272.93	\$158.17	\$250.00

Subtotals: **\$3,549.67** **\$1,578.39** **\$3,250.00****ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
---------------------	------------------------	------------	-----------------------------	-------------------------------

Generic 10-12 cy, 6x4	\$116.31	3	\$348.93	\$348.93
Fuel Tanker, 4x2, 170 HP	\$34.27	1	\$34.27	\$34.27
Lube Truck, 4x2, 190 HP	\$41.82	1	\$41.82	\$41.82

Subtotals: **\$425.02** **\$425.02**

### **EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region: TRINIDAD  
Total one-way travel distance: 27.00 miles  
Average Travel Speed: 40.00 mph

Total Non-Roadable Mob/Demob Cost \* \$16,972.55  
\* two round trips with haul rig:  
Total Roadable Mob/Demob Cost \*\* \$573.78  
\*\* one round trip, no haul rig:

### **Transportation Cycle Time:**

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.68	0.68
Return Time (Hours):	0.68	0.68
Loading Time (Hours):	0.25	NA
Unloading Time (Hours):	0.25	NA
Subtotals:	1.85	1.35

### **JOB TIME AND COST**

Total job time: 3.70 Hours

Total job cost: \$17,546

**EQUIPMENT MOBILIZATION/DEMOBILIZATION**Task description: **Mobilize/Demobilize Equipment for Pond Cleaning**Site: **New Elk Mine**Permit Action: **RN8**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **077**State: **Colorado**Abbreviation: **None**Date: **10/20/2023**County: **Las Animas**Filename: **77**User: **AMG**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:**

<b>Available Rig Capacities</b>	<b>0-25 Tons</b>	<b>26-50 Tons</b>	<b>51+ Tons</b>
Ownership Cost/Hour:	\$20.26	\$36.04	\$47.05
Operating Cost/Hour:	\$39.51	\$76.08	\$82.85
Operator Cost/Hour:	\$22.52	\$22.52	\$22.52
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53
Total Unit Cost/Hour:	\$82.29	\$158.17	\$175.95

**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 336D L 10'- 6" Stick	32.23	\$95.93	\$158.17	1	\$254.10	\$158.17	\$250.00

Subtotals: **\$254.10** **\$158.17** **\$250.00****ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Generic 8-10 cy, 6x4	\$98.45	3	\$295.35	\$295.35

Subtotals: **\$295.35** **\$295.35****EQUIPMENT HAUL DISTANCE and Time**Nearest Major City or Town within project area region: **TRINIDAD**Total one-way travel distance: **27.00** milesAverage Travel Speed: **40.00** mphTotal Non-Roadable Mob/Demob Cost \* **\$1,310.66**

\* two round trips with haul rig:

Total Roadable Mob/Demob Cost **	\$398.72
** one round trip, no haul rig:	

Transportation Cycle Time:

	Non- Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.68	0.68
Return Time (Hours):	0.68	0.68
Loading Time (Hours):	0.25	NA
Unloading Time (Hours):	0.25	NA
Subtotals:	1.85	1.35

**JOB TIME AND COST**

Total job time:	<b>3.70</b>	Hours
-----------------	-------------	-------

Total job cost:	<b>\$1,709</b>
-----------------	----------------

**EQUIPMENT MOBILIZATION/DEMOBILIZATION**Task description: **Mobilize/Demobilize Equipment for Pond Removal**Site: New Elk MinePermit Action: RN8Permit/Job#: C1981012**PROJECT IDENTIFICATION**Task #: 078State: ColoradoAbbreviation: NoneDate: 10/20/2023County: Las AnimasFilename: 78User: AMGAgency or organization name: DRMS**EQUIPMENT TRANSPORT RIG COST**Shift basis: 1 per dayCost Data Source: CRG DataTruck 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:**

<b>Available Rig Capacities</b>	<b>0-25 Tons</b>	<b>26-50 Tons</b>	<b>51+ Tons</b>
Ownership Cost/Hour:	\$20.26	\$36.04	\$47.05
Operating Cost/Hour:	\$39.51	\$76.08	\$82.85
Operator Cost/Hour:	\$22.52	\$22.52	\$22.52
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53
Total Unit Cost/Hour:	\$82.29	\$158.17	\$175.95

**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 D9T - 9SU	60.01	\$238.76	\$175.95	1	\$414.71	\$175.95	\$250.00

Subtotals: **\$414.71** **\$175.95** **\$250.00****ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Flatbed Truck, 6x4, 45K GVW	\$61.15	1	\$61.15	\$61.15

Subtotals: **\$61.15** **\$61.15****EQUIPMENT HAUL DISTANCE and Time**Nearest Major City or Town within project area region: TRINIDADTotal one-way travel distance: 27.00 milesAverage Travel Speed: 40.00 mphTotal Non-Roadable Mob/Demob Cost \* \$1,712.10

\* two round trips with haul rig:

Total Roadable Mob/Demob Cost \*\* \$82.55

\*\* one round trip, no haul rig: \_\_\_\_\_

Transportation Cycle Time:

	Non- Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.68	0.68
Return Time (Hours):	0.68	0.68
Loading Time (Hours):	0.25	NA
Unloading Time (Hours):	0.25	NA
Subtotals:	1.85	1.35

**JOB TIME AND COST**

Total job time: 3.70 Hours

Total job cost: \$1,795

**EQUIPMENT MOBILIZATION/DEMOBILIZATION**Task description: Mobilize/Demobilize Equipment for Site MaintenanceSite: New Elk MinePermit Action: RN8Permit/Job#: C1981012**PROJECT IDENTIFICATION**Task #: 079State: ColoradoAbbreviation: NoneDate: 10/20/2023County: Las AnimasFilename: 79User: AMGAgency or organization name: DRMS**EQUIPMENT TRANSPORT RIG COST**Shift basis: 1 per dayCost Data Source: CRG DataTruck 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:**

<b>Available Rig Capacities</b>	<b>0-25 Tons</b>	<b>26-50 Tons</b>	<b>51+ Tons</b>
Ownership Cost/Hour:	\$20.26	\$36.04	\$47.05
Operating Cost/Hour:	\$39.51	\$76.08	\$82.85
Operator Cost/Hour:	\$22.52	\$22.52	\$22.52
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53
Total Unit Cost/Hour:	\$82.29	\$158.17	\$175.95

**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 D3K LGP - 3P	9.20	\$73.07	\$82.29	10	\$1,553.60	\$822.90	\$0.00

Subtotals: **\$1,553.60** **\$822.90** **\$0.00****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: TRINIDADTotal one-way travel distance: 27.00 milesAverage Travel Speed: 40.00 mphTotal Non-Roadable Mob/Demob Cost \* \$4,761.88

\* two round trips with haul rig:

Total Roadable Mob/Demob Cost \*\* \$0.00

\*\* one round trip, no haul rig:

Transportation Cycle Time:

	Non- Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.68	0.68
Return Time (Hours):	0.68	0.68
Loading Time (Hours):	0.25	NA
Unloading Time (Hours):	0.25	NA
Subtotals:	1.85	1.35

**JOB TIME AND COST**Total job time: 3.70 HoursTotal job cost: \$4,762