

EXHIBIT 28
BOND CALCULATIONS
MIDTERM REVIEW NO. 8



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

August 29, 2021

New Elk Coal Company, LLC.

Attn: Larry Cook

12250 Highway 12

Weston, CO 81091

RE: New Elk Mine, C-1981-012, Midterm Review No. 8 (MT8)

Dear Mr. Cook,

The Colorado Division of Reclamation, Mining and Safety has completed a Midterm Review of the New Elk Mine permit. The Midterm Review Findings Document is enclosed. If you have any questions, please feel free to contact me at Jared.Ebert@state.co.us or (303) 866-3567 ext. 8120.

Sincerely,

Jared Ebert
Senior Environmental Protection Specialist

ec: Nick Mason, NECC



MIDTERM PERMIT REVIEW (MT- 8)
for
New Elk Coal Company, LLC

New Elk Mine

Permit No. C-1981-012



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

August 29, 2021
Virginia Brannon, Director

Prepared by
DJ Cunningham
and Jared Ebert

In Fulfillment of C.R.S. 34-33-115 and the following
Regulations of the Colorado Mined Land Reclamation Board for Coal
Mining: Rules 2.08.3, 2.06.2, 2.06.3, 2.06.5, 2.06.7 and 3.02.2

Section I

Introduction

This document presents the results of the Midterm Review of the New Elk Mine permit, conducted by the Colorado Division of Reclamation, Mining and Safety (Division). The New Elk Mine is owned and operated by New Elk Coal Company, LLC (NECC). This Midterm Review was conducted to fulfill the requirements of the Colorado Surface Coal Mining Reclamation Act (Act), and Rules 2.08.3, 2.06.2(10), 2.06.3(4), 2.06.5(3), 2.06.7(5), and 3.02.2(4) of the Rules and Regulations of the Colorado Mined Land Reclamation Board for Coal Mining (Rules), which were promulgated to implement the Act.

Rule 2.08.3 requires that the Division conduct a review of each permit issued not later than the middle of the permit term. Based on this review, for good cause shown, the Division may require reasonable revisions to, or modifications of, the permit provisions to ensure compliance with the Act and Regulations.

Rules 2.06.2, 2.06 .3, 2.06.5, and 2.06.7 require that during the midterm review, where applicable, experimental practices, mountaintop removal variances, variances from approximate original contour (AOC), and variances from contemporaneous reclamation, respectively, be reviewed by the Division.

Rule 3.02.2(4) requires that the Division review the amount of performance bond liability and the terms of acceptance of the bond every two and one-half years.

This Midterm Review of the New Elk mine consisted of a detailed review of the New Elk Mine permit application package and previous Division findings of compliance to ensure that the proposed operation is in compliance with the Rules and Act. The Division also reviewed all subsequent revisions and stipulation responses to ensure that all permit commitments and conditions were being followed.

Section II

Status of Stipulations and Revisions to the Permit

The Review Process

The New Elk Mine, previously known as the Allen Mine, began operations in 1951. The New Elk Mine operated under an interim permit issued by the Colorado Mined Land Reclamation Division (the "Division") on 25 January 1978, pursuant to the Colorado Mined Land Reclamation Act. CF&I Steel Corporation, the previous owners, submitted an application for a new permit on 4 February 1981, pursuant to Section 34-33-109 of the Colorado Surface Coal Mining Reclamation Act. The Division reviewed that application and a proposed decision was issued on 19 December 1983.

The New Elk mine permit has been transferred on four occasions. Permit rights were transferred from CF&I Steel Corporation to Wyoming Fuel Company on 31 January 1984. Permit rights were transferred from Wyoming Fuel Company to Basin Resources, Inc. (BRI) on 29 March 1993, (SO1). In April 1997, permit rights were transferred from BRI to Picketwire Processing, LLC (SO2). And finally, the permit was transferred from Picketwire Processing, LLC to New Elk Coal Company LLC on 19 March 2007, (SO3). In March 2010, New Elk Coal Company (NECC) provided information that Cline Mining Corporation had purchased New Elk Coal Company (MR91). NECC provided notification in November 2011 (MR98) that NECC would continue as the permittee, but TK Mining Services LLC, would be the mine operator. In March 2012 (MR108), TK Mining Services, LLC, was removed as mine operator and NECC resumed its status as mine operator. On November 25, 2020, NECC submitted Succession of Operator application (SO4) that kept NECC as the permittee but change the parent company to Allegiance Coal, LLC.

This is the eighth midterm review of the permit since it was originally issued in accordance with Rule 2.08.3 Permit Revisions and/or renewals since last Mid Term Review (Mid Term Review 7) issued on August 25, 2016:

Permit Revision or Renewal	Description	Proposed Decision Date
Permit Renewal No. 7 (RN7)	Permit Renewal	14 November 2019

Technical Revisions since the last Mid Term Review (Mid Term Review 7) issued on August 25, 2016:

Revision Number	Description	Proposed Decision Date
TR 75	RDA reclamation cost	1 October 2020
TR 74	Exploration Drilling	22 October 2020
TR 73	Revise Water Monitoring Program	13 December 2018
TR 72	Permit Boundary change	27 April 2017

Minor Revisions since the last Mid Term Review (Mid Term Review 7) Approved August 2016:

Revision Number	Description	Proposed Decision Date
MR 127	Update Contact information	28 May 2021
MR 126	Move Location of Drill Hole	05 February 2021
MR 125	Weed Management Plan	20 August 2018
MR 124	Update Exhibit 1 and Exhibit 28	02 May 2017

Permit Transfers since the last Mid Term Review (MT 7) that was approved August 2016:

Revision Number	Description	Proposed Decision Date
SO4	Change of Ownership	22 January 2021

There have been no bond releases since Renewal No. 5 approved 6 March 2009.

The stipulation history for the New Elk Mine was reviewed as part of the midterm review. The review included an investigation of any stipulations imposed since the last permit renewal, and any responses to existing stipulations received since the last permit renewal. Any stipulations associated with this permit and issued over the life of this operation which are not discussed in this midterm review have been complied with or terminated. Stipulations consist of timely submissions of the reports and inspections identified in table 4, below. All reports and inspections have been submitted.

Annual Hydrology Reports	Pond Inspections	Discharge Monitoring Reports
Annual Reclamation Reports	Refuse Pile Inspections	

Section III

Summary

Description of the Environment

The New Elk Mine is located approximately 24 miles west of Trinidad, Colorado. The New Elk Mine, previously known as the Allen Mine, began operations in 1951.

The mine site is located in a plateau area. The elevation of the surface facilities ranges from 7,400 to 7,800 feet. Land use in the area consists of cropland, rangeland, pastureland, and wildlife habitat. Livestock grazing and hay production on irrigated lands are the main agricultural practice conducted in the general area. A variety of large and small mammals, birds, fish, amphibians, and reptiles are permanent or temporary residents of the area.

The New Elk Mine is located in the western limb of the Raton Basin. The Raton Basin is a broad, asymmetric syncline whose axis trends north-south. Previous mining at this site was entirely within the Allen seam, stratigraphically located in the Raton Formation (Upper Cretaceous and Paleocene). The Poison Canyon Formation (Paleocene) unconformably overlies the Raton Formation. The Poison Canyon Formation has a thickness of approximately 200 feet and occurs only as small, isolated outcrops above an elevation of 8,000 feet. Unconsolidated Quaternary alluvial and colluvial deposits overlie the Raton Formation in the low lying areas.

The rock strata dip approximately two degrees to the north northeast. The permit area contains one steep, normal fault trending east-northeast with vertical displacement less than 25 feet. The Allen Seam lies from 450 to 900 feet below the surface. Immediately above the coal are interbedded sandstones, siltstones, and shales. Interbedded sandstones, shales, and siltstones also underlie the seam.

The alluvium of the Middle Fork of the Purgatoire River is a significant aquifer in the permit and adjacent areas. The Purgatoire River originates several miles west of the mine in the Sangre de Cristo Mountain Range. It flows into the Arkansas River near Las Animas, Colorado, approximately 120 miles northeast of the mine.

Portions of the Apache Canyon, Pete Canyon, and Ciruela Canyon drainages are found within the permit area. These basins contain intermittent and ephemeral streams that flow predominately in response to runoff from snowmelt during the spring and intense rainfall during the summer. A portion of the flow in intermittent drainages is sustained by groundwater discharges. Pete Canyon is tributary to the North Fork of the Purgatoire River, while Apache and Ciruela Canyons are tributary to the main stem of the Purgatoire River.

The region is characterized by a semi-arid climate. The prevailing wind is from the southwest and average annual precipitation is 16.92 inches. The length of the growing season in the area varies from 90 to 110 days.

Vegetative communities in the area of the mine can be separated into two physiognomic types: the low grassland and riparian communities along the Purgatoire River valley bottom, and forest communities dominating the slopes and upland areas along the river valley. Communities on the north-facing slope

and the river valley were inventoried and found to contain four distinct vegetative communities at the New Elk Mine area: a Ponderosa pine-Douglas fir-oak community (*Pinus ponderosa* - *Pseudotsuga menziesii*), a Ponderosa pine-oak community (*Pinus ponderosa* - *Quercus gambelii*), a grassland community, and a riparian willow (*Salix* XX) carr community. The Ponderosa pine-Douglas fir-oak community (*Pinus ponderosa* - *Pseudotsuga menziesii*, *Quercus gambelii*), is found on the north-facing slope above the mine facilities at elevations above 7,600 feet. The overstory consists of mature Ponderosa pine and Douglas fir with interspersed Pinon pine (*Pinus* XX) and Rocky Mountain juniper, (*Juniperus scopulorum*). The dominant shrub species is *Quercus gambelii*, (Gambel's oak).

Vegetative cover is relatively sparse (12 percent) and productivity is low (62 lb/ac). The Ponderosa pine-oak community occurs on the north facing slopes above 7,500 feet on the eastern two-thirds of the permit area. Pure *Pinus ponderosa* stands are interspersed with *Quercus gambelii*, *Pinus* XX and *Juniperus scopulorum*. Vegetative cover is low at (4 percent), as is productivity at (44 lb/ac). Since no undisturbed grassland communities could be found at the New Elk Mine, the grassland community was inventoried at the adjacent Golden Eagle Mine on a plateau above the river at 7,200 feet elevation. Dominant grass species were *Bouteloua gracilis* (blue gramma), and *Pascopyrum smithii* (western wheatgrass), with many other minor graminoids including a number of forbs. *Artemisia tridentata* Nut (big sagebrush) and *Gutierrezia sarothrae* (broom snakeweed) were the dominant shrubs. Vegetative cover can be characterized as moderate (18 percent), as is productivity at (560 lb/ac). The *Salix* XX, (willow carr) riparian community is located in the Purgatoire River drainage at an elevation of 7,400 feet at the New Elk Mine. The dominant species was *Salix* XX with a diverse graminoid and forb understory.

Vegetative cover is high (43 percent), as is productivity (2,140 lb/ac).

Soils in the area range from very shallow on the steep side slopes to deep, well-drained loams with a dark-colored surface layer found in the valley bottom along the Purgatoire River.

The Jansen Loadout is located in an unincorporated area on the west side of Trinidad, Colorado. Land use of the site has been industrial for at least two decades. The site is located immediately north of and adjacent to the Burlington Northern Santa Fe (BNSF) railroad grade on a thin layer of Purgatoire River alluvial deposits capping bedrock sedimentary formations. No intermittent, ephemeral, or perennial drainages cross the site. An intermittent arroyo named Colorado Canyon arroyo borders the site on the eastern boundary. This arroyo flows only during snowmelt episodes in the spring or from storm runoff after summer thunderstorms.

Climate at the loadout is similar to that of the mine site, but slightly dryer due to lower elevation.

All soils and native vegetation have been previously removed from the loadout site. Weeds and volunteer species persist, especially on the fringes of the disturbance. The site has no natural wildlife habitat and the site is fenced to prevent access of domestic animals and big game.

Description of the Operation and Reclamation Plan

Of the 3,585 acres originally permitted at the New Elk Mine, 155 acres were already disturbed for working areas and facilities. Permit Revision #1 added 120 acres to the permit area, of which 36 acres were affected by new, proposed surface facilities. The resulting permit area encompassed 3,705 acres with 191 acres of surface disturbance. On October 26, 1998 the Division approved Phase I, II, and III bond release on 3,233.0 acres south of Highway 12 of further liability as per Division written policy for release of areas overlying underground workings. Of the 3,233.0 acres included in SL1, 597.0 had been undermined, but none of the acreage had been disturbed at the surface. Included in this area are two small areas of surface disturbance (the Apache Canyon ventilation shafts), which were transferred to the Golden Eagle Mine permit, #C-81-013. The resulting permit area totaled about 900 acres.

The Division approved a partial Phase 1 Bond Release No.2 (SL2) on November 16, 2006, for 35.14 acres. SL2 approved completion of demolition of structures, backfill and grading, of 19.08 acres at the East portal, and 16.06 acres at the West portal. SL2 also released liability for activities that had previously received approval but had never been implemented. Liability release of activities never implemented also removed approval of these activities from the permit.

The existing operation at the time of original permitting consisted of several benches used for storage, office building, shop buildings, railroad tracks, two portals, conveyors, coal silos, substations, fans, air shafts, a water tank, a parking lot, four sediment ponds, ditches, culverts, roads, and a refuse disposal area. Surface facilities added as a result of permitting actions included a refuse disposal valley fill and sediment pond north of Highway 12, two new topsoil stockpiles, coal stockpiles, conveyors, a preparation plant and thickener tank, and the Jansen Loadout.

A coal processing plant currently exists at the mine. In 2011, NECC constructed a new set of portals (Bates Portals) located southeast of the coal silos. The mine plan is shown on Map 3. The Mine plan for the Blue seam progresses eastward and southward. In May 2011, NECC reopened the Allen seam as well. Allen seam mine plan progresses mainly to the south and east. Coal is mined by continuous miners. In July 2012, NECC suspended coal extraction, In May Of 2021, NECC began mining coal again. On June 24, 2021, NECC submitted Permit Revision No. 5 (PR5), this revision updates the Blue Seam mining plan. The Division is currently reviewing PR5 and several revisions, updates, and clarifications will be required for the mine plan, these issues will be addressed under a separate adequacy review letter pertaining to PR5.

A Refuse Disposal Area (RDA) was constructed north of Highway 12 as a valley fill. Coal is processed at the New Elk Mine. Previous operation of the New Elk Mine processed coal from the Lorencito Canyon Mine. Coal refuse is transported by conveyor over Highway 12 and deposited in the RDA north of the highway. Pond cleaning material and small quantities of rock were added to the original refuse pile, now referred to as the Development Waste Pile (DWP) southwest of the main mine entrance. The DWP reached its maximum size in late 2006 and was regraded, top soiled, and reseeded. Construction of the Bates portals and development of workings to access the Blue seam coal seam resulted in excavation and construction of a subsoil stockpile and a development waste disposal area (DWDA#2). The DWDA#2 is located southeast of the main entrance. In 2012, the Division approved construction of a small material storage area for disposal of development waste during NECC's permitting (TR65) of a third Development Waste Disposal Area, DWDA#3, located at the previously reclaimed west portal area.

Following the startup of mining operations in 2011, most of the surface facilities were for a time, put

back into operation. The East Portal, the East Portal vent shaft, two portals at the West Mine, the West Mine vent shaft, and the Upper Apache Canyon vent shaft were reopened in 2010 to allow access of employees and materials as well as ventilation airways. Two portal entries at the West Mine were resealed in 2010.

Upon reclamation, the bench areas at the mine will be graded to the approximate original contour. The disturbed areas will be topsoiled (depending on the area) or ripped, then seeded and mulched to establish a vegetative cover of a variety consistent with surrounding vegetation. The stream channel diversion of the Middle Fork of the Purgatoire River, which was approved under Permit Revision #1, is permanent and will remain as constructed. Monitoring has demonstrated that this work was successful and the reconstructed channel is stable.

Topsoil was salvaged from the disturbed area above the Refuse Disposal Area (RDA) during each successive movement of the clean water diversion ditch above the RDA. This material was used in the reclamation of the current lower benches of the RDA. TR75 approved in October of 2020 defined a borrow area where cover material will be obtained should operations at the RDA terminate earlier than anticipated by the operation.

A topsoil borrow area in the West Mine area, in addition to stockpiled topsoil, will be used to reclaim the areas of the existing and proposed surface facilities. Due to previous disturbance prior to the enactment of the Colorado Surface Coal Mining Reclamation Act, very little topsoil is available for use during reclamation of areas previously disturbed. Permitted disturbed areas, underlain by refuse, whether pre-law or post-law, will receive topsoil prior to re-seeding and mulching. Permitted disturbed areas not on refuse material will be ripped prior to reseeded and mulching. See Maps 15 and 16 for specific identification of these two types of disturbed areas.

The post-mining land use is rangeland for most of the disturbed area and wildlife habitat (upland and riparian) for the remainder of the disturbed area. These land uses are compatible with the surrounding uses. The proximity of the mine site to the Purgatoire River and the heavily forested areas to the south indicate a high probability of wildlife use following reclamation. Riparian vegetation, as well as the use of native grasses and shrubs, is planned.

Operations at the Jansen Loadout are limited to the weighing of coal trucks, unloading and stockpiling of coal, and conveying and loading of coal into unit trains. The operator estimates that 24,000 tons of coal can be stored at the site. The operator is approved to utilize covered coal conveyors and water spray to minimize fugitive dust. Storm water runoff is handled by the existing grade and a series of ditches and small sumps. One small fuel tank is approved to be stored at the site. DRMS requires the posting of mine identification signs at the entrance to the site on the west side and around the perimeter.

The pre-mining and post-mining land use at the Jansen Load out is industrial. When the Jansen Loadout is no longer necessary for loading on coal, all structures, except those specifically identified in Attachment 2 of Exhibit 40 for permanent retention, will be removed and the site will be graded and returned to a rail siding for use by the landowner.

Section IV
ENFORCEMENT ACTIONS

No enforcement actions have been issued since 2013.

Permit Variances and Specific Approvals

Rules 2.06.2, 2.06 .3, 2.06.5, and 2.06.7 require that during the midterm review, where applicable, experimental practices, mountaintop removal variances , variances from approximate original contour (AOC), and variances from contemporaneous reclamation, respectively, be reviewed by the Division. No experimental practices or such variances are approved for the New Elk Mine.

Section V
REVIEW and DISCUSSION

This section consists of questions or comments raised as a result of the Division's review of the permit application, related materials, and review of the reclamation cost estimate. NECC will be required to address the items listed below by applying for an appropriate revision to the permit in accordance with Rule 2.08.3(3).

Section 1.0 - Table of Contents

1. Please update the list of maps to reflect the maps that have been changed since TR-70 was issued, and the dates of the currently approved maps.

Rule 2.03 Legal, Financial, Compliance and Related Information

2. Please verify that the ownership and control information and the list of neighboring surface and subsurface owners are correct or update them as necessary.
3. Please update Table 2 to show the updated DRMS permit approved on November 14, 2019.

