



STATE OF
COLORADO

Zuber - DNR, Rob <rob.zuber@state.co.us>

Bowie No. 2 Mine Midterm Review by DRMS

1 message

Zuber - DNR, Rob <rob.zuber@state.co.us>

Thu, Oct 3, 2024 at 8:16 AM

To: Basil Bear <basilbear@wolverinefuels.com>, Ryan Wilson <RWilson@wolverinefuels.com>

Cc: "Calle, Marcelo" <mcalles@osmre.gov>, "Kwak, Charlie C" <ckwak@osmre.gov>

Good morning, All.

Please see the attached file with the DRMS midterm review document for permit C-1996-083.

Thank you,
Rob

Rob Zuber, P.E.
Environmental Protection Specialist
Active Mines Regulatory Program



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

I am working remotely and can be reached by cell at 720.601.2276.

Physical Address:

1313 Sherman Street, Room 215
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C1996083 MT6 _DRMS Review Doc_with cover letter and RCE.pdf
4188K



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

1313 Sherman St. Room 215
Denver, CO 80203

October 3, 2024

Basil Bear
Bowie Resources, LLC
P.O. Box 1488
Paonia, CO 81428

**Re: Bowie No. 2 Mine (Permit No. C-1996-083)
Midterm Review No. 6 (MT-6)**

Dear Mr. Bear:

The Division has completed a midterm review of the currently approved Bowie No. 2 Mine permit application package. The review was conducted in accordance with Rules 2.06.2(10), 2.06.3(4), 2.06.5(3), 2.06.7(5), 2.08.3, and 3.02.2(4). A copy of the midterm review document is enclosed.

The midterm review consists primarily of reviewing the permit application, recent findings documents, field inspection reports, recent revisions, annual reports, the current reclamation cost estimate, and the performance bond instrument. The main purpose of this review is to ensure that all areas of operations and permitting are in compliance with the Colorado Surface Coal Mining Reclamation Act.

If you have any questions, please contact me.

Sincerely,

Robert D. Zuber, P.E.
Environmental Protection Specialist
Rob.zuber@state.co.us

Enclosure

cc: Ryan Wilson, Wolverine Fuels
Marcelo Calle, Office of Surface Mining Reclamation and Enforcement
Charlie Kwak, Office of Surface Mining Reclamation and Enforcement



MIDTERM PERMIT REVIEW (MT-06)

for

Bowie Resources, LLC

Bowie No. 2 Mine

C-1996-083



Photo by B. Bowles, 14 November 2023



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

Michael A. Cunningham, Director

Prepared by
Robert D. Zuber, P.E.
Environmental Protection Specialist

October 3, 2024

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

Introduction

This document presents the results of the Midterm Review of the Bowie No. 2 Mine, conducted by the Colorado Division of Reclamation, Mining and Safety (the Division). The Bowie No. 2 Mine is owned and operated by Bowie Resources, LLC (BRL). This review was conducted to fulfill the requirements of the Colorado Surface Coal Mining Reclamation Act (Act), and Rules 2.08.3, 2.06.2(9), 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 Rules.

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 2½ years.

This Midterm Review consisted of a review of the Bowie No. 2 Mine permit application package (PAP) 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. Problems and observations from past Division inspection reports were also considered. The document has seven sections:

- Section I contains a brief description of the mine history and the surrounding environment.
- Section II contains a summary of permit actions since the last Permit Renewal.
- Section III is a summary of the Division's review of the active stipulations attached to the permit.
- Section IV is a summary of the review of any previously approved experimental practices, mountaintop removal variances, variances from approximate original contour (AOC), and variances from contemporaneous reclamation.
- Section V summarizes any enforcement actions issued since the permit was last renewed, and the current status of any actions that were issued.
- Section VI is a summary of the review and a discussion of any problems identified as a result of this review that are required to be resolved.
- Section VII is a summary of the review of the reclamation cost estimate and the performance bond(s) held by the Division.

Section I - Mine History and Descriptions of the Environment, Operation Plan, and Reclamation Plan

Mine Status and History

The original Bowie No. 2 Mine permit application was submitted by BRL on February 12, 1996. The permit was issued on April 4, 1997, with an expiration date of April 4, 2002, and has been renewed five times with a current expiration date of April 4, 2027. The mine is currently active. It was returned to this status (from Temporary Cessation) on September 5, 2019, per request by BRL.

The coal and the surface lands within the present permit area are both federally and privately owned. Of the 10,987 acres of permit area, a total of 404 acres are approved for surface disturbance. Surface disturbance includes facilities areas, roads, six sedimentation ponds, four gob piles, numerous gob vent boreholes, three ventilation shafts, and a unit train loadout.

The original Bowie No. 2 Mine permit application indicated that mining would be conducted in the D Seam using the room and pillar mining method. BRL later changed the mining method to longwall mining in the D seam, followed by the construction of portals and facilities to longwall mine the B-2 coal seam. Subsequent permit revisions have increased the permit and affected areas to continue mining in the B seam. Detailed information regarding the Bowie No. 2 Mine operation is available in the Bowie No. 2 Mine PAP, which can be viewed at the Division office in Denver (1313 Sherman Street) or online at <https://dnrweblink.state.co.us/drms/search.aspx>.

Description of the Environment

The Bowie No. 2 Mine is located on federal and private lands within Delta County, approximately five miles northeast of Paonia, Colorado. The mine permit area is located on lands depicted on the U.S. Geological Survey 7.5-minute Bowie Quadrangle Map, and the Bowie No. 2 Mine portals are located northwest of the Old King Mine portals (also known as the Bowie Mine). The surface facilities are located north and south of Old State Highway 133 near the old town site of Bowie. The mine lies between Hubbard Creek and Stevens Gulch, to the east and west, respectively.