Rule 2.04 - Information on Environmental Resources

4. Please update section 2.04.4 with the necessary information from the cultural resource survey conducted for TR75.

Rule 2.05 - Operation and Reclamation Plans

The Division is currently reviewing Permit Revision No. 5 (PR5) submitted by NECC that updates the mining plan in the Blue Seam. Based on the review of PR5, NECC will need to address several adequacy items to revise, update and clarify the mining plan for the remainder of this permit term. These items will be addressed under a separate adequacy review issued for PR5. For MT8, NECC will need to address the following:

5. Table 27 is outdated in regards to the NPDES discharge points. Please update the table and clarify the outfall for NE-080.
6. Section 2.05.3(4) describes water within the mine workings. Please update the discussion to reflect actual conditions encountered during the reopening of the mine as well as the current drainage plan within the mine.

Section VI
DETERMINATION of BOND AMOUNT

As of August 19, 2021, the Division estimates liability at the New Elk Mine to be \$5,206,046.00. This amount is sufficient to assure completion of the remaining reclamation work at the site if the work had to be performed by the Division, including the cost of re-establishing vegetation on any revegetated areas, should those areas fail. The permittee currently has posted corporate sureties with the Division in the amount of \$4,647,856.08 for the New Elk Mine.

The current required surety for the New Elk Mine is \$4,605,014.08, and the Division currently holds \$4,647,856.08 of bond in the form of corporate sureties. The estimated liability at the site based on this review is \$601,031.92 more than the current required surety and is \$558,189.92 more than the current bond held for the site. The Division requests that NECC review the reclamation cost estimate attached to this midterm review document. If NECC has any specific concerns regarding the reclamation cost estimate, please submit them by September 30, 2021. If no comments or concerns are received by this date, the Division may initiate the bond adjustment process in accordance with Rule 3.02.2(4).

This concludes the 2021 Midterm Review (MT8) of the New Elk Mine. Please submit any required revision applications responding to the issues outlined in Section V **on or before 14 October 2021.**

COST SUMMARY WORK

Task description: _____

Site: New Elk Mine

Permit Action: Mid Term 08

Permit/Job#: C1981012

PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 8/5/2021

County: Las Animas

Filename: C012-000

User: DC1

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Backfill and Regrade East Portal Area	DOZER	3	83.38	\$84,916
002	Push Temporary Coal Stockpiles to Conveyor	DOZER	3	12.23	\$11,328
003	Regrade Pond 004	DOZER	1	7.81	\$2,651
004	Regrade Pond 006	DOZER	1	8.73	\$2,864
005	Regrade Pond 007	DOZER	1	21.50	\$7,053
006	Regrade Pond 008; Rip and Regrade Spillway	DOZER	1	66.13	\$22,068
007	Regrade West Portal Containment Area 1	DOZER	1	5.21	\$1,708
008	Regrade temporary Ditches at West Portal	DOZER	1	0.31	\$95
009	Backfill East Portal Face	DOZER	3	0.93	\$943
010	Backfill West Portal Face	DOZER	2	1.39	\$911
011	Backfill Bates Portal Face	DOZER	2	38.69	\$25,379
012	Regrade Areas from MR-99, MR-107, MR-111, MR-114	DOZER	3	1.43	\$1,327
013	Replace Topsoil on D26 Extension	DOZER	1	0.24	\$73
014	Backfill and Regrade DWDA Expansion	DOZER	2	2.68	\$1,820
015	Replace Topsoil on Six Drill Pads and Mud Pits	DOZER	1	3.88	\$1,199
016	Rip and Regrade C&W Train Shop Area	DOZER	2	12.74	\$8,647
017	Regrade Access Road to NW Vent Shaft (TR72)	DOZER	1	2.33	\$590
018	Regrade Access Road to NW Vent Shaft	DOZER	1	2.33	\$590
019	Strip and Place 5 acres of topsoil RDA	TRUCK1	1	82.68	\$63,274
020	Strip and Place 10 acres of Cover over 2 feet from borrowRDA	TRUCK1	1	287.66	\$220,149
021	Strip and Place 4 acres of Cover over 2 feet from RDA back	TRUCK1	1	115.07	\$88,061
022	Strip and Place 5 acres of Cover over 2 feet from borrow RDA	TRUCK1	1	236.40	\$180,919
023	Replace topsoil over borrow area RDA	TRUCK1	1	53.94	\$32,976
024	Backfill and Regrade Transformer and Rock Dust Cut Slope	TRUCK1	1	48.56	\$56,080
025	Replace Topsoil to Transformer and Rock Dust Cut Slope	TRUCK1	1	1.40	\$1,597
026	Clean Ponds 004, 007, and 008 Twice During Liability Period	TRUCK1	1	121.05	\$105,007
027	Replace Topsoil on NW vent Fan Aea (TR72)	TRUCK1	1	5.95	\$2,230

028	Demolish and Remove All Structures	DEMOLISH	1	1,009.00	\$1,960,889
029	Demolish and Remove Structures @ C&W area	DEMOLISH	1	24.00	\$77,932
030	Exploration Drilling TR-74	BOREHOLE	1	60.00	\$51,126
031	Plug and Seal All Boreholes and Monitoring Wells	BOREHOLE	1	73.00	\$146,843
032	Seal Additional Wells	BOREHOLE	1	36.00	\$39,715
033	Haul Raw Coal Stockpile to Development Waste Pile	SCRAPER1	1	12.59	\$14,483
034	Haul Clean Coal Stockpile to Development Waste Pile	SCRAPER1	1	20.43	\$23,224
035	Replace Cover material on DWDA #2	SCRAPER1	1	2.29	\$2,809
036	Replace Topsoil to DWDA #2	SCRAPER1	1	5.40	\$6,622
037	Replace Topsoil to Area East of Pond 5	SCRAPER1	1	0.42	\$516
038	Replace Topsoil to Pond 005	SCRAPER1	1	0.30	\$359
039	Replace Topsoil to Area Under Conveyor	SCRAPER1	1	0.90	\$1,106
040	Replace Topsoil to Raw Coal Storage Stockpile	SCRAPER1	1	1.37	\$1,675
041	Replace Topsoil to Small DR Area in Large DNR Area	SCRAPER1	1	0.10	\$124
042	Replace Topsoil to Clean Coal Stockpile	SCRAPER1	1	0.93	\$1,140
043	Replace Topsoil to East Extension of River Pumphouse	SCRAPER1	1	0.22	\$269
044	Replace Topsoil to Embedded Waste Area	SCRAPER1	1	2.01	\$2,471
045	Replace Topsoil to RDA	SCRAPER1	1	122.41	\$150,090
046	Replace Topsoil to Four Bench Slopes	SCRAPER1	1	15.69	\$19,421
047	Replace Topsoil to RDA Pond	SCRAPER1	1	5.17	\$6,233
048	Replace Topsoil to Bates Portal Face-Up	SCRAPER1	1	3.01	\$3,687
049	Replace Topsoil to West DWDA	SCRAPER1	1	67.00	\$87,625
050	Compact Final RDA Surface	COMPACT	1	32.46	\$5,971
051	Seal Portals and Vent Shafts	MINESEAL	1	270.00	\$273,452
052	Regrading 30,000 LCY Refuse	GRADER	2	4.14	\$1,377
053	Finish Grade Refuse Disposal Area	GRADER	1	5.31	\$929
054	Finish Grade West DWDA Area	GRADER	1	8.35	\$1,460
055	100 year ditch	EXCAVATE	1	27.86	\$3,618
056	Replace Topsoil to Zig Zag Road	EXCAVATE	1	0.47	\$67
057	Site Maintenance during the 10 year liability period	SITEMAINTENANCE	1	400.00	\$40,516
058	Rip Mine Entry Area Prior to Regrading	RIPPER	3	8.56	\$8,721
059	Rip Wedge Area Prior to Regrading	RIPPER	3	0.76	\$781
060	Rip Prep Plant Area Prior to Regrading	RIPPER	3	2.57	\$2,622
061	Rip West Portal DNR Areas	RIPPER	3	11.94	\$12,169
062	Rip East Portal - Only DNR Area	RIPPER	3	16.78	\$17,091
063	Rip Zig Zag Road and Slurry Line Road	RIPPER	3	0.44	\$455
064	Reseed RDA Borrow Area	REVEGE	1	5.00	\$6,261
065	Reseed Facilities Area with Rangeland Mix	REVEGE	1	178.00	\$126,769
066	Reseed RDA	REVEGE	1	95.25	\$39,756
067	Reseed DWP with Rangeland Mix	REVEGE	1	11.24	\$7,350
068	Reseed Disturbed Areas with Riparian Habitat	REVEGE	1	21.14	\$15,363
069	Plant 6 Shrub Clumps	REVEGE	1	5.60	\$2,399
070	Weed Control - Assume 1/4 of Area Three Times	REVEGE	1	102.71	\$19,583
071	Seed Rangeland Seed Mix on MR Areas	REVEGE	1	2.22	\$4,447
072	Reseed C&W Facilities Area with Rangeland Mix	REVEGE	1	12.00	\$7,820

073	Reseed Zig Zag with Rangland Mix	REVEGE	1	1.60	\$2,122
074	Reseed West DWDA Expansion Area with Rangland Mix	REVEGE	1	20.40	\$13,295
075	Seed NW Vent Fan and Access Road (TR72)	REVEGE	1	1.55	\$2,189
076	Mobilize/Demobilize Equipment for Initial Reclamation	MOBILIZE	1	3.70	\$14,840
077	Mobilize/Demobilize Equipment for Pond Cleaning	MOBILIZE	1	3.70	\$1,535
078	Mobilize/Demobilize Equipment for Pond Removal	MOBILIZE	1	3.70	\$1,410
079	Mobilize/Demobilize Equipment for Site Maintenance	MOBILIZE	1	3.70	\$3,241
<u>SUBTOTALS:</u>				3948.04	\$4,160,423

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	\$84,041
Performance bond:	1.05	Total =	\$43,684
Job superintendent:	1,719.04	Total =	\$123,822
Profit:	10.00	Total =	\$416,042
		TOTAL O & P =	\$667,590
		CONTRACT AMOUNT (direct + O & P) =	\$4,828,013

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	\$0	Total =	\$0
Engineering work and/or contract/bid preparation:	4.25	Total =	\$205,191
Reclamation management and/or administration:	3.58		\$172,843
CONTINGENCY: 0.00		Total =	\$0

TOTAL INDIRECT COST = \$1,045,623

TOTAL BOND AMOUNT (direct + indirect) = \$5,206,046

BULLDOZER WORK

Task description:	Backfill and Regrade East Portal Area
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Site: New Elk Mine	Permit Action: Mid Term 08	Permit/Job#: C1981012
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PROJECT IDENTIFICATION

Task #:	001	State:	Colorado	Abbreviation:	None
Date:	7/30/2021	County:	Las Animas	Filename:	C012-001
User:	DC1				

Agency or organization name:	DRMS
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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:

	Utilization %
Ownership Cost/Hour:	\$126.01
Operating Cost/Hour:	NA
Ripper own. Cost/Hour:	\$141.41
Ripper op. Cost/Hour:	\$19.26
Operator Cost/Hour:	NA
	\$11.48
	100
	\$41.30
	NA

Total unit Cost/Hour:	\$339.46
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Total Fleet Cost/Hour:	\$1,018.39
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MATERIAL QUANTITIES

Initial Volume:	144,850
Swell factor:	1.125
Loose volume:	162,956 LCY

Source of estimated volume:	PAP Exhibit 28
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Source of estimated swell factor:	Operator Estimate
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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

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

JOB TIME AND COST

Fleet size:	3 Dozer(s)
Unit cost:	\$0.521/LCY
Total job time:	83.38 Hours
Total job cost:	\$84,916

BULLDOZER WORK

Task description:	Push Temporary Coal Stockpiles to Conveyor
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Site:	New Elk Mine	Permit Action:	Mid Term 08	Permit/Job#:	C1981012
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PROJECT IDENTIFICATION

Task #:	002	State:	Colorado	Abbreviation:	None
Date:	7/30/2021	County:	Las Animas	Filename:	C012-002
User:	DC1				

Agency or organization name:	DRMS
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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:	\$126.01	NA
Operating Cost/Hour:	\$141.41	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:	\$308.72
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Total Fleet Cost/Hour:	\$926.17
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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
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Source of estimated swell factor:	Cat Handbook
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HOURLY PRODUCTION

Average push distance:	400 feet
Unadjusted hourly production:	305.6 LCY/hr
Materials consistency description:	Partly consolidated stockpile 1.1
Average push	0 %

gradient:	
Average site altitude:	7,000 feet
Material weight:	1,600 lbs/LCY
Weight description:	Coal - Bituminous, Raw

Job Condition Correction Factor

		<u>Source</u>
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:	\$0.855/LCY
Total job time:	12.23 Hours
Total job cost:	\$11,328

BULLDOZER WORK

Task description:	Regrade Pond 004
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Site: New Elk Mine	Permit Action: Mid Term 08	Permit/Job#: C1981012
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PROJECT IDENTIFICATION

Task #:	003	State:	Colorado	Abbreviation:	None
Date:	7/30/2021	County:	Las Animas	Filename:	C012-003
User:	DC1				

Agency or organization name:	DRMS
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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:	\$126.01	NA
Operating Cost/Hour:	\$141.41	100
Ripper own. Cost/Hour:	\$19.26	NA
Ripper op. Cost/Hour:	\$11.48	100
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour:	\$339.46
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Total Fleet Cost/Hour:	\$339.46
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MATERIAL QUANTITIES

Initial Volume:	3,840
Swell factor:	1.125
Loose volume:	4,320 LCY

Source of estimated volume:	Division of Reclamation, Mining & Safety
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Source of estimated swell factor:	Cat Handbook
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HOURLY PRODUCTION

Average push distance:	125 feet
Unadjusted hourly production:	1,055.6 LCY/hr

Materials consistency description:	Compacted fill or embankment 0.9
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Average push	5 %
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gradient:	
Average site altitude:	7,500 feet
Material weight:	2,132 lbs/LCY
Weight description:	User Provided

Job Condition Correction Factor

		<u>Source</u>
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:	0.600	(FND-SF)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.079	(CAT HB)
Blade type:	1.000	(PAT)
Net correction:	0.3930	
Adjusted unit production:	414.85 LCY/hr	
Adjusted fleet production:	414.85 LCY/hr	

JOB TIME AND COST

Fleet size:	1 Dozer(s)
Unit cost:	\$0.818/LCY
Total job time:	10.41 Hours
Total job cost:	\$3,535

BULLDOZER WORK

Task description:	Regrade Pond 006
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Site: New Elk Mine	Permit Action: Mid Term 08	Permit/Job#: C1981012
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PROJECT IDENTIFICATION

Task #:	004	State:	Colorado	Abbreviation:	None
Date:	7/30/2021	County:	Las Animas	Filename:	C012-004
User:	DC1				

Agency or organization name:	DRMS
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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:	\$126.01	NA
Operating Cost/Hour:	\$141.41	100
Ripper own. Cost/Hour:	\$19.26	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour:	\$327.98
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Total Fleet Cost/Hour:	\$327.98
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MATERIAL QUANTITIES

Initial Volume:	6,160
Swell factor:	1.125
Loose volume:	6,930 LCY

Source of estimated volume:	Division of Reclamation, Mining & Safety
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Source of estimated swell factor:	Operator Estimate
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HOURLY PRODUCTION

Average push distance:	75 feet
Unadjusted hourly production:	1,514.3 LCY/hr

Materials consistency description:	Compacted fill or embankment 0.9
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Average push	5 %
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gradient:	
Average site altitude:	7,500 feet
Material weight:	2,132 lbs/LCY
Weight description:	User Provided

Job Condition Correction Factor

		<u>Source</u>
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:	\$0.413/LCY
Total job time:	8.73 Hours
Total job cost:	\$2,864

BULLDOZER WORK

Task description:	Regrade Pond 007
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Site: New Elk Mine	Permit Action: Mid Term 08	Permit/Job#: C1981012
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PROJECT IDENTIFICATION

Task #:	005	State:	Colorado	Abbreviation:	None
Date:	7/30/2021	County:	Las Animas	Filename:	C012-005
User:	DC1				

Agency or organization name:	DRMS
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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:	\$126.01	NA
Operating Cost/Hour:	\$141.41	100
Ripper own. Cost/Hour:	\$19.26	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour:	\$327.98
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Total Fleet Cost/Hour:	\$327.98
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MATERIAL QUANTITIES

Initial Volume:	9,120
Swell factor:	1.125
Loose volume:	10,260 LCY

Source of estimated volume:	Division of Reclamation, Mining & Safety
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Source of estimated swell factor:	Cat Handbook
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HOURLY PRODUCTION

Average push distance:	150 feet
Unadjusted hourly production:	910.5 LCY/hr

Materials consistency description:	Compacted fill or embankment 0.9
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Average push	5 %
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gradient:	
Average site altitude:	7,500 feet
Material weight:	2,132 lbs/LCY
Weight description:	User Provided

Job Condition Correction Factor

		<u>Source</u>
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:	\$0.687/LCY
Total job time:	21.50 Hours
Total job cost:	\$7,053

BULLDOZER WORK

Task description:	Regrade Pond 008; Rip and Regrade Spillway
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Site: New Elk Mine	Permit Action: Mid Term 08	Permit/Job#: C1981012
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PROJECT IDENTIFICATION

Task #:	006	State:	Colorado	Abbreviation:	None
Date:	7/30/2021	County:	Las Animas	Filename:	C012-006
User:	DC1				

Agency or organization name:	DRMS
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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:	\$126.01	NA
Operating Cost/Hour:	\$141.41	100
Ripper own. Cost/Hour:	\$19.26	NA
Ripper op. Cost/Hour:	\$5.74	50
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour:	\$333.72
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Total Fleet Cost/Hour:	\$333.72
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MATERIAL QUANTITIES

Initial Volume:	28,300
Swell factor:	1.125
Loose volume:	31,838 LCY

Source of estimated volume:	Division of Reclamation, Mining & Safety
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Source of estimated swell factor:	Operator Estimate
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HOURLY PRODUCTION

Average push distance:	125 feet
Unadjusted hourly production:	1,055.6 LCY/hr

Materials consistency description:	Compacted fill or embankment 0.9
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Average push	10 %
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gradient:	
Average site altitude:	7,500 feet
Material weight:	2,132 lbs/LCY
Weight description:	User Provided

Job Condition Correction Factor

		<u>Source</u>
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:	\$0.693/LCY
Total job time:	66.13 Hours
Total job cost:	\$22,068

BULLDOZER WORK

Task description:	Regrade West Portal Containment Area 1
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Site: New Elk Mine	Permit Action: Mid Term 08	Permit/Job#: C1981012
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PROJECT IDENTIFICATION

Task #:	007	State:	Colorado	Abbreviation:	None
Date:	7/30/2021	County:	Las Animas	Filename:	C012-007
User:	DC1				

Agency or organization name:	DRMS
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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:	\$126.01	NA
Operating Cost/Hour:	\$141.41	100
Ripper own. Cost/Hour:	\$19.26	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour:	\$327.98
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Total Fleet Cost/Hour:	\$327.98
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MATERIAL QUANTITIES

Initial Volume:	3,340
Swell factor:	1.125
Loose volume:	3,758 LCY

Source of estimated volume:	Division of Reclamation, Mining & Safety
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Source of estimated swell factor:	Operator Estimate
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HOURLY PRODUCTION

Average push distance:	100 feet
Unadjusted hourly production:	1,243.2 LCY/hr

Materials consistency description:	Compacted fill or embankment 0.9
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Average push	0 %
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gradient:	
Average site altitude:	7,500 feet
Material weight:	2,132 lbs/LCY
Weight description:	User Provided