The Bowie No. 2 Mine permit area and adjacent area include a mix of land uses. The lower elevation areas are used for pasture, cropland, orchards, residential and industrial uses. Agricultural uses are served by irrigation water. The higher elevations within and adjacent to the permit area support some rangeland use, and the areas offer abundant wildlife habitat. The lands also support various recreational uses.

Historic and current mining operations also exist in the general area. The Bowie No. 1 Mine is located west of the Bowie No. 2 Mine permit area. The Terror Creek Loadout is located to the south of the Bowie No. 2 Mine permit area, adjacent to the Unit Train Loadout. The reclaimed Blue Ribbon Mine is also located nearby along Hubbard Creek, as are outlying facilities associated with the Sanborn Creek/Elk Creek Mines. Historic coal mines located within and adjacent to the Bowie No. 2 Mine permit boundary include the King Mine, the Gelwick Mine, the Blue Ribbon Mine, and the Farmers' Mine. The former town site of Bowie is located within the Bowie No. 2 Mine permit area.

Geology

The Bowie No. 2 Mine permit area is located in the North Fork Valley of the Gunnison River, near the western margin of the Colorado portion of the Central Rocky Mountains. The elevation of the permit area ranges from about 6,000 feet above sea level to over 8,000 feet above sea level. The general area is situated along the southern flank of the Piceance Creek structural and sedimentary basin. The area is bounded by Larimide structural and physiographic features on the following sides: West Elk and Elk Mountains on the east, the Gunnison Uplift on the south, the Uncompahgre Uplift on the west-southwest, and the Grand Mesa-Piceance Basin on the north.

The coal in the area is situated within Mesaverde formation which contains interbedded sandstones, mudstones, shales, siltstones and coal beds. The Mesaverde formation lies upon the Rollins Sandstone Member of the Iles formation and below the Wasatch formation. The coal bearing member of the Mesaverde formation locally contains up to nine coal seams. These seams are located within a stratigraphic interval of approximately 500 to 600 feet above the Rollins Sandstone. These coal seams are, in ascending order, the A-Seam, the B-1 Seam, the B-2 Seam, the C-Seam, the D-1 Seam, the D-2 Seam, the E-1 Seam, the E-2 Seam and the F-Seam. The B-2 and D-2 Seams are mineable within the permit area.

Hydrology

The permit and adjacent areas are roughly bounded by two perennial streams, Stevens Gulch and Hubbard Creek, and the North Fork of the Gunnison River. These potential receiving waters are located in the west, east, and south areas of the permit area, respectively. The north end of the permit area is generally bounded by hills within the Gunnison National Forest. Terror Creek and West Terror Creek, also perennial streams, run roughly north to south through the central permit area. Tributary to the perennial streams are the following intermittent and ephemeral streams: Stevens Draw, Freeman Gulch, A-Gulch, B-Gulch, C-Gulch, D-Gulch, Iron Point Gulch, Dove Gulch, and Sheep Corral Gulch.

There are numerous stock ponds located in the permit and adjacent areas. All of the ponds are manmade and store less than 20 acre-feet of water, indicating that they are intended for domestic livestock use. The ponds collect spring season runoff and any available seep water.

Groundwater in the area is located within the alluvial deposits along the North Fork of the

Gunnison River and Hubbard and Terror Creeks, within the steeply sloped colluvial deposits found within some of the drainages, and in perched water zones located within the lenticular sandstones of the Mesaverde formation and in the Rollins Sandstone. The Rollins Sandstone is a recognized aquifer in the area.

The groundwater associated with the alluvial deposits of the North Fork of the Gunnison River has been developed for domestic and agricultural uses. The localized groundwater resources associated with the alluvial deposits of Hubbard and Terror Creeks are not significantly developed. The groundwater associated with local colluvial deposits is recharged by snowmelt, and the water discharges through local intermittent springs and seeps. Most of this colluvial water is lost to evaporation.

Bedrock groundwater is not abundant in the permit area. The groundwater of the locally perched bedrock water zones and of the Rollins Sandstone are not significantly developed in the permit and surrounding area, due to relatively poor water quality and low potential quantity yields. The general bedrock groundwater flow direction in the sandstone strata of the Mesaverde formation is from the recharge area near the outcrop of these strata and to the north.

Climatological Information

The average minimum temperature in the area is about 36 degrees (Fahrenheit), with the lowest temperature of -28 degrees recorded in Paonia during 1913. The average high temperature in the area is about 64 degrees (Fahrenheit), with the highest recorded temperature in Paonia of 100 degrees during both 1927 and 1934. The average annual precipitation is 18.50 inches.

Soils Information

Generally, the soils within the disturbed areas are shallow to deep, moderately steep to very steep, well drained stony soils that formed in residuum, colluvium, and alluvium derived from sedimentary rock and rock outcrop. The soils in the upper elevations in the northern portion of the permit area are deep, nearly level to steep, well drained loam and stony loam that formed in outwash from igneous rock.

The areas within the permit area mapped by BRL exhibit the following soils: the Absarokee (Beenon-Absarokee Association), the Persayo, the Torriorthents, Fughes loam, Cochetopa stony loam, Delson loam, Work loam, Progresso loam, Potts loam, Glenton fine sandy loam, Kech-Rock Outcrop, Saraton-Agua-Fria complex, Haplaquolls, and fluvents.

Vegetation Information

Major plant communities within the permit area are:

- Juniper woodland, mixed shrub and disturbed meadow in the vicinity of the mine haul road, benches and facilities, and Gob Piles #1, #2, and #4. The juniper woodland and mixed shrub communities exhibit such plant species as snowberry, Gambel oak and serviceberry. The meadow community is dominated by annual and noxious plant species,

such as bindweed, cheatgrass and Japanese brome, but alfalfa and Kentucky bluegrass are also present;

- Pasture, irrigated hayfield, and orchard in the area affected by the unit train loadout and Gob Pile #3;
- Mountain shrub, aspen, and spruce-fir in the areas to be affected by gob vent boreholes.

Fish and Wildlife Information

Detailed fish and wildlife information is presented within Section 2.04.11 and Volume III, Exhibit 9 of the Bowie No. 2 Mine PAP. This summary is derived from that section.

The Bowie No. 2 Mine area is located in an area designated as critical range for deer and elk. The surrounding cliffs are possible nesting and/or roosting sites for many species of raptors. Colorado Parks and Wildlife (formerly Division of Wildlife) and the United States Fish and Wildlife Service were both involved with the Bowie No. 2 Mine permit application review, and correspondence from both agencies is contained in the PAP.

Description of the Operation and Reclamation Plans

The following summary is derived from the information presented in Section 2.05 of the Bowie No. 2 Mine PAP.

The D-2 coal seam was accessed from three entries, which were constructed at an elevation of approximately 6,880 feet above sea level. This is the elevation where the D-2 coal seam generally outcrops within the Bowie No. 2 Mine permit area, and this elevation is approximately 900 feet above the old State Highway 133. The main entries were driven down-dip to the north, with the sub-mains being driven east and west from the mains.

The B-2 coal seam was accessed through three mine entries. The B-2 coal seam portals are located below and south/southeast of the D-2 coal seam portals, at an approximate elevation of 6,630 feet. The development mining and longwall mining of the B-2 coal seam were approved in Permit Revision No. 8. The B-2 coal seam mine plan was amended in Permit Revision No. 9. Mining of the B-2 coal seam was subsequently expanded with Permit Revisions 10, 11, 12, 13, and 14.

In the past, total annual coal production was capped at six million tons per year. Production data from the Colorado Mine Safety and Training Program shows an average production rate of 3.5 million tons over the 2001-2013 period. Currently, the mine is not producing coal.

The mine facilities have been constructed near the old Bowie town site. Facilities include:

- Haul and access roads
- Conveyor belt system
- Vent shafts
- Truck loadout
- Unit train loadout

- Coal stockpiles
- Refuse piles (also known as gob piles)
- Drainage and sediment control facilities
- Portable methane pumps used at gob vent boreholes

For the currently approved operations, all available topsoil has been salvaged and stored prior to facility construction. Salvaged topsoil from the facilities and refuse areas was placed in stockpiles A, D, E, and F.

The Bowie No. 2 Mine will be reclaimed to the post-mining land uses of rangeland, wildlife habitat and industrial/commercial. The approval of Permit Revision No. 6 added cropland and pastureland to the post-mining land uses. All facilities areas and some roads will be reclaimed to reestablish the approximate original contour of the land. All portals, shafts and monitoring wells will be backfilled, in accordance with the applicable rules and the reclamation details provided within the PAP. Some of the roads which existed prior to mining will be retained to serve the post-mining land use.

Topsoil will be redistributed on all disturbed areas. The soils will be tested for nutrient deficiencies, and fertilizers will be applied as needed.

Revegetation will be implemented using the approved seed mixes. Several permanent seed mixes are approved for use in reclamation, and one seed mix has been approved for temporary stabilization during the operational phase. The permanent seed mixes will be applied to the following areas: meadow, upland (non-USDAFS lands), mountain shrub (USDAFS), aspen (USDAFS), irrigated hayland, pasture, concentrated shrub clumps, and public lands managed by the U.S. Bureau of Land Management. Mulch will be applied at an approximate rate of 4,000 pounds per acre.

Hydrologic and subsidence monitoring have occurred throughout the operational and reclamation phases of the Bowie No. 2 Mine project. Hydrologic monitoring continues, while subsidence monitoring at the site has been terminated. While deleterious hydrologic or subsidence-related impacts are not anticipated, the Bowie No. 2 Mine PAP contains mitigation plans to be implemented if negative impacts are detected.

Section II - Revisions to the Permit

No revisions have been reviewed by the Division since a decision was proposed to approve the previous permit renewal (RN-05) on January 12, 2023.

Section III - Status of Stipulations

The stipulation history for the Bowie No. 2 Mine was reviewed as part of the midterm review. No stipulations have been placed on the permit since the last renewal. Stipulation No. 1

through Stipulation No. 37 have been complied with or terminated.

Stipulation No. 38 through Stipulation No. 44 were part of the conditions to approve Permit Revision No. 14, related to surface disturbance of lands within the Spruce Stomp Lease Area (COC-75916). They include requirements for baseline vegetation information, baseline soils resource information, cultural and historic information, plans related to water rights, rehabilitation or replacement of groundwater monitoring points, groundwater points of compliance, and management of mining refuse. Most of these stipulations are categorized as “Future.” The Spruce Stomp Lease Area has not been affected by mining activities due to BRL not obtaining the right of entry for the area. The exception to the “Future” category, Stipulation No. 42, required that BRL rehabilitate or replace two groundwater monitoring points. The stipulation was complied with when MR-172 was approved on January 27, 2015.