Job Condition Correction Factor

		<u>Source</u>
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:	721.43 LCY/hr	
Adjusted fleet production:	721.43 LCY/hr	

JOB TIME AND COST

Fleet size:	1 Dozer(s)
Unit cost:	\$0.455/LCY
Total job time:	5.21 Hours
Total job cost:	\$1,708

BULLDOZER WORK

Task description:	Regrade temporary Ditches at West Portal
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Site: New Elk Mine	Permit Action: Mid Term 08	Permit/Job#: C1981012
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PROJECT IDENTIFICATION

Task #:	008	State:	Colorado	Abbreviation:	None
Date:	7/30/2021	County:	Las Animas	Filename:	C012-008
User:	DC1				

Agency or organization name:	DRMS
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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:	\$126.01	NA
Operating Cost/Hour:	\$141.41	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:	\$308.72
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Total Fleet Cost/Hour:	\$308.72
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MATERIAL QUANTITIES

Initial Volume:	217
Swell factor:	1.125
Loose volume:	244 LCY

Source of estimated volume:	1300 ft. D29 & D29B
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Source of estimated swell factor:	Operator Estimate
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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	5 %

gradient:	
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:	\$0.389/LCY
Total job time:	0.31 Hours
Total job cost:	\$95

BULLDOZER WORK

Task description:	Backfill East Portal Face
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Site: New Elk Mine	Permit Action: Mid Term 08	Permit/Job#: C1981012
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PROJECT IDENTIFICATION

Task #:	009	State:	Colorado	Abbreviation:	None
Date:	7/30/2021	County:	Las Animas	Filename:	C012-009
User:	DC1				

Agency or organization name:	DRMS
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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:	\$126.01	NA
Operating Cost/Hour:	\$141.41	100
Ripper own. Cost/Hour:	\$19.26	NA
Ripper op. Cost/Hour:	\$11.48	100
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour:	\$339.46
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Total Fleet Cost/Hour:	\$1,018.39
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MATERIAL QUANTITIES

Initial Volume:	1,400
Swell factor:	1.125
Loose volume:	1,575 LCY

Source of estimated volume:	Division of Reclamation, Mining & Safety
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Source of estimated swell factor:	Operator Estimate
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HOURLY PRODUCTION

Average push distance:	100 feet
Unadjusted hourly production:	1,243.2 LCY/hr

Materials consistency description:	Compacted fill or embankment 0.9
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Average push	10 %
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gradient:	
Average site altitude:	7,500 feet
Material weight:	2,132 lbs/LCY
Weight description:	User Provided

Job Condition Correction Factor

		<u>Source</u>
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:	\$0.599/LCY
Total job time:	0.93 Hours
Total job cost:	\$943

BULLDOZER WORK

Task description:	Backfill West Portal Face
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Site: New Elk Mine	Permit Action: Mid Term 08	Permit/Job#: C1981012
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PROJECT IDENTIFICATION

Task #:	010	State:	Colorado	Abbreviation:	None
Date:	7/30/2021	County:	Las Animas	Filename:	C012-010
User:	DC1				

Agency or organization name:	DRMS
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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:	\$126.01	NA
Operating Cost/Hour:	\$141.41	100
Ripper own. Cost/Hour:	\$19.26	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour:	\$327.98
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Total Fleet Cost/Hour:	\$655.96
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MATERIAL QUANTITIES

Initial Volume:	1,400
Swell factor:	1.125
Loose volume:	1,575 LCY

Source of estimated volume:	Division of Reclamation, Mining & Safety
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Source of estimated swell factor:	Operator Estimate
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HOURLY PRODUCTION

Average push distance:	100 feet
Unadjusted hourly production:	1,243.2 LCY/hr

Materials consistency description:	Compacted fill or embankment 0.9
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Average push	10 %
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gradient:	
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:	\$0.578/LCY
Total job time:	1.39 Hours
Total job cost:	\$911

BULLDOZER WORK

Task description:	Backfill Bates Portal Face
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Site: New Elk Mine	Permit Action: Mid Term 08	Permit/Job#: C1981012
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PROJECT IDENTIFICATION

Task #:	011	State:	Colorado	Abbreviation:	None
Date:	7/30/2021	County:	Las Animas	Filename:	C012-011
User:	DC1				

Agency or organization name:	DRMS
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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:	\$126.01	NA
Operating Cost/Hour:	\$141.41	100
Ripper own. Cost/Hour:	\$19.26	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour:	\$327.98
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Total Fleet Cost/Hour:	\$655.96
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MATERIAL QUANTITIES

Initial Volume:	39,000
Swell factor:	1.125
Loose volume:	43,875 LCY

Source of estimated volume:	Division of Reclamation, Mining & Safety
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Source of estimated swell factor:	Operator Estimate
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HOURLY PRODUCTION

Average push distance:	100 feet
Unadjusted hourly production:	1,243.2 LCY/hr

Materials consistency description:	Compacted fill or embankment 0.9
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Average push	10 %
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gradient:	
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:	\$0.578/LCY
Total job time:	38.69 Hours
Total job cost:	\$25,379

BULLDOZER WORK

Task description:	Regrade Areas from MR-99, MR-107, MR-111, MR-114
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Site: New Elk Mine	Permit Action: Mid Term 08	Permit/Job#: C1981012
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PROJECT IDENTIFICATION

Task #:	012	State:	Colorado	Abbreviation:	None
Date:	7/30/2021	County:	Las Animas	Filename:	C012-012
User:	DC1				

Agency or organization name:	DRMS
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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:	\$126.01	NA
Operating Cost/Hour:	\$141.41	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:	\$308.72
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Total Fleet Cost/Hour:	\$926.17
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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"
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Source of estimated swell factor:	Operator Estimate
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HOURLY PRODUCTION

Average push distance:	60 feet
Unadjusted hourly production:	1,872.0 LCY/hr
Materials consistency description:	Loose stockpile 1.2
Average push	0 %

gradient:	
Average site altitude:	7,400 feet
Material weight:	2,132 lbs/LCY
Weight description:	User Provided

Job Condition Correction Factor

		<u>Source</u>
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:	\$0.213/LCY
Total job time:	1.43 Hours
Total job cost:	\$1,327

BULLDOZER WORK

Task description:	Replace Topsoil on D26 Extension
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Site: New Elk Mine	Permit Action: Mid Term 08	Permit/Job#: C1981012
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PROJECT IDENTIFICATION

Task #:	013	State:	Colorado	Abbreviation:	None
Date:	7/30/2021	County:	Las Animas	Filename:	C012-013
User:	DC1				

Agency or organization name:	DRMS
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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:	\$126.01	NA
Operating Cost/Hour:	\$141.41	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:	\$308.72
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Total Fleet Cost/Hour:	\$308.72
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MATERIAL QUANTITIES

Initial Volume:	264
Swell factor:	1.250
Loose volume:	330 LCY

Source of estimated volume:	Division of Reclamation, Mining & Safety
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Source of estimated swell factor:	Operator Estimate
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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	5 %

gradient:	
Average site altitude:	7,500 feet
Material weight:	2,055 lbs/LCY
Weight description:	User Provided

Job Condition Correction Factor

		<u>Source</u>
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:	\$0.220/LCY
Total job time:	0.24 Hours
Total job cost:	\$73

BULLDOZER WORK

Task description:	Backfill and Regrade DWDA Expansion
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Site: New Elk Mine	Permit Action: Mid Term 08	Permit/Job#: C1981012
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PROJECT IDENTIFICATION

Task #:	014	State:	Colorado	Abbreviation:	None
Date:	7/30/2021	County:	Las Animas	Filename:	C012-014
User:	DC1				

Agency or organization name:	DRMS
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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:	\$126.01	NA
Operating Cost/Hour:	\$141.41	100
Ripper own. Cost/Hour:	\$19.26	NA
Ripper op. Cost/Hour:	\$11.48	100
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour:	\$339.46
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Total Fleet Cost/Hour:	\$678.92
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MATERIAL QUANTITIES

Initial Volume:	1,936
Swell factor:	1.125
Loose volume:	2,178 LCY

Source of estimated volume:	Division of Reclamation, Mining & Safety
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Source of estimated swell factor:	Operator Estimate
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HOURLY PRODUCTION

Average push distance:	200 feet
Unadjusted hourly production:	700.0 LCY/hr

Materials consistency description:	Compacted fill or embankment 0.9
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Average push	0 %
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gradient:	
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:	\$0.836/LCY
Total job time:	2.68 Hours
Total job cost:	\$1,820

BULLDOZER WORK

Task description:	Replace Topsoil on Six Drill Pads and Mud Pits
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Site: New Elk Mine	Permit Action: Mid Term 08	Permit/Job#: C1981012
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PROJECT IDENTIFICATION

Task #:	015	State:	Colorado	Abbreviation:	None
Date:	7/30/2021	County:	Las Animas	Filename:	C012-015
User:	DC1				

Agency or organization name:	DRMS
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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:	\$126.01	NA
Operating Cost/Hour:	\$141.41	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:	\$308.72
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Total Fleet Cost/Hour:	\$308.72
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MATERIAL QUANTITIES

Initial Volume:	2,200
Swell factor:	1.125
Loose volume:	2,475 LCY

Source of estimated volume:	Division Estimate
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Source of estimated swell factor:	Operator Estimate
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HOURLY PRODUCTION

Average push distance:	125 feet
Unadjusted hourly production:	1,055.6 LCY/hr
Materials consistency description:	Consolidated stockpile 1.0
Average push	5 %

gradient:	
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:	1.000	(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:	0.6038	
Adjusted unit production:	637.37 LCY/hr	
Adjusted fleet production:	637.37 LCY/hr	

JOB TIME AND COST

Fleet size:	1 Dozer(s)
Unit cost:	\$0.484/LCY
Total job time:	3.88 Hours
Total job cost:	\$1,199

BULLDOZER WORK

Task description:	Rip and Regrade C&W Train Shop Area
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Site: New Elk Mine	Permit Action: Mid Term 08	Permit/Job#: C1981012
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PROJECT IDENTIFICATION

Task #:	016	State:	Colorado	Abbreviation:	None
Date:	7/30/2021	County:	Las Animas	Filename:	C012-016
User:	DC1				

Agency or organization name:	DRMS
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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:	\$126.01	NA
Operating Cost/Hour:	\$141.41	100
Ripper own. Cost/Hour:	\$19.26	NA
Ripper op. Cost/Hour:	\$11.48	100
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour:	\$339.46
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Total Fleet Cost/Hour:	\$678.92
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MATERIAL QUANTITIES

Initial Volume:	14,520
Swell factor:	1.125
Loose volume:	16,335 LCY

Source of estimated volume:	Map 11, Map 15
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Source of estimated swell factor:	Operator Estimate
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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	0 %

gradient:	
Average site altitude:	7,500 feet
Material weight:	2,132 lbs/LCY
Weight description:	User Provided

Job Condition Correction Factor

		<u>Source</u>
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:	\$0.529/LCY
Total job time:	12.74 Hours
Total job cost:	\$8,647

BULLDOZER WORK

Task description:	Regrade Access Road to NW Vent Shaft (TR72)
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Site:	New Elk Mine	Permit Action:	Mid Term 08	Permit/Job#:	C1981012
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PROJECT IDENTIFICATION

Task #:	017	State:	Colorado	Abbreviation:	None
Date:	7/30/2021	County:	Las Animas	Filename:	C012-017
User:	DC1				

Agency or organization name:	DRMS
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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:	\$97.46	NA
Operating Cost/Hour:	\$97.63	100
Ripper own. Cost/Hour:	\$15.19	NA
Ripper op. Cost/Hour:	\$1.49	15
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour:	\$253.07
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Total Fleet Cost/Hour:	\$253.07
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MATERIAL QUANTITIES

Initial Volume:	1,111
Swell factor:	1.165
Loose volume:	1,294 LCY

Source of estimated volume:	Division of Reclamation, Mining & Safety
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Source of estimated swell factor:	Cat Handbook
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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	-5 %

gradient:	
Average site altitude:	7,300 feet
Material weight:	2,900 lbs/LCY
Weight description:	Decomposed rock - 50% Rock, 50% Earth

Job Condition Correction Factor

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	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:	\$0.456/LCY
Total job time:	2.33 Hours
Total job cost:	\$590

BULLDOZER WORK

Task description:	Regrade Access Road to NW Vent Shaft
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Site:	New Elk Mine	Permit Action:	Mid Term 08	Permit/Job#:	C1981012
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PROJECT IDENTIFICATION

Task #:	018	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-018
User:	DC1				

Agency or organization name:	DRMS
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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:	\$97.46	NA
Operating Cost/Hour:	\$97.63	100
Ripper own. Cost/Hour:	\$15.19	NA
Ripper op. Cost/Hour:	\$1.49	15
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour:	\$253.07
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Total Fleet Cost/Hour:	\$253.07
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MATERIAL QUANTITIES

Initial Volume:	1,111
Swell factor:	1.165
Loose volume:	1,294 LCY

Source of estimated volume:	Division of Reclamation, Mining & Safety
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Source of estimated swell factor:	Cat Handbook
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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	-5 %

gradient:	
Average site altitude:	7,300 feet
Material weight:	2,900 lbs/LCY
Weight description:	Decomposed rock - 50% Rock, 50% Earth

Job Condition Correction Factor

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	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:	\$0.456/LCY
Total job time:	2.33 Hours
Total job cost:	\$590

TRUCK/LOADER TEAM WORK

Task description: **Strip and Place 5 acres of topsoil RDA (TR75)**

Site: **New Elk Mine** Permit Action: **Mid Term 08** Permit/Job#: **C1981012**

PROJECT IDENTIFICATION

Task #:	019	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-019
User:	DC1				

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:	\$72.63	\$52.19	\$81.02	\$81.02	\$85.80	\$17.15
Operating cost/hour:	\$49.40	\$43.34	\$39.67	\$39.67	\$15.10	\$7.30
%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:	\$154.57	\$132.85	\$161.99	\$161.99	\$129.46	\$24.45
Number of Units:	1	1	1	1	1	1
Group Subtotals:	Work:	\$287.42	Support:	\$323.98	Maint:	\$153.91

Total work team cost/hour: **\$765.31**

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 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
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Rated Capacity:	1.100	LCY (heaped)
Bucket Fill Factor:	0.975	Loose material - uniform aggregates to 1/8" (95-100%) 0.975
Adjusted Capacity:	1.073	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:	0.830	0.689	

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

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
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Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver):	NA	minutes
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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:	0.282	minutes
	Net Load Time per Truck:	4.612	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: Hard, smooth, stabilized, surfaced, watered,

maintained 2.0

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
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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:	82.68	Hours
Unit cost:	\$6.823	/LCY	Total job cost:	\$63,274	

TRUCK/LOADER TEAM WORK

Task description:

Strip and Place 10 acres of Cover over 2 feet from borrow RDA (TR75)Site: **New Elk Mine**

Permit Action: Mid Term 08

Permit/Job#: C1981012

PROJECT IDENTIFICATION

Task #:	020	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-020
User:	DC1				

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:	\$72.63	\$52.19	\$81.02	\$81.02	\$85.80	\$17.15
Operating cost/hour:	\$49.40	\$43.34	\$39.67	\$39.67	\$15.10	\$7.30
%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:	\$154.57	\$132.85	\$161.99	\$161.99	\$129.46	\$24.45
Number of Units:	1	1	1	1	1	1
Group Subtotals:	Work:	\$287.42	Support:	\$323.98	Maint:	\$153.91

Total work team cost/hour: **\$765.31**

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/LCY
Description:	Decomposed rock - 25% Rock, 75% Earth	
Rated Payload:	52,000	Pounds
Payload Capacity:	19.62	LCY

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
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Rated Capacity:	1.100	LCY (heaped)
Bucket Fill Factor:	0.975	Loose material - uniform aggregates to 1/8" (95-100%) 0.975
Adjusted Capacity:	1.073	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:	0.830	0.689	

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

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

	Net Load Time per Truck:	4.612	minutes
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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: Hard, smooth, stabilized, surfaced, watered,
maintained 2.0

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
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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:	\$6.823	/LCY	Total job cost:	\$220,149	

TRUCK/LOADER TEAM WORK

Task description:

Strip and Place 4 acres of Cover over 2 feet from RDA backSite: **New Elk Mine**

Permit Action: Mid Term 08

Permit/Job#: C1981012

PROJECT IDENTIFICATION

Task #:	021	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-021
User:	DC1				

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:	\$72.63	\$52.19	\$81.02	\$81.02	\$85.80	\$17.15
Operating cost/hour:	\$49.40	\$43.34	\$39.67	\$39.67	\$15.10	\$7.30
%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:	\$154.57	\$132.85	\$161.99	\$161.99	\$129.46	\$24.45
Number of Units:	1	1	1	1	1	1
Group Subtotals:	Work: \$287.42		Support: \$323.98		Maint: \$153.91	

Total work team cost/hour: **\$765.31**

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/LCY
Description:	Decomposed rock - 25% Rock, 75% Earth	
Rated Payload:	52,000	Pounds
Payload Capacity:	19.62	LCY

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
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Rated Capacity:	1.100	LCY (heaped)
Bucket Fill Factor:	0.975	Loose material - uniform aggregates to 1/8" (95-100%) 0.975
Adjusted Capacity:	1.073	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:	0.830	0.689	

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

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

	Net Load Time per Truck:	4.612	minutes
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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:
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
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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:	\$6.823	/LCY	Total job cost:	\$88,061	

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: Mid Term 08

Permit/Job#: C1981012

PROJECT IDENTIFICATION

Task #:	022	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-022
User:	DC1				

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:	\$72.63	\$52.19	\$81.02	\$81.02	\$85.80	\$17.15
Operating cost/hour:	\$49.40	\$43.34	\$39.67	\$39.67	\$15.10	\$7.30
%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:	\$154.57	\$132.85	\$161.99	\$161.99	\$129.46	\$24.45
Number of Units:	1	1	1	1	1	1
Group Subtotals:	Work: \$287.42		Support: \$323.98		Maint: \$153.91	

Total work team cost/hour: **\$765.31**

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/LCY
Description:	Decomposed rock - 25% Rock, 75% Earth	
Rated Payload:	52,000	Pounds
Payload Capacity:	19.62	LCY

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
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Rated Capacity:	1.100	LCY (heaped)
Bucket Fill Factor:	0.975	Loose material - uniform aggregates to 1/8" (95-100%) 0.975
Adjusted Capacity:	1.073	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:	0.830	0.689	

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

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

	Net Load Time per Truck:	4.612	minutes
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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:
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
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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:	\$6.823	/LCY	Total job cost:	\$180,919	

TRUCK/LOADER TEAM WORK

Task description: **Replace topsoil over borrow area RDA**

Site: **New Elk Mine** Permit Action: **Mid Term 08** Permit/Job#: **C1981012**

PROJECT IDENTIFICATION

Task #:	023	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-023
User:	DC1				

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:	\$72.63	\$52.19	\$81.02	\$81.02	NA	NA
Operating cost/hour:	\$49.40	\$43.34	\$39.67	\$39.67	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:	\$154.57	\$132.85	\$161.99	\$161.99	NA	NA
Number of Units:	1	1	1	1	0	0
Group Subtotals:	Work: \$287.42		Support: \$323.98		Maint: \$0.00	

Total work team cost/hour: **\$611.40**

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	
Rated Payload:	52,000	Pounds
Payload Capacity:	32.50	LCY