Stipulation No. 45 stated that the Division would allow the construction of the portion of the Section 5 Road proposed under MR-165 within the Spruce Stomp Lease Area as a one-time exception to the existing Stipulation No. 38. BRL submitted baseline vegetation information, and the stipulation was complied with when TR-101 was approved on June 8, 2015.

Section IV – Permit Variances and Specific Approvals

The Division has not approved experimental practices, mountaintop removal variances, variances from approximate original contour (AOC), or variances from contemporaneous reclamation at the Bowie No. 2 Mine.

Section V - Enforcement Actions

There have been no enforcement actions issued at the Bowie No. 2 Mine since approval of the last permit renewal (RN-05) in January 2023.

Section VI - Identified Issues and Required Revisions

The following items must be addressed by BRL, and, as appropriate, a minor revision should be submitted with revised PAP text or other documents. The first two are standard requests for midterm reviews. The third item was identified during the course of this midterm review.

- 1. If there have been any changes to the ownership and control information for BRL since RN-05, BRL needs to provide updated identification of interests information as required by Rule 2.03.4.**
- 2. If there have been any changes to Maps 1 and 2 (Volume II) since RN-05, BRL needs to update these maps. Also, as necessary, please update any access agreements (Volume III).**
- 3. For this adequacy item, please provide an explanation and (as necessary) revise the text in the PAP. The following text is included on page 2.05-64 in the PAP: “Reclamation work**

will be initiated ... when the applicant deems the mine to no longer be an economically viable operation.” Please explain how this statement correlates to the current situation at the mine site. If appropriate, please explain that BRL is reclaiming gob piles, but this is interim reclamation and not final reclamation. Please also explain if BRL is only reclaiming a portion of Gob Pile #2 in 2024, but the top portion will be left un-reclaimed indefinitely. Also, the text should possibly be revised because it appears that the following language on page 2.05-64 is not accurate.

- **“Reclamation of the site will take two construction seasons.”**
- **“The first phase of reclamation is the removal of buildings and structures from the site.”**

Section VII – Reclamation Liability and Performance Bonding

The Division estimates the current reclamation liability for mining operations to be \$15,253,596.00. The reclamation cost estimate summary is attached to this document. The detailed reclamation cost estimate will be forwarded to BRL and is also available for review at the Division office.

The reclamation cost estimate has increased since the last reclamation cost estimate update for this permit (with RN-05) due to two factors:

- The need for revisions and additions to the tasks within the estimate
- Increases in unit costs with the Division’s reclamation cost estimating software, CIRCES

The revisions/additions resulted from an assessment of the previous reclamation cost estimate, the PAP, and on-the-ground conditions performed by the Division in 2023 and early 2024. Revisions and additions to the tasks within the estimate include the following:

- The Division added Task 002A for grading the Utility Bench.
- The Division added Task 101A for hauling riprap to the B Portal area for channel construction.
- The Division added Task 115A for moving topsoil to Pond B.
- Some demolition costs were revised, based on field estimates of structure sizes.
- The Division added demolition costs (Task 165A) for the Upland Conveyor and the Bent Protectors at the Coal Stockpile pad.

The majority of the increase in costs since RN-05 is due to the increase in unit costs in CIRCES, including the following:

- Truck/Haul tasks increased approximately 27 percent.
- Dozer tasks increased approximately 29 percent.
- Scraper tasks increased approximately 36 percent.
- Ripper tasks increased approximately 26 percent.
- Revegetation tasks increased approximately 48 percent.
- Demolition costs increased approximately 23 percent.

The Division currently holds corporate sureties with a total amount of \$11,448,977.58 for the Bowie No. 2 Mine. This amount is not sufficient to assure completion of the remaining reclamation work at the site if the work had to be performed by the Division, and additional bond will be required. The Division will send a separate notice to BRL of the proposed bond adjustment and the opportunity to participate in an informal conference on the adjustment in accordance with Rule 3.02.2(4).

This concludes the 2024 Midterm Review of the Bowie No. 2 Mine. **Please submit any required revision applications responding to the issues outlined in Section VI of this document on or before December 3, 2024.**

RECLAMATION COST ESTIMATE

COST SUMMARY WORK

Task description: COST SUMMARY

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-000

User: RDZ

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Pull back and Haul Portal Bench Fill Material to Cut Slope	TRUCK1	1	609.56	\$614,393
002	Regrade D-Portal Bench	DOZER	4	158.03	\$311,584
002A	Regrade Utility Bench	DOZER	2	7.81	\$7,701
005	Rip and Regrade Material Storage Area at Gob Pile	DOZER	4	1.73	\$3,412
006	Pull Back Material @ Old Truck Loadout Material Storage Area	EXCAVATE	2	21.27	\$21,129
007	Regrade Old Truck Loadout Material Storage Area	DOZER	4	8.21	\$16,185
008	Pull Back Material at Truck Loadout/Coal Stockpile	EXCAVATE	2	147.57	\$146,588
009	Regrade New Truck Loadout and Coal Stockpile	DOZER	4	32.38	\$63,844
010	Pull Material Back onto Train L/O Facil. and Railbed Benches	EXCAVATE	2	431.74	\$428,860
011	Regrade Train Loadout Facilities and Railbed Benches	DOZER	4	171.56	\$338,250
012	Backfill and Regrade Train L/O Overland Conveyor Corridor	DOZER	4	5.62	\$11,071
013	Haul Fill from Upper Mat'l Strge Area to B-Seam Portal Bench	SCRAPER1	1	60.63	\$64,356
014	Haul Fill fr Adj. Mat'l Storage Area to B-Seam Portal Bench	TRUCK1	1	89.33	\$69,635
015	Backfill and Regrade B-Seam Portal Bench	DOZER	4	38.70	\$81,996
019	Regrade Drill Pads from MRs and TRs	DOZER	4	8.01	\$15,796
020	Regrade Material Storage Area from TR-29	DOZER	4	0.48	\$946
021	Backfill and Regrade New Prep Plant Bench	DOZER	4	36.99	\$72,936
022	Replace Fill from Material Storage Area to Water Tank Bench	SCRAPER1	1	1.51	\$1,604
023	Regrade Borrow Area	DOZER	4	19.14	\$37,743
025	Regrade Upper Parking Lot Expansion Area	EXCAVATE	1	3.65	\$1,817
027	Haul Rock to Vent Shafts for Disposal	TRUCK1	1	18.81	\$8,285
036	Spread Uncompacted Refuse on Gob Pile #2	DOZER	4	89.54	\$176,536
037	Spread Uncompacted Refuse at Gob Pile #3	DOZER	4	100.73	\$198,603
038	Compact Material Hauled to Gob Pile #1	COMPACT	1	11.85	\$4,165
039	Compact Refuse on Gob Pile #2	COMPACT	1	135.94	\$47,764
040	Haul refuse out of Gob Pile #2/#3 drying areas for placement	TRUCK1	1	742.53	\$507,528
041	Compact Refuse at Gob Pile #3	COMPACT	1	147.84	\$51,943
042	Haul Topsoil from Stockpile Area to Gob Pile #1	SCRAPER1	1	2.18	\$2,318
043	Place 3.5' of Coverfill on Gob Pile #1	SCRAPER1	1	15.80	\$16,775

044	Place Coverfill from Stockpiles on Gob Pile #2	SCRAPER1	1	173.74	\$184,413
045	Haul Cover Material from Gob Pile #3 to Gob Pile #2	TRUCK1	1	235.64	\$103,780
045A	Distribute Gob Pile #2 cover hauled by T/L	DOZER	1	375.26	\$184,970
045B	Haul Cover Material from Borrow Area #1 to Gob Pile #2	TRUCK1	1	50.03	\$9,594
045C	Haul Cover Material from Borrow Area #2 to Gob Pile #2	TRUCK1	1	228.88	\$43,892
045D	Haul Cover Material from Borrow Area #3 to Gob Pile #2	TRUCK1	1	41.55	\$7,968
045E	Haul Cover Material from B Portal Storage to Gob Pile #2	TRUCK1	1	108.83	\$47,930
046	Place 2.5' of Coverfill on Gob Pile #3, from stockpile	SCRAPER1	1	196.56	\$208,626
047	Push temp coverfill mat. to face of Gob pile #3	DOZER	1	13.42	\$6,121
050	Compact Backfilled D-Portal Bench, Roads, & Utility Corridor	COMPACT	1	511.43	\$179,686
051	Compact Backfilled Material at Truck Loadout/Coal Stockpile	COMPACT	1	56.10	\$19,713
052	Compact Backfilled Train Loadout	COMPACT	1	191.23	\$67,187
053	Compact B-Seam Portal Bench	COMPACT	1	113.99	\$40,052
060	Rip Utility Bench	RIPPER	4	0.30	\$656
061	Rip D-Portal Bench	RIPPER	4	3.71	\$7,870
062	Rip Truck Loadout/Coal Stockpile Area	RIPPER	4	2.06	\$4,372
063	Rip Regraded Mine Area Prior to Topsoil Replacement	RIPPER	4	59.09	\$125,198
064	Rip Train Loadout Facilities and Railbed Benches	RIPPER	4	7.69	\$16,298
065	Rip B-Seam Portal Bench	RIPPER	4	3.71	\$7,870
066	Rip Rock Laydown Pad Topsoil	RIPPER	1	0.43	\$228
070	Rip Haul Roads (Portion Being Reclaimed) & Old Truck Loadout	RIPPER	4	116.47	\$244,890
071	Remove Haul Road Subbase and Place on Gob Pile #1	SCRAPER1	1	30.02	\$31,859
072	Rip Truck Loadout Road	RIPPER	4	2.14	\$4,513
073	Haul Truck Loadout Subbase to Gob Pile #1	SCRAPER1	1	12.75	\$13,529
074	Rip Upper Haul Road Asphalt Prior to Road Narrowing	RIPPER	4	2.95	\$6,205
075	Pull Back/Haul Fill Mat'l from Upper Haul Rd Narrowing	TRUCK1	1	141.47	\$142,593
076	Regrade Narrowed Section of Haul Road	DOZER	4	26.11	\$51,478
077	Rip Gob Pile #1 Road	RIPPER	4	2.35	\$4,961
078	Regrade Gob Pile #1 Road	DOZER	4	5.17	\$10,944
079	Rip Access Road	RIPPER	4	0.73	\$1,549
080	Haul Access Road Surface to Gob Pile #1	SCRAPER1	1	4.86	\$5,157
081	Regrade Access Road	DOZER	4	1.79	\$3,537
083	Backfill and Regrade Haul Road to Gob Pile #2	DOZER	4	0.44	\$928
084	Rip Lower Haul Road	RIPPER	4	0.95	\$2,022
085	Regrade Lower Haul Road	DOZER	4	36.46	\$77,236
086	Regrade Light Use Roads from MRs and TRs	DOZER	4	60.96	\$129,157
090	Finish Grade Disturbed Mine Area	GRADER	1	129.92	\$32,799
091	Finish Grade Train Loadout	GRADER	1	16.91	\$4,270
092	Finish Grade B-Seam Portal Bench	GRADER	1	6.91	\$1,747
093	Finish Grade Gob Piles #1, #2, #3, and #4	GRADER	1	60.42	\$15,255
095	Backfill and Regrade Pond B	DOZER	1	7.63	\$4,039
096	Backfill and Regrade Pond C	DOZER	1	11.61	\$6,015