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
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Rated Capacity:	1.100	LCY (heaped)
Bucket Fill Factor:	0.975	Loose material - uniform aggregates to 1/8" (95-100%) 0.975
Adjusted Capacity:	1.073	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:	0.830	0.689	

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

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

	Net Load Time per Truck:	4.612	minutes
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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:
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
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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:	\$5.451	/LCY	Total job cost:	\$32,976	

TRUCK/LOADER TEAM WORK

Task description:

Backfill and Regrade Transformer and Rock Dust Cut SlopeSite: **New Elk Mine**Permit Action: **Mid Term 08**Permit/Job#: **C1981012**

PROJECT IDENTIFICATION

Task #:	024	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-024
User:	DC1				

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	100	100	100	50	50
Ownership cost/hour:	\$22.87	\$38.59	\$126.01	\$126.01	\$85.80	\$33.45
Operating cost/hour:	\$44.28	\$36.56	\$141.41	\$141.41	\$30.20	\$20.98
%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:	\$67.15	\$115.86	\$308.72	\$308.72	\$144.56	\$75.55
Number of Units:	3	1	1	1	1	1
Group Subtotals:	Work:	\$317.31	Support:	\$617.44	Maint:	\$220.11

Total work team cost/hour: **\$1,154.86**

MATERIAL QUANTITIES

Initial volume:	17,500	CCY	Swell factor:	1.125
Loose volume:	19,688	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:	1	Pounds/LCY	
Description:	User Provided		
Rated Payload:	35,400	Pounds	
Payload Capacity:	35,400.00	LCY	

Truck Bed (volume) Basis:

Struck Volume:	10.00	LCY
Heaped Volume:	12.00	LCY
Average Volume:	11.00	LCY
Adjusted Volume:	12.00	LCY
Final Truck Volume Based on Number of Loader Passes:	9.46	LCY

Loading Tool Capacity

Bucket Size Class:	NA
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Rated Capacity:	4.300	LCY (heaped)
Bucket Fill Factor:	1.100	Other - rock/dirt mixtures (100-120%) 1.100
Adjusted Capacity:	4.730	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:	0.830	0.830	

Number of Loading Tool Passes Required to Fill Truck:	2	passes
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Loading Tool Cycle Time:

Excavators and Front Shovels:

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

Track Loaders – Material Description:	
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Cycle Time Elements (min.):

Load:	NA	Maneuver:	NA	Dump:	0.100
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Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver):	0.500	minutes
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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	(Cat HB)
Dump Target:	Nominal target	0.00	(Cat HB)

Net Cycle Time Adjustment: -0.070 minutes

	Adjusted Loader Cycle Time:	0.430	minutes
	Net Load Time per Truck:	0.530	minutes

Truck Cycle Time:

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

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
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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:	\$2.848	/LCY	Total job cost:	\$56,080	

TRUCK/LOADER TEAM WORK

Task description:

Replace Topsoil to Transformer and Rock Dust Cut SlopeSite: **New Elk Mine**

Permit Action: Mid Term 08

Permit/Job#: C1981012

PROJECT IDENTIFICATION

Task #:	025	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-025
User:	DC1				

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:	\$22.87	\$38.59	\$126.01	\$126.01	\$85.80	\$33.45
Operating cost/hour:	\$44.28	\$23.76	\$141.41	\$141.41	\$30.20	\$20.98
%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:	\$67.15	\$103.06	\$308.72	\$308.72	\$144.56	\$75.55
Number of Units:	3	1	1	1	1	1
Group Subtotals:	Work:	\$304.51	Support:	\$617.44	Maint:	\$220.11

Total work team cost/hour: **\$1,142.06**

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	
Rated Payload:	35,400	Pounds
Payload Capacity:	17.23	LCY

Truck Bed (volume) Basis:

Struck Volume:	10.00	LCY
Heaped Volume:	12.00	LCY
Average Volume:	11.00	LCY
Adjusted Volume:	12.00	LCY
Final Truck Volume Based on Number of Loader Passes:	9.46	LCY

Loading Tool Capacity

Bucket Size Class:	NA
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Rated Capacity:	4.300	LCY (heaped)
Bucket Fill Factor:	1.100	Other - rock/dirt mixtures (100-120%) 1.100
Adjusted Capacity:	4.730	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:	0.830	0.830	

Number of Loading Tool Passes Required to Fill Truck:	2	passes
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Loading Tool Cycle Time:

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
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Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver):	0.500	minutes
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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	(Cat HB)
Dump Target:	Nominal target	0.00	(Cat HB)

Net Cycle Time Adjustment: -0.070 minutes

	Adjusted Loader Cycle Time:	0.430	minutes
	Net Load Time per Truck:	0.530	minutes

Truck Cycle Time:

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

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
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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:	\$3.992	/LCY	Total job cost:	\$1,597	

TRUCK/LOADER TEAM WORK

Task description: **Clean Ponds 004, 007, and 008 Twice During Liability Period**

Site: **New Elk Mine** Permit Action: **Mid Term 08** Permit/Job#: **C1981012**

PROJECT IDENTIFICATION

Task #:	026	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-026
User:	DC1				

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 Team		Support Equipment		Maintenance Equipment	
	Truck	Excavator	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	75	NA	100	50	50
Ownership cost/hour:	\$18.14	\$83.42	NA	\$126.01	\$85.80	\$33.45
Operating cost/hour:	\$35.95	\$55.61	NA	\$141.41	\$30.20	\$20.98
%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:	\$54.09	\$176.34	NA	\$308.72	\$144.56	\$75.55
Number of Units:	3	1	0	1	1	1
Group Subtotals:	Work: \$338.61		Support: \$308.72		Maint: \$220.11	

Total work team cost/hour: **\$867.44**

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	
Rated Payload:	27,280	Pounds
Payload Capacity:	10.10	LCY

Truck Bed (volume) Basis:

Struck Volume:	8.00	LCY
Heaped Volume:	10.00	LCY
Average Volume:	9.00	LCY
Adjusted Volume:	10.00	LCY
Final Truck Volume Based on Number of Loader Passes:	8.81	LCY

Loading Tool Capacity

Bucket Size Class:	Medium
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Rated Capacity:	2.260	LCY (heaped)
Bucket Fill Factor:	0.975	Loose material - mixed moist aggregates (95-100%) 0.975
Adjusted Capacity:	2.204	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:	0.830	0.830	

Number of Loading Tool Passes Required to Fill Truck:	4	passes
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Loading Tool Cycle Time:

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

	Net Load Time per Truck:	1.270	minutes
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Truck Cycle Time:

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

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
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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:	\$5.499	/LCY	Total job cost:	\$105,007	

TRUCK/LOADER TEAM WORK

Task description: **Replace Topsoil on NW vent Fan Area (TR72)**

Site: **New Elk Mine** Permit Action: **Mid Term 08** Permit/Job#: **C1981012**

PROJECT IDENTIFICATION

Task #:	027	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-027
User:	DC1				

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:	\$18.14	\$30.09	NA	\$97.46	NA	NA
Operating cost/hour:	\$35.95	\$13.44	NA	\$97.63	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:	\$54.09	\$84.24	NA	\$236.39	NA	NA
Number of Units:	1	1	0	1	0	0
Group Subtotals:	Work:	\$138.33	Support:	\$236.39	Maint:	\$0.00

Total work team cost/hour: **\$374.72**

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:	27,280	Pounds
Payload Capacity:	17.05	LCY

Truck Bed (volume) Basis:

Struck Volume:	8.00	LCY
Heaped Volume:	10.00	LCY
Average Volume:	9.00	LCY
Adjusted Volume:	10.00	LCY
Final Truck Volume Based on Number of Loader Passes:	9.90	LCY

Loading Tool Capacity

Bucket Size Class:	NA
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Rated Capacity:	3.000	LCY (heaped)
Bucket Fill Factor:	1.100	Other - rock/dirt mixtures (100-120%) 1.100
Adjusted Capacity:	3.300	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:	0.830	0.830	

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

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
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Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver):	0.475	minutes
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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:		0.435	minutes
Net Load Time per Truck:		0.970	minutes

Truck Cycle Time:

Truck Exchange Time:	0.50	Minutes	Adjusted for site altitude:	0.500	Minutes
Truck Load Time:	0.970	Minutes	Adjusted for site altitude:	0.970	Minutes
Truck Maneuver and Dump Time:	0.80	Minutes	Adjusted for site altitude:	0.800	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
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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:	\$2.644	/LCY	Total job cost:	\$2,230	

DEMOLITION WORK

Task description:	Demolish and Remove All Structures
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Site:	New Elk Mine	Permit Action:	Mid Term 08	Permit/Job#:	C1981012
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PROJECT IDENTIFICATION

Task #:	028	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-028
User:	DC1				

Agency or organization name:	DRMS
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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	\$0.22	\$1,075.00
-Pad	25'X20'X6'	Demo. and on-site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul	250.00	SF	\$1.00	\$250.25
-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	\$4.00	\$352.00
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	\$0.22	\$903.00
-Pad	20'X10'X12"	Demo. and on-site disposal in existing pit, 12 in. thick - Max. 10,000 ft. haul	200.00	SF	\$2.00	\$400.40
-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	\$0.22	\$696.60
-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	\$0.22	\$3,632.64
-Pad	33'X32'X4"	Demo. and on-site disposal in existing pit, 4 in. thick - Max. 10,000 ft. haul	1,056.00	SF	\$0.67	\$704.35
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	\$0.22	\$11,702.88
-Pad	51'X42'X24"	Pavement, concrete, demolition only, 7 in.	159.00	CY	\$133.50	\$21,226.50

		to 24 in. thick - Reinforced				
-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	\$0.22	\$3,440.00
-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	\$133.50	\$40,050.00
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	\$0.22	\$60,823.50
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	\$0.22	\$98,481.18
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	\$0.22	\$44,982.95
-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	\$1.00	\$34,351.32
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	\$0.22	\$6,257.79
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	\$0.22	\$40,876.88
-Pad	65'X45'X24"	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	217.00	CY	\$133.50	\$28,969.50
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	\$0.22	\$6,159.38
-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	\$0.22	\$796.79
-Foundation	45'X37'X5'	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	308.00	CY	\$133.50	\$41,118.00
-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	\$0.30	\$10,800.00
-Transfer Belt	1,000'L x	Conveyor, demolition,	36,000.00	CF	\$0.30	\$10,800.00

	6'wx6'h	on-site disposal, existing pit, 10,000 ft. haul				
-Drive Belt	1000'Lx6'wx6'h	Conveyor, demolition, on-site disposal, existing pit, 10,000 ft. haul	36,000.00	CF	\$0.30	\$10,800.00
-Retaining Wall	40'X6'X2'	Wall, concrete, demolition only, average reinforcing - 24 in. thick	240.00	SF	\$4.45	\$1,068.00
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	\$0.22	\$722.40
-Pad	20 CY	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	20.00	CY	\$133.50	\$2,670.00
-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	\$3.77	\$1,055.60
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	\$0.22	\$1,032.00
-Pad	40 CY	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	40.00	CY	\$133.50	\$5,340.00
-32,000 Gallon Sludge Tank	32,000 G	Comprehensive storage tank removal, non-leaking - 9,000 to 12,000 gal. tank	1.00	EA	\$7,335.93	\$7,335.93
-Pump Sudge From Tank	32,000 G	Remove sludge, water, and rem. product from tank - 9,000 to 12,000 gal.	1.00	EA	\$397.00	\$397.00
Water Pipe Vaults (fig.2a)	16' x 10' x 8'	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	134.80	CY	\$133.50	\$17,995.80
-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	\$0.22	\$6,241.24
-Pad	2'X44'	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	113.00	CY	\$133.50	\$15,085.50
-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	\$0.22	\$428.93
-Pad	2'X12'	Pavement, concrete, demolition only, 7 in. to 24 in. thick -	8.00	CY	\$133.50	\$1,068.00

		Reinforced				
Water Tank	21.5'X24'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	8,714.00	CF	\$0.22	\$1,873.51
-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	\$4.00	\$1,352.00
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	\$0.22	\$1,720.00
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	\$0.22	\$89,384.10
-Pad	78'X65'X24"	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	376.00	CY	\$133.50	\$50,196.00
-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	\$12.01	\$3,398.83
Thickener Tank	100'DX12'	Demo. and on-site disposal in existing pit, 12 in. thick - Max. 10,000 ft. haul	3,770.00	SF	\$2.00	\$7,547.54
-Pad	100'DX12"	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	290.80	CY	\$133.50	\$38,821.80
Coal Silos (2)	70'X183'X3' (Each)	Explosive demolition, large projects - Concrete structures	1,408,600.00	CF	\$0.32	\$450,752.00
-Pad (2)	70'X24" (Each)	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	570.00	CY	\$133.50	\$76,095.00
-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	\$12.01	\$5,284.40
River Crossing Bridge (metal foot bridge)	30' x 4'w x 3'h	Bridge Demolition - Steel	120.00	SF	\$9.57	\$1,148.40
Slope Rail Track	1,325 LF	Railroad track - Ties and track	1,325.00	LF	\$9.98	\$13,223.50
-Fencing	500 LF	Fencing, chain link, including posts and fabric - 8 ft. to 10 ft. high	500.00	LF	\$3.08	\$1,540.00
-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	\$3.77	\$1,979.25
Rock Dust Bin	5,000 CF	Bldg. (SN) demo./on-	5,000.00	CF	\$0.22	\$1,075.00

		site disposal in existing pit or cut - Max. 10,000 ft. haul				
-Pad	12'X12'X1'th	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	5.33	CY	\$133.50	\$711.56
-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	\$0.22	\$860.00
-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	\$0.22	\$430.00
-Pad	20'X20'X2'	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	27.00	CY	\$133.50	\$3,604.50
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	\$0.22	\$722.40
-Remove Transformer	NA	NON-PCB Transformer Removal	1.00	EA	\$2,238.20	\$2,238.20
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	\$0.22	\$722.40
-Remove Transformer	NA	NON-PCB Transformer Removal	1.00	EA	\$2,238.20	\$2,238.20
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	\$0.22	\$722.40
-Remove Transformer	NA	NON-PCB Transformer Removal	1.00	EA	\$2,238.20	\$2,238.20
Thickener Substation	15'DX12'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	2,120.00	CF	\$0.22	\$455.80
-Pad	15'DX12"	Demo. and on-site disposal in existing pit, 12 in. thick - Max. 10,000 ft. haul	176.70	SF	\$2.00	\$353.75
-Remove Transformer	NA	NON-PCB Transformer Removal	1.00	EA	\$2,238.20	\$2,238.20
Electric House	9'X9'X10'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	810.00	CF	\$0.22	\$174.15
-Concrete Portion	7'X7'X5'	Bldg. (SC) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	245.00	CF	\$0.26	\$62.48
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	\$3.77	\$1,074.45
-Footer	6'X12"	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	285.00	LF	\$12.64	\$3,602.40
Bates Portal Ditch 26 Retaining Wall	50 CY	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	50.00	CY	\$133.50	\$6,675.00
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	\$0.22	\$6,501.60
-Pad	24'X42'X2'	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	74.00	CY	\$133.50	\$9,879.00
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	\$0.22	\$2,089.80
-Pad	18'X18'X2'	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	24.00	CY	\$133.50	\$3,204.00
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	\$0.22	\$326.80
-Concrete Portion	20'X10'X6"	Demo. and on-site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul	200.00	SF	\$1.00	\$200.20
-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	\$0.22	\$326.80
-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	\$1.00	\$501.50
-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	\$2,238.20	\$2,238.20
- Pad	15'X12'X1'	Demo. and on-site disposal in existing pit, 12 in. thick - Max. 10,000 ft. haul	180.00	SF	\$2.00	\$360.36
Acid Tank	10'DX12'	Comprehensive storage tank removal, non-leaking - 6,000 to 8,000 gal. tank	1.00	EA	\$5,283.95	\$5,283.95

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	\$1.33	\$1,339.34
-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	\$1.33	\$1,105.89
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	\$0.22	\$806.90
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	\$0.22	\$204.25
Scale House	6'X4'X8'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	192.00	CF	\$0.22	\$41.28
-Scale	12'X30'X4'	Demo. and on-site disposal in existing pit, 12 in. thick - Max. 10,000 ft. haul	360.00	SF	\$2.00	\$720.72
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	\$7,335.93	\$7,335.93
Slope Belt Conveyor	75 LF X 8'	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	1.22	EA	\$3,125.00	\$3,812.50
Transfer Belt Conveyor	8'X85 LF	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	1.38	EA	\$3,125.00	\$4,312.50
Tube Belt Conveyor	8'X582 LF	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	9.50	EA	\$3,125.00	\$29,687.50
Raw Coal to Transfer Bldg	6'X374 LF	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	6.00	EA	\$3,125.00	\$18,750.00
Raw Coal Reclaim to Prep Plant	6'X296 LF	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	4.80	EA	\$3,125.00	\$15,000.00
Clean Coal Reclaim to Transfer Bldg.	6'X497 LF	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	8.00	EA	\$3,125.00	\$25,000.00
Clean Coal from Prep Plant	6'X230 LF	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	3.74	EA	\$3,125.00	\$11,687.50
Refuse Belt-	6'X1,050 LF	Conveyor, Horizontal	17.00	EA	\$3,125.00	\$53,125.00

Overland		Belt 24" Belt, 61.5' Length				
Refuse Belt - Elevated	6'X406 LF	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	6.60	EA	\$3,125.00	\$20,625.00
Truck Dump	6'X170 LF	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	1.10	EA	\$3,125.00	\$3,437.50
Silo Loadout	8'X200 LF	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	3.25	EA	\$3,125.00	\$10,156.25
Transfer to Loadout	8'X114 LF	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	1.85	EA	\$3,125.00	\$5,781.25
Raw Coal Reclaim Tunnel	12'D CMP*253'	Pipe, corrugated metal (CMP) - 144 in. diameter pipe	253.00	LF	\$79.57	\$20,130.70
Clean Coal Reclaim Tunnel	12'D CMP*275'	Pipe, corrugated metal (CMP) - 144 in. diameter pipe	275.00	LF	\$79.57	\$21,881.20
Culvert #1	21"	Pipe, corrugated metal (CMP) - 21 in. diameter pipe	25.00	LF	\$6.39	\$159.80
Culvert #5	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	38.00	LF	\$4.10	\$155.69
Culvert #6	60"	Pipe, corrugated metal (CMP) - 60 in. diameter pipe	17.00	LF	\$22.20	\$377.33
Culvert #7	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	75.00	LF	\$4.10	\$307.28
Culvert #11	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	75.00	LF	\$4.10	\$307.28
Culvert #12	21"	Pipe, corrugated metal (CMP) - 21 in. diameter pipe	775.00	LF	\$6.39	\$4,953.80
Culvert #13	21"	Pipe, corrugated metal (CMP) - 21 in. diameter pipe	50.00	LF	\$6.39	\$319.60
Culvert #17	36"	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	69.00	LF	\$11.32	\$780.94
Culvert #19	33"	Pipe, corrugated metal (CMP) - 30 in. diameter pipe	38.00	LF	\$9.35	\$355.30
Culvert #21	36"	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	50.00	LF	\$11.32	\$565.90
Culvert #22	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	19.00	LF	\$4.10	\$77.84
Culvert #24	60"	Pipe, corrugated metal (CMP) - 60 in. diameter pipe	160.00	LF	\$22.20	\$3,551.36
Culvert #25	60"	Pipe, corrugated metal (CMP) - 60 in.	140.00	LF	\$22.20	\$3,107.44

		diameter pipe				
Culvert #26	42"	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	13.00	LF	\$11.32	\$147.13
Culvert #28	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	31.00	LF	\$4.10	\$127.01
Culvert #29	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	38.00	LF	\$4.10	\$155.69
Culvert #31	18"	Pipe, corrugated metal (CMP) - 18 in. diameter pipe	50.00	LF	\$5.57	\$278.70
Culvert #32	33"	Pipe, corrugated metal (CMP) - 30 in. diameter pipe	44.00	LF	\$9.35	\$411.40
Culvert #33	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	125.00	LF	\$4.10	\$512.13
Culvert #34	15"	Pipe, corrugated metal (CMP) - 15 in. diameter pipe	31.00	LF	\$4.81	\$149.20
Culvert #35	6"	Pipe, corrugated metal (CMP) - 8 in. diameter pipe	19.00	LF	\$3.12	\$59.34
Culvert #36	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	31.00	LF	\$4.10	\$127.01
Culvert #37	36"	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	50.00	LF	\$11.32	\$565.90
Culvert #41	48"	Pipe, corrugated metal (CMP) - 48 in. diameter pipe	19.00	LF	\$16.51	\$313.69
Culvert #46	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	19.00	LF	\$4.10	\$77.84
Culvert #47	15"	Pipe, corrugated metal (CMP) - 15 in. diameter pipe	13.00	LF	\$4.81	\$62.57
Culvert #48	42"	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	313.00	LF	\$11.32	\$3,542.53
Culvert #50	18"	Pipe, corrugated metal (CMP) - 18 in. diameter pipe	25.00	LF	\$5.57	\$139.35
Culvert #52	36"	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	50.00	LF	\$11.32	\$565.90
Culvert #53	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	60.00	LF	\$7.25	\$435.24
Culvert #54	36"	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	50.00	LF	\$11.32	\$565.90
Culvert #55	8"	Pipe, corrugated metal (CMP) - 8 in. diameter pipe	25.00	LF	\$3.12	\$78.08

Culvert #59	18"	Pipe, corrugated metal (CMP) - 18 in. diameter pipe	28.00	LF	\$5.57	\$156.07
Culvert #60	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	31.00	LF	\$7.25	\$224.87
Culvert #61	8"	Pipe, corrugated metal (CMP) - 8 in. diameter pipe	25.00	LF	\$3.12	\$78.08
Culvert #62	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	13.00	LF	\$4.10	\$53.26
Culvert #64	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	50.00	LF	\$7.25	\$362.70
Culvert #65	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	19.00	LF	\$4.10	\$77.84
Culvert #66	18"	Pipe, corrugated metal (CMP) - 18 in. diameter pipe	18.00	LF	\$5.57	\$100.33
Culvert #67	18"	Pipe, corrugated metal (CMP) - 18 in. diameter pipe	22.00	LF	\$5.57	\$122.63
Culvert #68	18"	Pipe, corrugated metal (CMP) - 18 in. diameter pipe	48.00	LF	\$5.57	\$267.55
Culvert #69	18"	Pipe, corrugated metal (CMP) - 18 in. diameter pipe	80.00	LF	\$5.57	\$445.92
Bates Portal Conveyor to Breaker Bldg.	8'X970 LF	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	15.80	EA	\$3,125.00	\$49,375.00
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	\$2.00	\$1,201.20
Jansen Coal Conveyor	2,740 LF	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	44.50	EA	\$3,125.00	\$139,062.50
-Footers	45cy	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	45.00	CY	\$133.50	\$6,007.50
-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	\$0.22	\$657.00
-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	\$12.01	\$1,441.20
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	\$0.22	\$11,650.80
Jansen Feed Hopper	20'X15'X16'	Bldg. (MN) demo./on-site disposal in existing	4,920.00	CF	\$0.22	\$1,077.48

		pit or cut - Max. 10,000 ft. haul				
Two Radial stackers @ RDA (p. 2.05-27)	2(150' l)	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	4.90	EA	\$3,125.00	\$15,312.50
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	\$0.73	\$17,520.00
remove piping @ slurry wells	50 ft.	Pipe, steel, welded connections - 10 in. diameter pipe	50.00	LF	\$6.73	\$336.50
remove HPDE slurry line (MR 104)	9000 ft. l	Pipe, steel, welded connections - 10 in. diameter pipe	9,000.00	LF	\$6.73	\$60,570.00
Culvert #C75	42"	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	60.00	LF	\$11.32	\$679.08
Culvert #C76	42"	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	40.00	LF	\$11.32	\$452.72
Culvert #C14A	36"	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	70.00	LF	\$11.32	\$792.26
Culvert #C70	18"	Pipe, corrugated metal (CMP) - 18 in. diameter pipe	68.00	LF	\$5.57	\$379.03
Culvert #C71	18"	Pipe, corrugated metal (CMP) - 18 in. diameter pipe	54.00	LF	\$5.57	\$301.00
Culvert #C72	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	120.00	LF	\$7.25	\$870.48
Culvert #C73	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	190.00	LF	\$7.25	\$1,378.26
Culvert #C74	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	40.00	LF	\$7.25	\$290.16
Culvert #C16A	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	45.00	LF	\$7.25	\$326.43
Culvert #C16B	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	220.00	LF	\$7.25	\$1,595.88
Culvert #C12A	36"	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	160.00	LF	\$11.32	\$1,810.88
Culvert #C17A	36"	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	20.00	LF	\$11.32	\$226.36
Culvert #C17B	36"	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	75.00	LF	\$11.32	\$848.85
Culvert #C28	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	46.00	LF	\$7.25	\$333.68
Culvert #C28A	24"	Pipe, corrugated metal	60.00	LF	\$7.25	\$435.24

		(CMP) - 24 in. diameter pipe				
Culvert #C29	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	34.00	LF	\$7.25	\$246.64
Bathhouse (TR61)	62'l x 21w' x 12'h	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	15,624.00	CF	\$0.22	\$3,359.16
-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	\$1.00	\$1,303.30
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	\$0.22	\$541.80
36" Belt (MR101)	36" x 500 lf	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	8.10	EA	\$3,125.00	\$25,312.50
Elevating belt (MR101)	36" x 100 lf	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	1.62	EA	\$3,125.00	\$5,062.50
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	\$0.22	\$19,710.00
-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	\$1.00	\$5,005.00
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	\$0.22	\$309.60
-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	\$1.00	\$144.14
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	\$2.02	\$18.14
200 foot conveyor extension (MR97)	200 lf	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	3.25	EA	\$3,125.00	\$10,156.25
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	\$0.22	\$1,350.63
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	\$0.22	\$3,153.60

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	\$12.01	\$1,345.12
42" temp belt conveyor (MR113)	115'x3.5'x6'	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	1.87	EA	\$3,125.00	\$5,843.75
42" Silo #1 conveyor (MR113)	165'x3.5'x3'	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	2.68	EA	\$3,125.00	\$8,375.00
42" Silo #2 conveyor (MR113)	56'x3.5'x3'	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	0.91	EA	\$3,125.00	\$2,843.75
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	\$3.77	\$2,978.30
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	\$3.77	\$1,357.20
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	\$12.01	\$1,321.10
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	\$0.22	\$766.26
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	\$12.01	\$192.16
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	\$0.22	\$1,806.75
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	\$12.01	\$192.16
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	\$0.22	\$1,734.48
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	\$12.01	\$288.24
Culvert C23	30" X 50'L	Pipe, corrugated metal (CMP) - 30 in. diameter pipe	50.00	LF	\$9.35	\$467.50
Culvert C82	30" X 25'L	Pipe, corrugated metal (CMP) - 30 in. diameter pipe	25.00	LF	\$9.35	\$233.75
Culvert C83	18" x 20'L	Pipe, corrugated metal (CMP) - 18 in. diameter pipe	20.00	LF	\$5.57	\$111.48

Culvert C84	18" X20'L	Pipe, corrugated metal (CMP) - 18 in. diameter pipe	20.00	LF	\$5.57	\$111.48
Culvert C85	36" X 65'L	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	65.00	LF	\$11.32	\$735.67
Power Pole Removal	2' x 40'	Utility Poles, Wood 35' - 45' high (each pole)	78.00	EA	\$292.00	\$22,776.00

Job Hours:	1,009.00	Subtotal (unadjusted):	\$2,086,052.41	Total Cost (adjusted for location):	\$1,960,889.27
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DEMOLITION WORK

Task description:	Demolish and Remove Structures @ C&W area
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Site:	New Elk Mine	Permit Action:	Mid Term 08	Permit/Job#:	C1981012
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PROJECT IDENTIFICATION

Task #:	029	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-029
User:	DC1				

Agency or organization name:	DRMS
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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	\$0.22	\$49,665.00
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	\$0.22	\$4,334.40
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	\$1.00	\$9,389.38
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	\$0.22	\$10,320.00
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	\$1.00	\$2,402.40
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	\$1.00	\$1,001.00
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	\$0.22	\$2,064.00
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	\$1.00	\$480.48
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	\$1.00	\$200.20
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	\$0.22	\$1,548.00

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	\$1.00	\$1,121.12
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	\$1.00	\$175.18
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	\$0.22	\$110.08
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	\$1.00	\$64.06
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	\$0.22	\$30.96

Job Hours:	24.00	Subtotal (unadjusted):	\$82,906.26	Total Cost (adjusted for location):	\$77,931.88
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BOREHOLE SEALING WORK

Task description:	Exploration Drilling TR-74
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Site: New Elk Mine	Permit Action: Mid Term 08	Permit/Job#: C1981012
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PROJECT IDENTIFICATION

Task #:	030	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-030
User:	DC1				

Agency or organization name:	DRMS
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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	\$606.54	\$31,115.50
Water Truck for all time	Water Tanker, 10,000 Gal.	5	3850	51.30	EA	\$213.81	\$10,968.45
Plug	PVC plug - 6 in. diameter borehole	5	NA	8.00	EA	\$61.43	\$491.44
Marker	Borehole location/identification marker (EA, material cost only)	NA	NA	8.00	EA	\$37.50	\$300.00
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	\$189.16	\$3,026.56
Road Reclamation	Cat D6T XL	NA	NA	16.00	EA	\$180.59	\$2,889.44

Job Hours:

60.00

Total Cost:

\$51,126.00

BOREHOLE SEALING WORK

Task description:	Plug and Seal All Boreholes and Monitoring Wells
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Site: New Elk Mine	Permit Action: Mid Term 08	Permit/Job#: C1981012
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PROJECT IDENTIFICATION

Task #:	031	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-031
User:	DC1				

Agency or organization name:	DRMS
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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	\$33.98	\$339.80
-Cut Casings at Surface	Exposed casing removal - Calculate Circumference in Linear Feet	4"	NA	4.00	LF	\$3.26	\$13.04
-Borehole Marker	Borehole location/identification marker (EA, material cost only)	NA	NA	10.00	EA	\$37.50	\$375.00
-Drill Rig Time	SCHRAMM T450WS	NA	NA	20.00	EA	\$501.24	\$10,024.80
-Water Truck Time	Water Tanker, 2,500 Gal.	NA	NA	20.00	EA	\$29.70	\$594.00
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	\$33.98	\$203.88
-Cut Casings at Surface	Exposed casing removal - Calculate Circumference in Linear Feet	NA	NA	4.00	LF	\$3.26	\$13.04
-Borehole Marker	Borehole location/identification marker (EA, material cost only)	NA	NA	6.00	EA	\$37.50	\$225.00
-Drill Rig Time	SCHRAMM T450WS	NA	NA	12.00	EA	\$501.24	\$6,014.88
-Water Truck Time	Water Tanker, 2,500 Gal.	NA	NA	12.00	EA	\$29.70	\$356.40
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	\$33.98	\$101.94
-Cut Casings at Surface	Exposed casing removal - Calculate	4"	NA	4.00	LF	\$3.26	\$13.04

	Circumference in Linear Feet						
-Borehole Markers	Borehole location/identification marker (EA, material cost only)	NA	NA	3.00	EA	\$37.50	\$112.50
-Drill Rig Time	SCHRAMM T450WS	NA	NA	18.00	EA	\$501.24	\$9,022.32
-Water Truck Time	Water Tanker, 2,500 Gal.	NA	NA	18.00	EA	\$29.70	\$534.60
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	\$33.98	\$237.86
-Cut Casing at Surface	Exposed casing removal - Calculate Circumference in Linear Feet	4"	NA	4.00	LF	\$3.26	\$13.04
-Borehole Marker	Borehole location/identification marker (EA, material cost only)	NA	NA	7.00	EA	\$37.50	\$262.50
-Drill Rig Time	SCHRAMM T450WS	NA	NA	14.00	EA	\$501.24	\$7,017.36
-Water Truck Time	Water Tanker, 2,500 Gal.	NA	NA	14.00	EA	\$29.70	\$415.80
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	\$33.98	\$67.96
-Cut Casing at Surface	Exposed casing removal - Calculate Circumference in Linear Feet	4"	NA	4.00	LF	\$3.26	\$13.04
-Borehole Marker	Borehole location/identification marker (EA, material cost only)	NA	NA	2.00	EA	\$37.50	\$75.00
-Drill Rig Time	SCHRAMM T450WS	NA	NA	10.00	EA	\$501.24	\$5,012.40
-Water Truck Time	Water Tanker, 2,500 Gal.	NA	NA	10.00	EA	\$29.70	\$297.00
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	\$561.88	\$6,742.56
-Water Truck time	Water Tanker, 2,500 Gal.	na	na	12.00	EA	\$29.70	\$356.40
-slurry well plugs	PVC plug - 8 in. diameter borehole	9"	NA	3.00	EA	\$84.15	\$252.45
-slurry hole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	3.00	EA	\$37.50	\$112.50
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	\$84.15	\$84.15
-marker	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
-Rig and labor	Altas Capco DM25SP - 6-3/4"	NA	NA	4.00	EA	\$585.95	\$2,343.80
-water truck time	Water Tanker, 2,500 Gal.	NA	NA	4.00	EA	\$29.70	\$118.80
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	\$61.43	\$368.58
-drill rig and labor	Altas Capco DM25SP - 6-3/4"	NA	NA	36.00	EA	\$585.95	\$21,094.20
-water truck time	Water Tanker, 2,500 Gal.	NA	NA	36.00	EA	\$29.70	\$1,069.20
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	\$61.43	\$184.29
-Mark holes	Borehole location/identification marker (EA, material cost only)	NA	NA	3.00	EA	\$37.50	\$112.50
-Rig and Labor	Altas Capco DM25SP - 6-3/4"	NA	NA	6.00	EA	\$585.95	\$3,515.70
-water truck time	Water Tanker, 2,500 Gal.	NA	NA	8.00	EA	\$29.70	\$237.60
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	\$37.50	\$75.00
-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	\$37.50	\$300.00
-cut casing	Exposed casing removal - Calculate Circumference in Linear Feet	9"	72	8.00	LF	\$3.26	\$26.08
-rig and labor	Atlas Capco DM45/HP - 9.0"	NA	NA	45.00	EA	\$561.88	\$25,284.60
-water tanker	Water Tanker, 2,500 Gal.	NA	NA	45.00	EA	\$29.70	\$1,336.50

Job Hours:	73.00	Total Cost:	\$146,843.00
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BOREHOLE SEALING WORK

Task description:	Seal Additional Wells
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Site: New Elk Mine	Permit Action: Mid Term 08	Permit/Job#: C1981012
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PROJECT IDENTIFICATION

Task #:	032	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-032
User:	DC1				

Agency or organization name:	DRMS
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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	\$84.15	\$84.15
Marker	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Cut Casing	Exposed casing removal - Calculate Circumference in Linear Feet	7.625	NA	1.00	LF	\$3.26	\$3.26
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	\$84.15	\$84.15
Cut Casing	Exposed casing removal - Calculate Circumference in Linear Feet	7.625	NA	1.00	LF	\$3.26	\$3.26
Mark Hole	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
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	\$84.15	\$84.15
Cut Casing	Exposed casing removal - Calculate Circumference in Linear Feet	7.625	NA	1.00	LF	\$3.26	\$3.26
Mark Hole	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50

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	\$84.15	\$84.15
Cut Casing	Exposed casing removal - Calculate Circumference in Linear Feet	7.625	NA	1.00	LF	\$3.26	\$3.26
Mark Hole	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
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	\$84.15	\$84.15
Cut Casing	Exposed casing removal - Calculate Circumference in Linear Feet	7.625	NA	1.00	LF	\$3.26	\$3.26
Mark Hole	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig	Atlas Capco DM45/HP - 9.0"	7.625	NA	36.00	EA	\$561.88	\$20,227.68
Flatbed Equipment Truck	Flatbed Truck, 4x2, 15K GVW	NA	NA	36.00	EA	\$22.62	\$814.32
Water Truck	Water Tanker, 5,000 Gal.	NA	NA	36.00	EA	\$75.41	\$2,714.76

Job Hours:	36.00	Total Cost:	\$39,715.00
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SCRAPER TEAM WORK

Task description: **Haul Raw Coal Stockpile to Development Waste Pile**

Site: **New Elk Mine**

Permit Action: **Mid Term 08**

Permit/Job#: **C1981012**

PROJECT IDENTIFICATION

Task #:	033	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-033
User:	DC1				
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:	\$154.27	\$126.01	NA	NA	\$85.80	\$33.45
Operating cost/hour:	\$153.83	\$63.63	NA	NA	\$30.20	\$20.98
%Utilization-ripper:	NA	20	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$19.26	NA	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$2.30	NA	NA	\$0.00	\$0.00
Operator cost/hour:	\$30.90	\$41.30	NA	NA	\$28.56	\$21.12
Unit Subtotals:	\$339.00	\$252.50	NA	NA	\$144.56	\$75.55
Number of Units:	2	1	0	0	1	1
Group Subtotals:	Work:	\$930.50	Support:	\$0.00	Maint:	\$220.11

Total work team cost/hour: **\$1,150.61**

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	Struck Volume:	15.70	LCY
Material description:	Coal - Bituminous, Raw	Heaped Volume:	22.00	LCY

Rated Payload:	52,800 pounds		Average Volume:	18.85	LCY
Payload Capacity:	33.00 LCY		Adjusted Capacity:	18.85	LCY

Cycle Time:

Scraper Loading Time:	<u>0.40</u> Minutes
Maneuver and Spread Time:	<u>0.60</u> Minutes

Job Condition Correction:

Site Altitude: 7500 feet

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

Travel Time:

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

Haul Route:

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

Haul Time:	1.43	minutes
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Return 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
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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 COST

Fleet size:	1	Team(s)	Total job time:	12.59	Hours
Unit cost:	\$2.071	/LCY	Total job cost:	\$14,483	

SCRAPER TEAM WORK

Task description: **Haul Clean Coal Stockpile to Development Waste Pile**

Site: **New Elk Mine** Permit Action: **Mid Term 08** Permit/Job#: **C1981012**

PROJECT IDENTIFICATION

Task #:	034	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-034
User:	DC1				
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:	\$154.27	\$126.01	NA	NA	\$85.80	\$33.45
Operating cost/hour:	\$153.83	\$49.49	NA	NA	\$30.20	\$20.98
%Utilization-ripper:	NA	20	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$19.26	NA	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$2.30	NA	NA	\$0.00	\$0.00
Operator cost/hour:	\$30.90	\$41.30	NA	NA	\$28.56	\$21.12
Unit Subtotals:	\$339.00	\$238.36	NA	NA	\$144.56	\$75.55
Number of Units:	2	1	0	0	1	1
Group Subtotals:	Work:	\$916.36	Support:	\$0.00	Maint:	\$220.11