097	Backfill and Regrade Gob Pile Pond D	DOZER	1	8.18	\$4,239
098	Backfill and Regrade Pond F	DOZER	1	10.87	\$5,630
099	Backfill and Regrade Pond J	DOZER	1	24.64	\$12,764
100	Backfill and Regrade Pond K	DOZER	1	1.52	\$789
101	Excavate for Post-mining Channel at B-Seam Portals	EXCAVATE	2	0.63	\$626
101A	Haul riprap 800' to B Portal area for channel construction	TRUCK1	1	1.77	\$1,787
102	Install Riprap, Gravel, and Geotextile in B-Seam Channel	POSTMININ G	1	43.66	\$10,694
106ag	Plug and seal AW-15	BOREHOLE	1	6.00	\$1,433
106ah	Plug and seal AW16	BOREHOLE	1	6.00	\$1,423
106ai	Plug and seal AW-17	BOREHOLE	1	6.00	\$1,411
106aj	Plug and seal BD-101	BOREHOLE	1	4.00	\$925
106ak	Plug and seal BD-103	BOREHOLE	1	6.00	\$1,377
106al	Plug and seal BD-105	BOREHOLE	1	7.00	\$1,617
106am	Plug and seal BD-105A	BOREHOLE	1	6.00	\$1,371
106an	Plug and seal BD-102	BOREHOLE	1	6.00	\$1,367
106ao	Plug and seal BL-101A	BOREHOLE	1	6.00	\$1,367
106ap	Plug and seal BL-102	BOREHOLE	1	6.00	\$1,369
106aq	Plug and seal BL-102A	BOREHOLE	1	6.00	\$1,367
106bb	Plug and seal GVB-6A	BOREHOLE	1	11.00	\$6,677
106cn	Plug and seal MR133 Utility Hole #1	BOREHOLE	1	10.00	\$7,643
106co	Plug and seal MR133 Utility Hole #2	BOREHOLE	1	10.00	\$7,643
106cp	Plug and seal MR133 Utility Hole #3	BOREHOLE	1	10.00	\$7,643
106cq	Plug and seal MR133 Utility Hole #4	BOREHOLE	1	10.00	\$7,701
106cy	Plug and seal GVB-D-3A (aka GVB-D3-A)	BOREHOLE	1	12.00	\$5,695
106db	Plug and seal GVB-D-7A (aka GVB-D7-A)	BOREHOLE	1	10.00	\$3,726
106dd	Plug and seal GVB-D-5A	BOREHOLE	1	9.00	\$3,099
106do	Plug and seal GVB-D-6A (aka GVB-D6-A)	BOREHOLE	1	10.00	\$3,713
106dp	Plug and seal GVB-D-6B (aka GVB-D6-B)	BOREHOLE	1	6.00	\$5,500
106dq	Plug and seal GVB-D-7B (aka GVB-D7-B)	BOREHOLE	1	11.00	\$4,728
106du	Plug and seal GVB-D-8C (aka GVB-D8-C)	BOREHOLE	1	12.00	\$5,807
106ed	Plug and seal P-TC-03-01 (aka TC-03-01)	BOREHOLE	1	10.00	\$4,418
106ee	Plug and seal P-TC-03-02 (aka TC-03-02)	BOREHOLE	1	10.00	\$4,418
106gb	Plug and seal GVB-17C (aka GVB-B17C)	BOREHOLE	1	12.00	\$12,499
106gc	Plug and seal GVB-17D (aka GVB-B17D)	BOREHOLE	1	12.00	\$14,410
106gd	Plug and seal GVB-17E (aka GVB-B17E)	BOREHOLE	1	12.00	\$17,270
106gi	Plug and seal GVB-17F (aka GVB-B17F)	BOREHOLE	1	12.00	\$17,628
106gn	Plug and seal AW-1	BOREHOLE	1	7.00	\$1,770
106go	Plug and seal AW-2	BOREHOLE	1	6.00	\$1,454
106gp	Plug and seal AW-3	BOREHOLE	1	7.00	\$1,819
106gq	Plug and seal AW-4	BOREHOLE	1	6.00	\$1,454
106gr	Plug and seal AW-5	BOREHOLE	1	6.00	\$1,520
106gs	Plug and seal AW-6	BOREHOLE	1	7.00	\$1,797
106gt	Plug and seal AW-7	BOREHOLE	1	8.00	\$1,914
106gu	Plug and seal AW-8	BOREHOLE	1	6.00	\$1,393
106gv	Plug and seal AW-9	BOREHOLE	1	6.00	\$1,406
106gw	Plug and seal AW-11	BOREHOLE	1	6.00	\$1,388
106gx	Plug and seal AW-12	BOREHOLE	1	6.00	\$1,380
106gy	Plug and seal AW-13	BOREHOLE	1	6.00	\$1,388
106gz	Plug and seal AW-14	BOREHOLE	1	6.00	\$1,367