Total work team cost/hour: **\$1,136.47**

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	Struck Volume:	15.70	LCY
Material description:	Coal - Bituminous, Raw	Heaped Volume:	22.00	LCY
Rated Payload:	52,800 pounds	Average Volume:	18.85	LCY
Payload Capacity:	33.00 LCY	Adjusted Capacity:	18.85	LCY

Cycle Time:

Scraper Loading Time:	<u>0.40</u> Minutes
Maneuver and Spread Time:	<u>0.60</u> 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	minutes
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Return 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
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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:	\$2.579	/LCY	Total job cost:	\$23,224	

SCRAPER TEAM WORK

Task description: **Replace Cover material on DWDA #2**

Site: **New Elk Mine**

Permit Action: **Mid Term 08**

Permit/Job#: **C1981012**

PROJECT IDENTIFICATION

Task #:	035	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-035
User:	DC1				
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:	\$154.27	\$126.01	NA	NA	\$85.80	\$33.45
Operating cost/hour:	\$153.83	\$141.41	NA	NA	\$30.20	\$20.98
%Utilization-ripper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$19.26	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:	\$339.00	\$327.98	NA	NA	\$144.56	\$75.55
Number of Units:	2	1	0	0	1	1
Group Subtotals:	Work:	\$1,005.98	Support:	\$0.00	Maint:	\$220.11

Total work team cost/hour: **\$1,226.09**

MATERIAL QUANTITIES

Initial volume:	1,613	CCY	Swell factor:	1.125
Loose 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:	2,132 lbs/LCY		Struck Volume:	15.70	LCY
Material description:	User Provided		Heaped Volume:	22.00	LCY
Rated Payload:	52,800 pounds		Average Volume:	18.85	LCY
Payload Capacity:	24.77 LCY		Adjusted Capacity:	18.85	LCY

Cycle Time:

Scraper Loading Time:	<u>0.40</u> Minutes
Maneuver and Spread Time:	<u>0.60</u> 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	minutes
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Return 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
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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:	\$1.548	/LCY	Total job cost:	\$2,809	

SCRAPER TEAM WORK

Task description: **Replace Topsoil to DWDA #2**

Site: **New Elk Mine**

Permit Action: **Mid Term 08**

Permit/Job#: **C1981012**

PROJECT IDENTIFICATION

Task #:	036	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-036
User:	DC1				
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:	\$154.27	\$126.01	NA	NA	\$85.80	\$33.45
Operating cost/hour:	\$153.83	\$141.41	NA	NA	\$30.20	\$20.98
%Utilization-ripper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$19.26	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:	\$339.00	\$327.98	NA	NA	\$144.56	\$75.55
Number of Units:	2	1	0	0	1	1
Group Subtotals:	Work:	\$1,005.98	Support:	\$0.00	Maint:	\$220.11

Total work team cost/hour: **\$1,226.09**

MATERIAL QUANTITIES

Initial volume:	3,900	CCY	Swell factor:	1.000
Loose volume:	3,900	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:	2,055 lbs/LCY	Struck Volume:	15.70	LCY
Material description:	User Provided	Heaped Volume:	22.00	LCY
Rated Payload:	52,800 pounds	Average Volume:	18.85	LCY
Payload Capacity:	25.69 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	1600.00	3.00	3.00	6.00	1855	0.96

Haul Time:	0.96	minutes
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Return 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
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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:	\$1.698	/LCY	Total job cost:	\$6,622	

SCRAPER TEAM WORK

Task description: **Replace Topsoil to Area East of Pond 5**

Site: **New Elk Mine**

Permit Action: **Mid Term 08**

Permit/Job#: **C1981012**

PROJECT IDENTIFICATION

Task #:	037	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-037
User:	DC1				
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:	\$154.27	\$126.01	NA	NA	\$85.80	\$33.45
Operating cost/hour:	\$153.83	\$141.41	NA	NA	\$30.20	\$20.98
%Utilization-ripper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$19.26	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:	\$339.00	\$327.98	NA	NA	\$144.56	\$75.55
Number of Units:	2	1	0	0	1	1
Group Subtotals:	Work:	\$1,005.98	Support:	\$0.00	Maint:	\$220.11

Total work team cost/hour: **\$1,226.09**

MATERIAL QUANTITIES

Initial volume:	425	CCY	Swell factor:	1.000
Loose volume:	425	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:	2,055 lbs/LCY	Struck Volume:	15.70	LCY
Material description:	User Provided	Heaped Volume:	22.00	LCY
Rated Payload:	52,800 pounds	Average Volume:	18.85	LCY
Payload Capacity:	25.69 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	700.00	5.00	3.00	8.00	1381	0.56

Haul Time:	0.56	minutes
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Return 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
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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:	0.42	Hours
Unit cost:	\$1.215	/LCY	Total job cost:	\$516	

SCRAPER TEAM WORK

Task description: **Replace Topsoil to Pond 005**

Site: **New Elk Mine**

Permit Action: **Mid Term 08**

Permit/Job#: **C1981012**

PROJECT IDENTIFICATION

Task #:	038	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-038
User:	DC1				
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:	\$154.27	\$126.01	NA	NA	\$85.80	\$33.45
Operating cost/hour:	\$153.83	\$141.41	NA	NA	\$30.20	\$20.98
%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:	\$339.00	\$308.72	NA	NA	\$144.56	\$75.55
Number of Units:	2	1	0	0	1	1
Group Subtotals:	Work:	\$986.72	Support:	\$0.00	Maint:	\$220.11

Total work team cost/hour: **\$1,206.83**

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

Cycle Time:

Scraper Loading Time:	<u>0.40</u> Minutes
Maneuver and Spread Time:	<u>0.60</u> Minutes

Job Condition Correction:

Site Altitude: 7500 feet

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

Travel Time:

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

Haul Route:

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

Haul Time:	0.56	minutes
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Return 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: \$1.196 /LCY

Total job cost: \$359

SCRAPER TEAM WORK

Task description: **Replace Topsoil to Area Under Conveyor**

Site: **New Elk Mine**

Permit Action: **Mid Term 08**

Permit/Job#: **C1981012**

PROJECT IDENTIFICATION

Task #:	039	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-039
User:	DC1				
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:	\$154.27	\$126.01	NA	NA	\$85.80	\$33.45
Operating cost/hour:	\$153.83	\$141.41	NA	NA	\$30.20	\$20.98
%Utilization-ripper:	NA	20	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$19.26	NA	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$2.30	NA	NA	\$0.00	\$0.00
Operator cost/hour:	\$30.90	\$41.30	NA	NA	\$28.56	\$21.12
Unit Subtotals:	\$339.00	\$330.28	NA	NA	\$144.56	\$75.55
Number of Units:	2	1	0	0	1	1
Group Subtotals:	Work:	\$1,008.28	Support:	\$0.00	Maint:	\$220.11

Total work team cost/hour: **\$1,228.39**

MATERIAL QUANTITIES

Initial volume:	1,300	CCY	Swell factor:	1.000
Loose volume:	1,300	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:	2,055 lbs/LCY	Struck Volume:	15.70	LCY
Material description:	User Provided	Heaped Volume:	22.00	LCY
Rated Payload:	52,800 pounds	Average Volume:	18.85	LCY
Payload Capacity:	25.69 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	200.00	5.00	3.00	8.00	1381	0.20

Haul Time:	0.20	minutes
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Return 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
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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:	\$0.851	/LCY	Total job cost:	\$1,106	

SCRAPER TEAM WORK

Task description: **Replace Topsoil to Raw Coal Storage Stockpile**

Site: **New Elk Mine**

Permit Action: **Mid Term 08**

Permit/Job#: **C1981012**

PROJECT IDENTIFICATION

Task #:	040	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-040
User:	DC1				
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:	\$154.27	\$126.01	NA	NA	\$85.80	\$33.45
Operating cost/hour:	\$153.83	\$141.41	NA	NA	\$30.20	\$20.98
%Utilization-ripper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$19.26	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:	\$339.00	\$327.98	NA	NA	\$144.56	\$75.55
Number of Units:	2	1	0	0	1	1
Group Subtotals:	Work:	\$1,005.98	Support:	\$0.00	Maint:	\$220.11

Total work team cost/hour: **\$1,226.09**

MATERIAL QUANTITIES

Initial volume:	1,060	CCY	Swell factor:	1.000
Loose volume:	1,060	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:	2,055 lbs/LCY	Struck Volume:	15.70	LCY
Material description:	User Provided	Heaped Volume:	22.00	LCY
Rated Payload:	52,800 pounds	Average Volume:	18.85	LCY
Payload Capacity:	25.69 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	1600.00	0.00	3.00	3.00	2824	0.75

Haul Time:	0.75	minutes
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Return 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
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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:	\$1.580	/LCY	Total job cost:	\$1,675	

SCRAPER TEAM WORK

Task description: **Replace Topsoil to Small DR Area in Large DNR Area**

Site: **New Elk Mine**

Permit Action: **Mid Term 08**

Permit/Job#: **C1981012**

PROJECT IDENTIFICATION

Task #:	041	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-041
User:	DC1				
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:	\$154.27	\$126.01	NA	NA	\$85.80	\$33.45
Operating cost/hour:	\$153.83	\$141.41	NA	NA	\$30.20	\$20.98
%Utilization-ripper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$19.26	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:	\$339.00	\$327.98	NA	NA	\$144.56	\$75.55
Number of Units:	2	1	0	0	1	1
Group Subtotals:	Work:	\$1,005.98	Support:	\$0.00	Maint:	\$220.11

Total work team cost/hour: **\$1,226.09**

MATERIAL QUANTITIES

Initial volume:	70	CCY	Swell factor:	1.000
Loose volume:	70	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:	2,055 lbs/LCY	Struck Volume:	15.70	LCY
Material description:	User Provided	Heaped Volume:	22.00	LCY
Rated Payload:	52,800 pounds	Average Volume:	18.85	LCY
Payload Capacity:	25.69 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	2000.00	0.00	3.00	3.00	2824	0.90

Haul Time:	0.90	minutes
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Return 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
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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:	\$1.770	/LCY	Total job cost:	\$124	

SCRAPER TEAM WORK

Task description: **Replace Topsoil to Clean Coal Stockpile**

Site: **New Elk Mine**

Permit Action: **Mid Term 08**

Permit/Job#: **C1981012**

PROJECT IDENTIFICATION

Task #:	042	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-042
User:	DC1				
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:	\$154.27	\$126.01	NA	NA	\$85.80	\$33.45
Operating cost/hour:	\$153.83	\$141.41	NA	NA	\$30.20	\$20.98
%Utilization-ripper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$19.26	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:	\$339.00	\$327.98	NA	NA	\$144.56	\$75.55
Number of Units:	2	1	0	0	1	1
Group Subtotals:	Work: \$1,005.98		Support:	\$0.00	Maint:	\$220.11

Total work team cost/hour: **\$1,226.09**

MATERIAL QUANTITIES

Initial volume:	600	CCY	Swell factor:	1.000
Loose volume:	600	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:	2,055 lbs/LCY		Struck Volume:	15.70	LCY
Material description:	User Provided		Heaped Volume:	22.00	LCY
Rated Payload:	52,800 pounds		Average Volume:	18.85	LCY
Payload Capacity:	25.69 LCY		Adjusted Capacity:	18.85	LCY

Cycle Time:

Scraper Loading Time:	<u>0.40</u> Minutes
Maneuver and Spread Time:	<u>0.60</u> 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	minutes
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Return 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
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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:	\$1.900	/LCY	Total job cost:	\$1,140	

SCRAPER TEAM WORK

Task description: **Replace Topsoil to East Extension of River Pumphouse**

Site: **New Elk Mine** Permit Action: **Mid Term 08** Permit/Job#: **C1981012**

PROJECT IDENTIFICATION

Task #:	043	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-043
User:	DC1				
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:	\$154.27	\$126.01	NA	NA	\$85.80	\$33.45
Operating cost/hour:	\$153.83	\$141.41	NA	NA	\$30.20	\$20.98
%Utilization-ripper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$19.26	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:	\$339.00	\$327.98	NA	NA	\$144.56	\$75.55
Number of Units:	2	1	0	0	1	1
Group Subtotals:	Work:	\$1,005.98	Support:	\$0.00	Maint:	\$220.11

Total work team cost/hour: **\$1,226.09**

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:	2,055 lbs/LCY	Struck Volume:	15.70	LCY
Material description:	User Provided	Heaped Volume:	22.00	LCY
Rated Payload:	52,800 pounds	Average Volume:	18.85	LCY
Payload Capacity:	25.69 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	1100.00	5.00	3.00	8.00	1381	0.85

Haul Time:	0.85	minutes
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Return 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
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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:	\$1.496	/LCY	Total job cost:	\$269	

SCRAPER TEAM WORK

Task description: **Replace Topsoil to Embedded Waste Area**

Site: **New Elk Mine**

Permit Action: **Mid Term 08**

Permit/Job#: **C1981012**

PROJECT IDENTIFICATION

Task #:	044	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-044
User:	DC1				
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:	\$154.27	\$126.01	NA	NA	\$85.80	\$33.45
Operating cost/hour:	\$153.83	\$141.41	NA	NA	\$30.20	\$20.98
%Utilization-ripper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$19.26	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:	\$339.00	\$327.98	NA	NA	\$144.56	\$75.55
Number of Units:	2	1	0	0	1	1
Group Subtotals:	Work:	\$1,005.98	Support:	\$0.00	Maint:	\$220.11

Total work team cost/hour: **\$1,226.09**

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:	2,055 lbs/LCY	Struck Volume:	15.70	LCY
Material description:	User Provided	Heaped Volume:	22.00	LCY
Rated Payload:	52,800 pounds	Average Volume:	18.85	LCY
Payload Capacity:	25.69 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	900.00	0.00	3.00	3.00	2824	0.51

Haul Time:	0.51	minutes
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Return 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
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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:	\$1.267	/LCY	Total job cost:	\$2,471	

SCRAPER TEAM WORK

Task description: **Replace Topsoil to RDA**

Site: **New Elk Mine**

Permit Action: **Mid Term 08**

Permit/Job#: **C1981012**

PROJECT IDENTIFICATION

Task #:	045	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-045
User:	DC1				
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:	\$154.27	\$126.01	NA	NA	\$85.80	\$33.45
Operating cost/hour:	\$153.83	\$141.41	NA	NA	\$30.20	\$20.98
%Utilization-ripper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$19.26	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:	\$339.00	\$327.98	NA	NA	\$144.56	\$75.55
Number of Units:	2	1	0	0	1	1
Group Subtotals:	Work:	\$1,005.98	Support:	\$0.00	Maint:	\$220.11

Total work team cost/hour: **\$1,226.09**

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:	2,055 lbs/LCY	Struck Volume:	15.70	LCY
Material description:	User Provided	Heaped Volume:	22.00	LCY
Rated Payload:	52,800 pounds	Average Volume:	18.85	LCY
Payload Capacity:	25.69 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	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	minutes
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Return 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
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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:	\$5.394	/LCY	Total job cost:	\$150,090	

SCRAPER TEAM WORK

Task description: **Replace Topsoil to Four Bench Slopes**

Site: **New Elk Mine**

Permit Action: **Mid Term 08**

Permit/Job#: **C1981012**

PROJECT IDENTIFICATION

Task #:	046	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-046
User:	DC1				
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:	\$154.27	\$126.01	NA	NA	\$85.80	\$33.45
Operating cost/hour:	\$153.83	\$141.41	NA	NA	\$30.20	\$20.98
%Utilization-ripper:	NA	100	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$19.26	NA	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$11.48	NA	NA	\$0.00	\$0.00
Operator cost/hour:	\$30.90	\$41.30	NA	NA	\$28.56	\$21.12
Unit Subtotals:	\$339.00	\$339.46	NA	NA	\$144.56	\$75.55
Number of Units:	2	1	0	0	1	1
Group Subtotals:	Work:	\$1,017.46	Support:	\$0.00	Maint:	\$220.11

Total work team cost/hour: **\$1,237.57**

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:	2,055 lbs/LCY	Struck Volume:	15.70	LCY
Material description:	User Provided	Heaped Volume:	22.00	LCY
Rated Payload:	52,800 pounds	Average Volume:	18.85	LCY
Payload Capacity:	25.69 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	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	minutes
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Return 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
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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:	\$5.425	/LCY	Total job cost:	\$19,421	

SCRAPER TEAM WORK

Task description: **Replace Topsoil to RDA Pond**

Site: **New Elk Mine**

Permit Action: **Mid Term 08**

Permit/Job#: **C1981012**

PROJECT IDENTIFICATION

Task #:	047	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-047
User:	DC1				
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:	\$154.27	\$126.01	NA	NA	\$85.80	\$33.60
Operating cost/hour:	\$153.83	\$141.41	NA	NA	\$30.20	\$20.00
%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	\$21.00
Unit Subtotals:	\$339.00	\$308.72	NA	NA	\$144.56	\$75.60
Number of Units:	2	1	0	0	1	1
Group Subtotals:	Work:	\$986.72	Support:	\$0.00	Maint:	\$220.11

Total work team cost/hour: **\$1,206.83**

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

Cycle Time:

Scraper Loading Time:	<u>0.40</u> Minutes
Maneuver and Spread Time:	<u>0.60</u> 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	minutes
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Return 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
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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:	\$3.156	/LCY	Total job cost:	\$6,233	

SCRAPER TEAM WORK

Task description: **Replace Topsoil to Bates Portal Face-Up**

Site: **New Elk Mine**

Permit Action: **Mid Term 08**

Permit/Job#: **C1981012**

PROJECT IDENTIFICATION

Task #:	048	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-048
User:	DC1				
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:	\$154.27	\$126.01	NA	NA	\$85.80	\$33.45
Operating cost/hour:	\$153.83	\$141.41	NA	NA	\$30.20	\$20.98
%Utilization-ripper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$19.26	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:	\$339.00	\$327.98	NA	NA	\$144.56	\$75.55
Number of Units:	2	1	0	0	1	1
Group Subtotals:	Work:	\$1,005.98	Support:	\$0.00	Maint:	\$220.11

Total work team cost/hour: **\$1,226.09**

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:	2,055 lbs/LCY	Struck Volume:	15.70	LCY
Material description:	User Provided	Heaped Volume:	22.00	LCY
Rated Payload:	52,800 pounds	Average Volume:	18.85	LCY
Payload Capacity:	25.69 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	10.00	3.00	13.00	834	3.01

Haul Time:	3.01	minutes
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Return 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
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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:	\$3.207	/LCY	Total job cost:	\$3,687	

SCRAPER TEAM WORK

Task description: **Replace Topsoil to West DWDA**

Site: **New Elk Mine**

Permit Action: **Mid Term 08**

Permit/Job#: **C1981012**

PROJECT IDENTIFICATION

Task #:	049	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-049
User:	DC1				
Agency 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:	\$188.81	\$126.01	NA	NA	\$85.80	\$33.45
Operating cost/hour:	\$169.82	\$141.41	NA	NA	\$30.20	\$20.98
%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:	\$389.53	\$308.72	NA	NA	\$144.56	\$75.55
Number of Units:	2	1	0	0	1	1
Group Subtotals:	Work:	\$1,087.78	Support:	\$0.00	Maint:	\$220.11

Total work team cost/hour: **\$1,307.89**

MATERIAL QUANTITIES

Initial volume:	39,912	CCY	Swell factor:	1.125
Loose volume:	44,901	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:	2,055 lbs/LCY	Struck Volume:	15.70	LCY
Material description:	User Provided	Heaped Volume:	22.00	LCY
Rated Payload:	52,800 pounds	Average Volume:	18.85	LCY
Payload Capacity:	25.69 LCY	Adjusted Capacity:	18.85	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	minutes
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Return 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
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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:	\$1.952	/LCY	Total job cost:	\$87,625	

COMPACTION WORK

Task description:	Compact Final RDA Surface
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Site: New Elk Mine	Permit Action: Mid Term 08	Permit/Job#: C1981012
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PROJECT IDENTIFICATION

Task #:	050	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-050
User:	DC1				

Agency or organization name:	DRMS
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HOURLY EQUIPMENT COST

Basic Machine:	CAT 815F	Horsepower:	240
Compactor Type:	Soil - tamping foot	Shift Basis:	1 per day
		Data Source:	(CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$91.25	NA
Operating Cost/Hour:	\$66.66	100
Operator Cost/Hour:	\$26.02	NA
Total Unit Cost/Hour:	\$183.93	

Total Fleet Cost/Hour:	\$183.93
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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
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Source of estimated shrinkage factor:	Cat Handbook
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HOURLY PRODUCTION

Unadjusted hourly production = (W x S x L x C) / P

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

Job Condition Correction Factors

Site Altitude: 7,500 feet

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

Adjusted Hourly Unit Production:	703.51	CCY/Hour
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Adjusted Hourly Fleet Production:	703.51	CCY/Hour
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JOB TIME AND COST

Fleet size:	1	Compactor(s)	Total job time:	32.46	Hours

Unit cost:	\$0.261	per CCY	Total job cost:	\$5,971
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SAFEGUARDING UNDERGROUND OPENINGS

Task description: **Seal Portals and Vent Shafts**

Site:	New Elk Mine	Permit Action:	Mid Term 08	Permit/Job#:	C1981012
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PROJECT IDENTIFICATION

Task #:	051	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-051
User:	DC1				

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, >= 36 sq. ft. (per sq. ft.)	120.00	SF	\$192.07	\$23,048.40
Backfill East Portal	12'X10'X50'	Adit closure - backfilling (per cu. yd.)	222.00	CY	\$25.00	\$5,550.00
Drain Pipe	100 LF	PVC drain pipe, 6 in. diameter (per ln. ft. incl. mat. & labor)	100.00	LF	\$11.74	\$1,174.00
Seal West Portals (2)	15'X10'	Adit closure - bulkhead seal, >= 36 sq. ft. (per sq. ft.)	300.00	SF	\$192.07	\$57,621.00
Backfill West Portals (2)	600 CY	Adit closure - backfilling (per cu. yd.)	600.00	CY	\$25.00	\$15,000.00
Drain Pipes	100 LF (2)	PVC drain pipe, 6 in. diameter (per ln. ft. incl. mat. & labor)	200.00	LF	\$11.74	\$2,348.00
Seal Bates Portals (3)	14'X18'	Adit closure - bulkhead seal, >= 36 sq. ft. (per sq. ft.)	756.00	SF	\$192.07	\$145,204.92
Backfill Bates Portals (3)	14'X18'X50'	Adit closure - backfilling (per cu. yd.)	466.00	CY	\$25.00	\$11,650.00
Drain Pipes (3)	100 LF (3)	PVC drain pipe, 6 in. diameter (per ln. ft. incl. mat. & labor)	300.00	LF	\$11.74	\$3,522.00
East Portal Fan Shaft Concrete Cap	16' D	Shaft closure - concrete cap, poured-in-place (per Cubic Feet)	200.00	CF	\$13.89	\$2,778.00
Apache Canyon East Shaft Concrete Cap	16" D	Shaft closure - concrete cap, poured-in-place (per Cubic Feet)	200.00	CF	\$13.89	\$2,778.00
Apache Canyon West Shaft Concrete Cap	16" D	Shaft closure - concrete cap, poured-in-place (per Cubic Feet)	200.00	CF	\$13.89	\$2,778.00

Job Hours: 270.00

Total Cost: \$273,452.32

MOTOR GRADER WORK

Task description:	Regrading 30,000 LCY Refuse on RDA
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Site: New Elk Mine	Permit Action: Mid Term 08	Permit/Job#: C1981012
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PROJECT IDENTIFICATION

Task #:	052	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-052
User:	DC1				

Agency or organization name:	DRMS
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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:	\$70.80	NA
Operating Cost/Hour:	\$56.31	100
Ripper Ownership Cost/Hour:	\$5.52	NA
Ripper Operating Cost/Hour:	\$4.85	100
Operator Cost/Hour:	\$28.56	NA
Total Unit Cost/Hour:	\$166.04	

Total Fleet Cost/Hour:	\$332.08
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MATERIAL QUANTITIES

Total Area to be graded or ripped:	19.00	acres
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Source of estimated acreage:	Operator provided (TR75)
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HOURLY PRODUCTION

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

Job Condition Correction Factors

Site Altitude: 7680 feet

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

Adjusted Hourly Unit Production:	2.2909	acres/Hour
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Adjusted Hourly Fleet Production:	4.5818	acres/Hour
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JOB TIME AND COST

Fleet size:	2	Grader(s)	Total job time:	4.15	Hours
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Unit cost:	\$72.48	per acre	Total job cost:	\$1,377
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MOTOR GRADER WORK

Task description:	Finish Grade Refuse Disposal Area
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Site: New Elk Mine	Permit Action: Mid Term 08	Permit/Job#: C1981012
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PROJECT IDENTIFICATION

Task #:	053	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-053
User:	DC1				

Agency or organization name:	DRMS
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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:	\$85.80	NA
Operating Cost/Hour:	\$60.40	100
Ripper Ownership Cost/Hour:	\$0.00	NA
Ripper Operating Cost/Hour:	\$0.00	
Operator Cost/Hour:	\$28.56	NA
Total Unit Cost/Hour:	\$174.76	

Total Fleet Cost/Hour:	\$174.76
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MATERIAL QUANTITIES

Total Area to be graded or ripped:	8.30	acres
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Source of estimated acreage:	Map 11
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HOURLY PRODUCTION

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

Job Condition Correction Factors

Site Altitude: 7500 feet

		Source
Altitude Adj:	1.00	(CAT HB)
Job Efficiency:	0.85	(1sh/d, mod.)
Net Correction:	0.8500	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
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Unit cost:	\$111.96	per acre	Total job cost:	\$929
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MOTOR GRADER WORK

Task description:	Finish Grade West DWDA Area
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Site: New Elk Mine	Permit Action: Mid Term 08	Permit/Job#: C1981012
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PROJECT IDENTIFICATION

Task #:	054	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-054
User:	DC1				

Agency or organization name:	DRMS
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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:	\$85.80	NA
Operating Cost/Hour:	\$60.40	100
Ripper Ownership Cost/Hour:	\$0.00	NA
Ripper Operating Cost/Hour:	\$0.00	
Operator Cost/Hour:	\$28.56	NA
Total Unit Cost/Hour:	\$174.76	

Total Fleet Cost/Hour:	\$174.76
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MATERIAL QUANTITIES

Total Area to be graded or ripped:	10.20	acres
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Source of estimated acreage:	NECC
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HOURLY PRODUCTION

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

Job Condition Correction Factors

Site Altitude: 7680 feet

		Source
Altitude Adj:	1.00	(CAT HB)
Job Efficiency:	0.85	(1sh/d, mod.)
Net Correction:	0.8500	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
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Unit cost:	\$143.14	per acre	Total job cost:	\$1,460
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HYDRAULIC EXCAVATOR WORK

Task description: **100 year ditch Maintenance**

Site: **New Elk Mine** Permit Action: **Mid Term 08** Permit/Job#: **C1981012**

PROJECT IDENTIFICATION

Task #:	055	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-055
User:	DC1				

Agency or organization name: **DRMS**

HOURLY EQUIPMENT COST

Basic Machine:	Cat 315D L 8'-6" Stick	Horsepower:	115
Attachment 1:	ROPS Cab	Weight (MT):	17.32
		Shift Basis:	1 per day
		Data Source:	(CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$51.47	NA
Operating Cost/Hour:	\$41.06	100
Operator Cost/Hour:	\$37.32	NA
Total Unit Cost/Hour:	\$129.85	

Total Fleet Cost/Hour: **\$129.85**

MATERIAL QUANTITIES

Initial volume:	4,000	CCY	Swell factor:	1.000
Loose volume:	4,000	LCY		

Source of estimated volume: **Operator Provided (TR75)**

Source of estimated swell factor: **Cat Handbook**

HOURLY PRODUCTION

Basic Job Condition Description:	AVERAGE
Secondary Job Condition within Basic Description:	AVERAGE
Cycle Time Value:	0.256 minutes

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

Load Bucket Capacity

Bucket Size Class: **Medium**

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

Job Condition Correction Factors

Site Altitude: **7820** feet

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

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

JOB TIME AND COST

Fleet size:	1	Excavator	Total job time:	27.86	Hours
Unit cost:	\$0.904	/LCY	Total job cost:	\$3,618	

HYDRAULIC EXCAVATOR WORK

Task description: **Replace Topsoil to Zig Zag Road**

Site: **New Elk Mine** Permit Action: **Mid Term 08** Permit/Job#: **C1981012**

PROJECT IDENTIFICATION

Task #:	056	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-056
User:	DC1				
Agency or organization name:		DRMS			

HOURLY EQUIPMENT COST

Basic Machine:	Cat 320D L 9'-6" Stick	Horsepower:	148
Attachment 1:	ROPS Cab	Weight (MT):	21.55
		Shift Basis:	1 per day
		Data Source:	(CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$56.18	NA
Operating Cost/Hour:	\$47.81	100
Operator Cost/Hour:	\$37.32	NA
Total Unit Cost/Hour:	\$141.31	
Total Fleet Cost/Hour:		\$141.31

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

Basic Job Condition Description:	BELOW AVERAGE		
Secondary Job Condition within Basic Description:	AVERAGE		
Cycle Time Value:	0.323	minutes	

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

Load Bucket Capacity

Bucket Size Class:	Medium
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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:	0.87	(CAT HB)
Job Efficiency:	0.83	(1 shift/day)
Net Correction:	0.72	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:	\$0.622	/LCY	Total job cost:	\$67	

SITE MAINTENANCE

Task description:	Site Maintenance during the 10 year liability period
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Site:	New Elk Mine	Permit Action:	Mid Term 08	Permit/Job#:	C1981012
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PROJECT IDENTIFICATION

Task #:	057	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-057
User:	DC1				

Agency or organization name:	DRMS
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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	\$101.29	\$40,516.00

Job Hours:	400.00			Total Cost:	\$40,516.00
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BULLDOZER RIPPING WORK

Task description:	Rip Mine Entry Area Prior to Regrading
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Site: New Elk Mine	Permit Action: Mid Term 08	Permit/Job#: C1981012
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PROJECT IDENTIFICATION

Task #:	058	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-058
User:	DC1				

Agency or organization name:	DRMS
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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:	\$126.01	NA
Operating Cost/Hour:	\$141.41	100
Ripper Ownership Cost/Hour:	\$19.26	NA
Ripper Operating Cost/Hour:	\$11.48	100
Operator Cost/Hour:	\$41.30	NA
Total Unit Cost/Hour:	\$339.46	

Total Fleet Cost/Hour:	\$1,018.39
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Selected estimating method:	Area
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MATERIAL QUANTITIES

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
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HOURLY PRODUCTION

Seismic:

Seismic Velocity:	NA	feet/second
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Area:

Average Ripping Depth:	4.05	feet/pass
Average Ripping Width:	7.67	feet/pass
Average Ripping Length:	200.00	feet/pass
Average Dozer Speed:	88.00	feet/minute
Average Maneuver Time:	0.25	minutes/pass
Production per unit area:	0.838	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
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Adjusted Hourly Fleet Production:	2.09	Acres/hr
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JOB TIME AND COST

Fleet size:	3	Grader(s)	Total job time:	8.56	Hours
Unit cost:	\$488.306	Per acre	Total job cost:	\$8,721	

BULLDOZER RIPPING WORK

Task description: **Rip Wedge Area Prior to Regrading**

Site: **New Elk Mine** Permit Action: **Mid Term 08** Permit/Job#: **C1981012**

PROJECT IDENTIFICATION

Task #:	059	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-059
User:	DC1				

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:	\$126.01	NA
Operating Cost/Hour:	\$141.41	100
Ripper Ownership Cost/Hour:	\$19.26	NA
Ripper Operating Cost/Hour:	\$11.48	100
Operator Cost/Hour:	\$41.30	NA
Total Unit Cost/Hour:	\$339.46	

Total Fleet Cost/Hour: **\$1,018.39**

Selected estimating method: **Area**

MATERIAL QUANTITIES

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
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Area:

Average Ripping Depth:	4.05	feet/pass
Average Ripping Width:	7.67	feet/pass
Average Ripping Length:	200.00	feet/pass
Average Dozer Speed:	88.00	feet/minute
Average Maneuver Time:	0.25	minutes/pass
Production per unit area:	0.838	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
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JOB TIME AND COST

Fleet size:	3	Grader(s)	Total job time:	0.77	Hours
Unit cost:	\$488.306	Per acre	Total job cost:	\$781	

BULLDOZER RIPPING WORK

Task description: **Rip Prep Plant Area Prior to Regrading**

Site: **New Elk Mine** Permit Action: **Mid Term 08** Permit/Job#: **C1981012**

PROJECT IDENTIFICATION

Task #:	060	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-060
User:	DC1				

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:	\$126.01	NA
Operating Cost/Hour:	\$141.41	100
Ripper Ownership Cost/Hour:	\$19.26	NA
Ripper Operating Cost/Hour:	\$11.48	100
Operator Cost/Hour:	\$41.30	NA
Total Unit Cost/Hour:	\$339.46	

Total Fleet Cost/Hour: **\$1,018.39**

Selected estimating method: **Area**

MATERIAL QUANTITIES

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
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Area:

Average Ripping Depth:	4.05	feet/pass
Average Ripping Width:	7.67	feet/pass
Average Ripping Length:	200.00	feet/pass
Average Dozer Speed:	88.00	feet/minute
Average Maneuver Time:	0.25	minutes/pass
Production per unit area:	0.838	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
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JOB TIME AND COST

Fleet size:	3	Grader(s)	Total job time:	2.57	Hours
Unit cost:	\$488.306	Per acre	Total job cost:	\$2,622	

BULLDOZER RIPPING WORK

Task description: **Rip West Portal DNR Areas**

Site: New Elk Mine	Permit Action: Mid Term 08	Permit/Job#: C1981012
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PROJECT IDENTIFICATION

Task #:	061	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-061
User:	DC1				

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:	\$126.01	NA
Operating Cost/Hour:	\$141.41	100
Ripper Ownership Cost/Hour:	\$19.26	NA
Ripper Operating Cost/Hour:	\$11.48	100
Operator Cost/Hour:	\$41.30	NA
Total Unit Cost/Hour:	\$339.46	

Total Fleet Cost/Hour:	\$1,018.39
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Selected estimating method: **Area**

MATERIAL QUANTITIES

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
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Area:

Average Ripping Depth:	4.05	feet/pass
Average Ripping Width:	7.67	feet/pass
Average Ripping Length:	200.00	feet/pass
Average Dozer Speed:	88.00	feet/minute
Average Maneuver Time:	0.25	minutes/pass
Production per unit area:	0.838	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
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JOB TIME AND COST

Fleet size:	3	Grader(s)	Total job time:	11.95	Hours
Unit cost:	\$488.306	Per acre	Total job cost:	\$12,169	

BULLDOZER RIPPING WORK

Task description: **Rip East Portal - Only DNR Area**

Site: New Elk Mine	Permit Action: Mid Term 08	Permit/Job#: C1981012
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PROJECT IDENTIFICATION

Task #:	062	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-062
User:	DC1				

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:	\$126.01	NA
Operating Cost/Hour:	\$141.41	100
Ripper Ownership Cost/Hour:	\$19.26	NA
Ripper Operating Cost/Hour:	\$11.48	100
Operator Cost/Hour:	\$41.30	NA
Total Unit Cost/Hour:	\$339.46	

Total Fleet Cost/Hour:	\$1,018.39
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Selected estimating method: **Area**

MATERIAL QUANTITIES

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
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Area:

Average Ripping Depth:	4.05	feet/pass
Average Ripping Width:	7.67	feet/pass
Average Ripping Length:	200.00	feet/pass
Average Dozer Speed:	88.00	feet/minute
Average Maneuver Time:	0.25	minutes/pass
Production per unit area:	0.838	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
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JOB TIME AND COST

Fleet size:	3	Grader(s)	Total job time:	16.78	Hours
Unit cost:	\$488.306	Per acre	Total job cost:	\$17,091	

BULLDOZER RIPPING WORK

Task description: **Rip Zig Zag Road and Slurry Line Road**

Site: **New Elk Mine** Permit Action: **Mid Term 08** Permit/Job#: **C1981012**

PROJECT IDENTIFICATION

Task #:	063	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-063
User:	DC1				

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:	\$126.01	NA
Operating Cost/Hour:	\$141.41	100
Ripper Ownership Cost/Hour:	\$19.26	NA
Ripper Operating Cost/Hour:	\$11.48	100
Operator Cost/Hour:	\$41.30	NA
Total Unit Cost/Hour:	\$339.46	

Total Fleet Cost/Hour: **\$1,018.39**

Selected estimating method: **Area**

MATERIAL QUANTITIES

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
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Area:

Average Ripping Depth:	2.63	feet/pass
Average Ripping Width:	7.67	feet/pass
Average Ripping Length:	75.00	feet/pass
Average Dozer Speed:	88.00	feet/minute
Average Maneuver Time:	0.25	minutes/pass
Production per unit area:	0.719	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
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JOB TIME AND COST

Fleet size:	3	Grader(s)	Total job time:	0.45	Hours
Unit cost:	\$568.957	Per acre	Total job cost:	\$455	

REVEGETATION WORK

Task description:	Reseed RDA Borrow Area
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Site:	New Elk Mine	Permit Action:	Mid Term 08	Permit/Job#:	C1981012
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PROJECT IDENTIFICATION

Task #:	064	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-064
User:	DC1				

Agency or organization name:	DRMS
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FERTILIZING

Materials

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

Application

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

TILLING

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

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
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
Totals Seed Mix	11.88	57.76	\$114.07

Application

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

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$307.02	\$614.04
Total Mulch Materials Cost/Acre				\$614.04

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$71.57
Power mulcher (MEANS 32 91 13.16 0350)	\$106.29
Total Mulch Application Cost/Acre	\$177.86

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	5	Cost /Acre:	\$1,137.97
Estimated Failure Rate:	33%	Cost /Acre*:	\$346.07

*Selected Replanting Work Items: SEEDING

Initial Job Cost:	\$5,689.85
Reseeding Job Cost:	\$571.02
Total Job Cost:	\$6,261
Job Hours:	5.00