106hd	Plug and seal DH-13	BOREHOLE	1	12.00	\$4,327
106he	Plug and seal DH-15	BOREHOLE	1	8.00	\$2,144
106hf	Plug and seal DH-15	BOREHOLE	1	9.00	\$2,689
106hg	Plug and seal DH-25	BOREHOLE	1	9.00	\$2,588
106hq	Plug and seal DH-34C	BOREHOLE	1	7.00	\$1,812
106hr	Plug and seal DH-38	BOREHOLE	1	10.00	\$2,967
106hs	Plug and seal DH-39	BOREHOLE	1	8.00	\$2,085
106hv	Plug and seal CWI-DH-47	BOREHOLE	1	12.00	\$5,593
106hw	Plug and seal CWI-DH-48	BOREHOLE	1	12.00	\$6,244
106hx	Plug and seal DH-49	BOREHOLE	1	9.00	\$2,536
106if	Plug and seal DH-57B (aka 98-57B)	BOREHOLE	1	12.00	\$4,083
106ij	Plug and seal CWI-DH-60 (aka Mon Well)	BOREHOLE	1	12.00	\$3,099
106ip	Plug and seal DH-67B	BOREHOLE	1	10.00	\$2,684
106iq	Plug and seal DH-67-D	BOREHOLE	1	9.00	\$2,259
106ir	Plug and seal DH-67-Abv	BOREHOLE	1	8.00	\$1,939
106it	Plug and seal CWI-DH-69 (aka B-1 Mon Well)	BOREHOLE	1	12.00	\$3,456
106iu	Plug and seal CWI-DH-70 (aka B-1 Mon Well)	BOREHOLE	1	11.00	\$3,577
106iy	Plug and seal 2010-1B	BOREHOLE	1	12.00	\$4,649
106iz	Plug and seal 2010-1SS	BOREHOLE	1	12.00	\$4,519
110	Replace Topsoil from Stockpile A to Portal/Utility Bench	SCRAPER1	1	652.39	\$692,450
111	Replace Topsoil from Stockpile A to Truck Loadout/Coal Stkpl	SCRAPER1	1	45.95	\$48,768
112	Replace Topsoil from Stockpile F to Train Loadout	SCRAPER1	1	39.98	\$42,434
113	Replace Topsoil from Stockpile A to B-Seam Portal Bench	SCRAPER1	1	87.66	\$93,042
115	Replace Topsoil from Stockpile D to Pond C and Pond D	SCRAPER1	1	13.12	\$13,922
115A	Replace Topsoil from Stockpile F to Pond B	SCRAPER1	1	14.48	\$15,371
116	Replace topsoil from Stockpile to Pond J	DOZER	1	3.95	\$2,095
117	Replace topsoil from Stockpile E to Pond F	SCRAPER1	1	2.15	\$2,286
118	Replace topsoil from Stockpile F to Pond K	SCRAPER1	1	1.92	\$2,035
119	Replace topsoil fm stockpile to MR/TR Light-Use Roads	DOZER	4	25.96	\$54,995
120	Replace topsoil from stockpiles to MR/TR drill pads	DOZER	4	27.04	\$56,027
121	Replace topsoil from Stockpile A to Prep Plant Bench	SCRAPER1	1	22.41	\$23,787
122	Replace topsoil from stockpile to Material Storage Area	DOZER	4	0.18	\$388
123	Replace topsoil from Stockpile E to Gob Pile #2	SCRAPER1	1	83.69	\$88,833
124	Replace Topsoil from Stockpile D to Gob Pile #4	SCRAPER1	1	7.01	\$7,443
125	Replace topsoil from stockpile to Gob Pile #3	SCRAPER1	1	85.33	\$90,572
126	Replace topsoil from stockpile to Haul Road	DOZER	4	0.17	\$355
127	Replace topsoil from stockpile to Water Tank Bench	SCRAPER1	1	1.71	\$1,816
128	Replace topsoil from Stockpile G to TR35 road/pad	SCRAPER1	1	5.01	\$5,321
129	Replace topsoil from stockpile to Borrow Area	DOZER	4	5.44	\$11,529
130	Replace topsoil fm stockpile to Upper Parking Lot Expansion	DOZER	1	0.46	\$228
140	Seal Portals and Shafts - Bulkhead Removed from Costs	MINESEAL	1	0.00	\$55,200
150	Drill Seed Mix 3 on Disturbed Area	REVEGE	1	225.02	\$970,858