REVEGETATION WORK

Task description: **Reseed Facilities Area with Rangeland Mix**

Site: **New Elk Mine**

Permit Action: **Mid Term 08**

Permit/Job#: **C1981012**

PROJECT IDENTIFICATION

Task #:	065	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-065
User:	DC1				

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	\$0.37	\$11.10
			Total Fertilizer Materials Cost/Acre	\$11.10

Application

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$38.77
Total Fertilizer Application Cost/Acre	\$38.77

TILLING

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

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
Totals Seed Mix	11.93	57.76	\$115.09

Application

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

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$307.02	\$614.04
Total Mulch Materials Cost/Acre				\$614.04

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$71.57
Power mulcher (MEANS 32 91 13.16 0350)	\$106.29
Total Mulch Application Cost/Acre	\$177.86

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	97.26	Cost /Acre:	\$1,188.86
Estimated Failure Rate:	33%	Cost /Acre*:	\$347.09

*Selected Replanting Work Items: SEEDING

Initial Job Cost:	\$115,628.52
Reseeding Job Cost:	\$11,140.13
Total Job Cost:	\$126,769
Job Hours:	178.00

REVEGETATION WORK

Task description: **Reseed RDA**

Site: **New Elk Mine**

Permit Action: **Mid Term 08**

Permit/Job#: **C1981012**

PROJECT IDENTIFICATION

Task #:	066	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-066
User:	DC1				

Agency or organization name: **DRMS**

FERTILIZING

Materials

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

Application

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

TILLING

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

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
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
Totals Seed Mix	11.88	57.76	\$114.07

Application

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

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$307.02	\$614.04
Total Mulch Materials Cost/Acre				\$614.04

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$71.57
Power mulcher (MEANS 32 91 13.16 0350)	\$106.29
Total Mulch Application Cost/Acre	\$177.86

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	31.75	Cost /Acre:	\$1,137.97
Estimated Failure Rate:	33%	Cost /Acre*:	\$346.07

*Selected Replanting Work Items: SEEDING

Initial Job Cost:	\$36,130.55
Reseeding Job Cost:	\$3,625.95
Total Job Cost:	\$39,756
Job Hours:	95.25

REVEGETATION WORK

Task description:	Reseed DWP with Rangeland Mix
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Site:	New Elk Mine	Permit Action:	Mid Term 08	Permit/Job#:	C1981012
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PROJECT IDENTIFICATION

Task #:	067	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-067
User:	DC1				

Agency or organization name:	DRMS
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FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	30.00	pound	\$0.37	\$11.10
			Total Fertilizer Materials Cost/Acre	\$11.10

Application

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$38.77
Total Fertilizer Application Cost/Acre	\$38.77

TILLING

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

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
Totals Seed Mix	12.93	61.08	\$118.42

Application

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

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$307.02	\$614.04
Total Mulch Materials Cost/Acre				\$614.04

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$71.57
Power mulcher (MEANS 32 91 13.16 0350)	\$106.29
Total Mulch Application Cost/Acre	\$177.86

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	5.62	Cost /Acre:	\$1,192.19
Estimated Failure Rate:	33%	Cost /Acre*:	\$350.42

*Selected Replanting Work Items: SEEDING

Initial Job Cost:	\$6,700.11
Reseeding Job Cost:	\$649.89
Total Job Cost:	\$7,350
Job Hours:	11.24

REVEGETATION WORK

Task description:	Reseed Disturbed Areas with Riparian Habitat
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Site:	New Elk Mine	Permit Action:	Mid Term 08	Permit/Job#:	C1981012
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PROJECT IDENTIFICATION

Task #:	068	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-068
User:	DC1				

Agency or organization name:	DRMS
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FERTILIZING

Materials

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

Application

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

TILLING

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

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
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
Totals Seed Mix	23.86	115.51	\$230.19

Application

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

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$307.02	\$614.04
Total Mulch Materials Cost/Acre				\$614.04

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$71.57
Power mulcher (MEANS 32 91 13.16 0350)	\$106.29
Total Mulch Application Cost/Acre	\$177.86

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	10.57	Cost /Acre:	\$1,289.31
Estimated Failure Rate:	33%	Cost /Acre*:	\$497.41

*Selected Replanting Work Items: SEEDING

Initial Job Cost:	\$13,628.01
Reseeding Job Cost:	\$1,735.02
Total Job Cost:	\$15,363
Job Hours:	21.14

REVEGETATION WORK

Task description: **Plant 6 Shrub Clumps**

Site: **New Elk Mine**

Permit Action: **Mid Term 08**

Permit/Job#: **C1981012**

PROJECT IDENTIFICATION

Task #:	069	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-069
User:	DC1				

Agency or organization name: **DRMS**

FERTILIZING

Materials

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

Application

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

TILLING

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

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
			\$
Totals Seed Mix	0.00	0.00	\$0.00

Application

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

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
			\$	\$
Total Mulch Materials Cost/Acre				\$0.00

Application

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

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)	\$2.43	\$2.40	\$179.82
Pine, Pinyon	74	Tubling, 10 cu. in. container {{(MEANS)	\$2.43	\$2.40	\$179.82
Pine, Ponderosa	74	Tubling, 10 cu. in. container {{(MEANS)	\$2.03	\$2.40	\$150.22
Mahogany, Mountain	74	Tubling, 10 cu. in. container {{(MEANS)	\$2.05	\$2.40	\$151.70
Snowberry, Western	74	Tubling, 10 cu. in. container {{(MEANS)	\$2.05	\$2.40	\$151.70
Sumac, Skunkbrush	74	Tubling, 10 cu. in. container {{(MEANS)	\$4.45	\$2.40	\$329.30
Totals Nursery Stock Cost / Acre					\$1,142.56

JOB TIME AND COST

	No. of Acres:	1.4	Cost /Acre:	\$1,142.56
	Estimated Failure Rate:	50%	Cost /Acre*:	\$1,142.56

*Selected Replanting Work Items: NURSERY

Initial Job Cost:	\$1,599.58
Reseeding Job Cost:	\$799.79
Total Job Cost:	\$2,399
Job Hours:	5.60

REVEGETATION WORK

Task description:	Weed Control - Assume 1/4 of Area Three Times
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Site: New Elk Mine	Permit Action: Mid Term 08	Permit/Job#: C1981012
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PROJECT IDENTIFICATION

Task #:	070	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-070
User:	DC1				

Agency or organization name:	DRMS
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FERTILIZING

Materials

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

Application

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

TILLING

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

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
			\$
Totals Seed Mix	0.00	0.00	\$0.00

Application

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

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Herbicide - 2,4D @ 1.0 pt/ac	1.00	ACRE	\$2.98	\$2.98
Herbicide - Glyphosate (Journey)@ 1.0 pt/ac	1.00	ACRE	\$4.52	\$4.52
Total Mulch Materials Cost/Acre				\$7.50

Application

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

NURSERY STOCK PLANTING

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

JOB TIME AND COST

	No. of Acres:	102.71	Cost /Acre:	\$190.66
	Estimated Failure Rate:	0%	Cost /Acre*:	\$0.00

*Selected Replanting Work Items: NONE

Initial Job Cost:	\$19,582.69
Reseeding Job Cost:	\$0.00
Total Job Cost:	\$19,583
Job Hours:	102.71

REVEGETATION WORK

Task description:	Seed Rangeland Seed Mix on MR Areas
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Site:	New Elk Mine	Permit Action:	Mid Term 08	Permit/Job#:	C1981012
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PROJECT IDENTIFICATION

Task #:	071	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-071
User:	DC1				

Agency or organization name:	DRMS
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FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	30.00	pound	\$0.37	\$11.10
			Total Fertilizer Materials Cost/Acre	\$11.10

Application

Description	Cost /Acre
Hand spread (MEANS 32 01 90.13 0100)	\$644.69
Total Fertilizer Application Cost/Acre	\$644.69

TILLING

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

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
Totals Seed Mix	23.86	115.51	\$230.19

Application

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

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$307.02	\$614.04
Total Mulch Materials Cost/Acre				\$614.04

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$71.57
Total Mulch Application Cost/Acre	\$71.57

NURSERY STOCK PLANTING

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

JOB TIME AND COST

	No. of Acres:	2.22	Cost /Acre:	\$1,838.81
	Estimated Failure Rate:	33%	Cost /Acre*:	\$497.41
	*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	\$4,082.16
Reseeding Job Cost:	\$364.40
Total Job Cost:	\$4,447
Job Hours:	2.22

REVEGETATION WORK

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

Site: **New Elk Mine**

Permit Action: **Mid Term 08**

Permit/Job#: **C1981012**

PROJECT IDENTIFICATION

Task #:	072	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-072
User:	DC1				

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	\$0.37	\$11.10
			Total Fertilizer Materials Cost/Acre	\$11.10

Application

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$38.77
Total Fertilizer Application Cost/Acre	\$38.77

TILLING

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

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
Totals Seed Mix	11.93	57.76	\$115.09

Application

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

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$307.02	\$614.04
Total Mulch Materials Cost/Acre				\$614.04

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$71.57
Power mulcher (MEANS 32 91 13.16 0350)	\$106.29
Total Mulch Application Cost/Acre	\$177.86

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	6	Cost /Acre:	\$1,188.86
Estimated Failure Rate:	33%	Cost /Acre*:	\$347.09

*Selected Replanting Work Items: SEEDING

Initial Job Cost:	\$7,133.16
Reseeding Job Cost:	\$687.24
Total Job Cost:	\$7,820
Job Hours:	12.00

REVEGETATION WORK

Task description:	Reseed Zig Zag with Rangland Mix
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Site:	New Elk Mine	Permit Action:	Mid Term 08	Permit/Job#:	C1981012
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PROJECT IDENTIFICATION

Task #:	073	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-073
User:	DC1				

Agency or organization name:	DRMS
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FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	30.00	pound	\$0.37	\$11.10
			Total Fertilizer Materials Cost/Acre	\$11.10

Application

Description	Cost /Acre
NA-fertilizer application incl. with hydroseeding	\$201.68
Total Fertilizer Application Cost/Acre	\$201.68

TILLING

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

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
Totals Seed Mix	23.86	115.51	\$230.19

Application

Description	Cost /Acre
Hydro seeding (MEANS 32 92 19.14 0200)	\$965.73
Total Seed Application Cost/Acre	\$965.73

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hydromulch, 1 ton/ac. rate {Materials Only}	2.00	ACRE	\$424.71	\$849.42
Total Mulch Materials Cost/Acre				\$849.42

Application

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

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	0.8	Cost /Acre:	\$2,258.12
Estimated Failure Rate:	33%	Cost /Acre*:	\$1,195.92

*Selected Replanting Work Items: SEEDING

Initial Job Cost:	\$1,806.50
Reseeding Job Cost:	\$315.72
Total Job Cost:	\$2,122
Job Hours:	1.60

REVEGETATION WORK

Task description:	Reseed West DWDA Expansion Area with Rangeland Mix
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Site: New Elk Mine	Permit Action: Mid Term 08	Permit/Job#: C1981012
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PROJECT IDENTIFICATION

Task #:	074	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-074
User:	DC1				

Agency or organization name:	DRMS
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FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	30.00	pound	\$0.37	\$11.10
			Total Fertilizer Materials Cost/Acre	\$11.10

Application

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$38.77
Total Fertilizer Application Cost/Acre	\$38.77

TILLING

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

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
Totals Seed Mix	11.93	57.76	\$115.09

Application

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

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$307.02	\$614.04
Total Mulch Materials Cost/Acre				\$614.04

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$71.57
Power mulcher (MEANS 32 91 13.16 0350)	\$106.29
Total Mulch Application Cost/Acre	\$177.86

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	10.2	Cost /Acre:	\$1,188.86
Estimated Failure Rate:	33%	Cost /Acre*:	\$347.09
*Selected Replanting Work Items:		SEEDING	

Initial Job Cost:	\$12,126.37
Reseeding Job Cost:	\$1,168.30
Total Job Cost:	\$13,295
Job Hours:	20.40

REVEGETATION WORK

Task description:	Seed NW Vent Fan and Access Road (TR72)
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Site: New Elk Mine	Permit Action: Mid Term 08	Permit/Job#: C1981012
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PROJECT IDENTIFICATION

Task #:	075	State:	Colorado	Abbreviation:	None
Date:	8/5/2021	County:	Las Animas	Filename:	C012-075
User:	DC1				

Agency or organization name:	DRMS
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FERTILIZING

Materials

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

Application

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

TILLING

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

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
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
Totals Seed Mix	12.20	47.42	\$91.00

Application

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

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$307.02	\$614.04
Total Mulch Materials Cost/Acre				\$614.04

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$71.57
Total Mulch Application Cost/Acre	\$71.57

NURSERY STOCK PLANTING

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

JOB TIME AND COST

	No. of Acres:	1.55	Cost /Acre:	\$1,008.61
	Estimated Failure Rate:	40%	Cost /Acre*:	\$1,008.61

*Selected Replanting Work Items: SEEDING,MULCHING

Initial Job Cost:	\$1,563.35
Reseeding Job Cost:	\$625.34
Total Job Cost:	\$2,189
Job Hours:	1.55

BILIZATION/DEMOBILIZATION

Task description: **Mobilize/Demobilize Equipment for Initial Reclamation**

Site: **New Elk Mine**

Permit Action: **Mid Term 08**

Permit/Job#: **C1981012**

PROJECT IDENTIFICATION

Task #: **076**

State: **Colorado**

Abbreviation: **None**

Date: **8/5/2021**

County: **Las Animas**

Filename: **C012-076**

User: **DC1**

Agency or organization name: **DRMS**

EQUIPMENT TRANSPORT RIG COST

Shift basis: **1 per day**

Cost Data Source: **CRG Data**

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

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

Cost Breakdown:

Available Rig Capacities	0-25 Tons	26-50 Tons	51+ Tons
Ownership Cost/Hour:	\$21.28	\$37.94	\$47.67
Operating Cost/Hour:	\$26.55	\$50.48	\$56.21
Operator Cost/Hour:	\$20.54	\$20.54	\$20.54
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53
Total Unit Cost/Hour:	\$68.37	\$132.49	\$147.95

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	\$126.01	\$147.95	3	\$821.88	\$443.85	\$750.00
CAT 14M	23.57	\$85.80	\$68.37	1	\$154.17	\$68.37	\$250.00
Cat 627G	41.80	\$154.27	\$132.49	2	\$573.52	\$264.98	\$500.00
Water Tanker, 5,000 Gal.	15.00	\$33.45	\$68.37	1	\$101.82	\$68.37	\$250.00
Atlas Capco DM45/HP - 9.0"	0.00	\$306.46	\$68.37	1	\$374.83	\$68.37	\$250.00
CAT 950H	20.13	\$38.59	\$68.37	1	\$106.96	\$68.37	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$7.98	\$68.37	2	\$152.70	\$136.74	\$500.00
Power Mulcher (Bowie LD-90)	6.00	\$14.98	\$68.37	1	\$83.35	\$68.37	\$250.00
Cat D7R DS Series II LGP	34.57	\$81.02	\$132.49	1	\$213.51	\$132.49	\$250.00

Subtotals: **\$2,582.74 \$1,319.91 \$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	\$99.06	3	\$297.18	\$297.18
Fuel Tanker, 4x2, 170 HP	\$29.70	1	\$29.70	\$29.70
Lube Truck, 4x2, 190 HP	\$35.20	1	\$35.20	\$35.20
Subtotals:			\$362.08	\$362.08

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 *	\$14,351.32
* two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	\$488.81
** 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:	\$14,840	

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description: **Mobilize/Demobilize Equipment for Pond Cleaning**

Site: **New Elk Mine**

Permit Action: **Mid Term 08**

Permit/Job#: **C1981012**

PROJECT IDENTIFICATION

Task #: **077**

State: **Colorado**

Abbreviation: **None**

Date: **8/5/2021**

County: **Las Animas**

Filename: **C012-077**

User: **DC1**

Agency or organization name: **DRMS**

EQUIPMENT TRANSPORT RIG COST

Shift basis: **1 per day**

Cost Data Source: **CRG Data**

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

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

Cost Breakdown:

Available Rig Capacities	0-25 Tons	26-50 Tons	51+ Tons
Ownership Cost/Hour:	\$21.28	\$37.94	\$47.67
Operating Cost/Hour:	\$26.55	\$50.48	\$56.21
Operator Cost/Hour:	\$20.54	\$20.54	\$20.54
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53
Total Unit Cost/Hour:	\$68.37	\$132.49	\$147.95

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	\$83.42	\$132.49	1	\$215.91	\$132.49	\$250.00

Subtotals: **\$215.91** **\$132.49** **\$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	\$86.00	3	\$258.00	\$258.00

Subtotals: **\$258.00** **\$258.00**

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 *	\$1,186.25
'* two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	\$348.30
'** 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:	\$1,535	

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description: **Mobilize/Demobilize Equipment for Pond Removal**

Site: **New Elk Mine**

Permit Action: **Mid Term 08**

Permit/Job#: **C1981012**

PROJECT IDENTIFICATION

Task #: **078**

State: **Colorado**

Abbreviation: **None**

Date: **8/5/2021**

County: **Las Animas**

Filename: **C012-078**

User: **DC1**

Agency or organization name: **DRMS**

EQUIPMENT TRANSPORT RIG COST

Shift basis: **1 per day**

Cost Data Source: **CRG Data**

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

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

Cost Breakdown:

Available Rig Capacities	0-25 Tons	26-50 Tons	51+ Tons
Ownership Cost/Hour:	\$21.28	\$37.94	\$47.67
Operating Cost/Hour:	\$26.55	\$50.48	\$56.21
Operator Cost/Hour:	\$20.54	\$20.54	\$20.54
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53
Total Unit Cost/Hour:	\$68.37	\$132.49	\$147.95

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	\$126.01	\$147.95	1	\$273.96	\$147.95	\$250.00

Subtotals: **\$273.96** **\$147.95** **\$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	\$49.15	1	\$49.15	\$49.15

Subtotals: **\$49.15** **\$49.15**

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 *	\$1,343.54
'* two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	\$66.35
** 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:	\$1,410	

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description: Mobilize/Demobilize Equipment for Site Maintenance

Site: New Elk Mine

Permit Action: Mid Term 08

Permit/Job#: C1981012

PROJECT IDENTIFICATION

Task #: 079

State: Colorado

Abbreviation: None

Date: 8/5/2021

County: Las Animas

Filename: C012-079

User: DC1

Agency or organization name: DRMS

EQUIPMENT TRANSPORT RIG COST

Shift basis: 1 per day

Cost Data Source: CRG Data

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

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

Cost Breakdown:

Available Rig Capacities	0-25 Tons	26-50 Tons	51+ Tons
Ownership Cost/Hour:	\$21.28	\$37.94	\$47.67
Operating Cost/Hour:	\$26.55	\$50.48	\$56.21
Operator Cost/Hour:	\$20.54	\$20.54	\$20.54
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53
Total Unit Cost/Hour:	\$68.37	\$132.49	\$147.95

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	\$30.26	\$68.37	10	\$986.30	\$683.70	\$0.00

Subtotals: **\$986.30** **\$683.70** **\$0.00**

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
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Subtotals:	\$0.00	\$0.00
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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 *	\$3,240.80
'* 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	Hours
Total job cost:	\$3,241	