151	Drill Seed Drill Pads	REVEGE	1	82.97	\$200,547
152	Drill Seed Lt-Use Roads to Drill Pads and Terror Creek	REVEGE	1	62.01	\$149,885
154	Broadcast Seed Mix 3 on Gob Pile #3	REVEGE	1	60.63	\$198,658
155	Drill seed Hubbard Creek Vent Shaft Pad	REVEGE	1	1.20	\$2,901
156	Drill Seed Rock Laydown Area	REVEGE	1	0.50	\$483
157	Weed Control Over 10-Year Liability Period	REVEGE	1	400.00	\$66,847
165	Demolish and Remove all Structures	DEMOLISH	1	160.00	\$2,233,883
165A	Additional demolition added with MT-06	DEMOLISH	1	160.00	\$103,403
170	Proctor Testing of Backfill (5 tests)	SITEMAINT ENANCE	1	0.00	\$702
171	Nuclear Density Testing of Backfill	SITEMAINT ENANCE	1	0.00	\$133,901
172	Water Truck for Moisture Augmentation of Backfill Material	MISCTRUK	1	1,437.02	\$176,811
173	Site Maintenance - Ten Years	SITEMAINT ENANCE	1	292.00	\$255,335
174	Support Equipment for Scraper Hauling	SITEMAINT ENANCE	1	449.16	\$169,552
180	Mobilize/Demobilize Equipment for First Construction Season	MOBILIZE	1	12.00	\$61,331
181	Mobilize/Demobilize Equipment for Second Construction Season	MOBILIZE	1	12.00	\$61,331
182	Mobilize/Demoblize Equipment for Pond Removal	MOBILIZE	1	6.50	\$5,980
183	Mobilize/Demobilize Equipment for Yearly Site Maintenance	MOBILIZE	1	14.00	\$31,605
241	Regrade Terror Creek Light-Use Road	DOZER	1	29.73	\$13,560
242	Replace Topsoil from Stockpile to Terror Creek Lt-Use Road	DOZER	1	22.45	\$10,239
261	Concrete Plug and Backfill Terror Creek Vent Shaft	MINESEAL	1	40.00	\$92,335
301	Reseed Add'l Disturbance from Utility Boreholes at Fan Bench	REVEGE	1	1.00	\$943
302	Regrade Fan Bench - Utility Borehole Mudpit Add'l Dist.	DOZER	1	4.06	\$1,850
352	Re-topsoil Pitkin Mesa Pipeline corridor	DOZER	1	10.60	\$4,836
353	Reseed Pitkin Mesa Pipeline Corridor	REVEGE	1	2.00	\$4,834
369	Seal Well DH-67blw	BOREHOLE	1	12.00	\$9,167
374	Seal CWI-DH-58A	BOREHOLE	1	12.00	\$10,503
379	Regrade Section 5 Road	DOZER	1	12.88	\$5,873
380	Re-topsoil Section 5 Road	DOZER	1	5.46	\$2,492
381	Reseed Section 5 road	REVEGE	1	2.00	\$2,949
390	Remove Culvert C27 (from TR-119)	DEMOLISH	1	0.25	\$435
<u>SUBTOTALS:</u>				11449.53	\$11,952,870

INDIRECT COSTS**OVERHEAD AND PROFIT:**

Liability insurance: 2.02
 Performance bond: 1.05
 Job superintendent: 5,633.08
 Profit: 10.00

Total = \$241,448
 Total = \$125,505
 Total = \$446,534
 Total = \$1,195,287
TOTAL O & P = \$2,008,774

CONTRACT AMOUNT (direct + O & P) = \$13,961,644

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	<u>\$500</u>	Total =	<u>\$500</u>
Engineering work and/or contract/bid preparation:	<u>4.25</u>	Total =	<u>\$593,370</u>
Reclamation management and/or administration:	<u>5.00</u>		<u>\$698,082</u>

CONTINGENCY: 0.00 Total = \$0

TOTAL INDIRECT COST = \$3,300,726

TOTAL BOND AMOUNT (direct + indirect) = \$15,253,596

TRUCK/LOADER TEAM WORKTask description: **Pull back and Haul Portal Bench Fill Material to Cut Slope**Site: **Bowie No. 2 Mine**Permit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 001State: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-001User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Shift basis: 1 per day

Equipment Description	
Truck Loader Team -Truck:	Cat 773F
-Loader:	Cat 365C L 13'-7" Stick
Support Equipment -Load Area:	NA
-Dump Area:	NA
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	NA	NA	NA	NA
Ownership cost/hour:	\$128.28	\$244.29	NA	NA	NA	NA
Operating cost/hour:	\$102.12	\$218.49	NA	NA	NA	NA
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Operator cost/hour:	\$25.24	\$33.87	NA	NA	NA	NA
Unit Subtotals:	\$255.64	\$496.65	NA	NA	NA	NA
Number of Units:	2	1	0	0	0	0
Group Subtotals:	Work: \$1,007.93		Support: \$0.00		Maint: \$0.00	

Total work team cost/hour: **\$1,007.93****MATERIAL QUANTITIES**Initial volume: 260,953

CCY

Swell factor: 1.165Loose volume: **304,010**

LCY

Source of estimated volume: Operator EstimateSource of estimated swell factor: Cat HandbookMaterial Purchase Cost: \$0.00Total Cost: \$0.00**HOURLY PRODUCTION****Truck Capacity:****Truck Payload (weight) Basis:**Material weight: 2,900 Pounds/LCYDescription: Decomposed rock - 50% Rock, 50% EarthRated Payload: 122,520 PoundsPayload Capacity: 42.25 LCY

Truck Bed (volume) Basis:

Struck Volume:	35.00	LCY
Heaped Volume:	46.50	LCY
Average Volume:	40.75	LCY
Adjusted Volume:	42.25	LCY

Final Truck Volume Based on Number of Loader Passes: 42.26 LCY

Loading Tool Capacity

Bucket Size Class: Large

Rated Capacity:	6.900	LCY (heaped)
Bucket Fill Factor:	0.875	Loose material - 1" and over (85 - 90%) 0.875
Adjusted Capacity:	6.038	LCY

Job Condition Corrections:

Site Altitude (ft.): 6900 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	

Loading Tool Cycle Time: Number of Loading Tool Passes Required to Fill Truck: 7 passes

Excavators and Front Shovels:

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

Track Loaders – Material Description: _____

Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100

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

Cycle Time Factors		Factor (min.)	Source
Material:	NA	NA	(Cat HB)
Stockpile:	NA	NA	(Cat HB)
Truck Ownership:	NA	NA	(Cat HB)
Operation:	NA	NA	(Cat HB)
Dump Target:	NA	NA	(Cat HB)
Net Cycle Time Adjustment:		NA	minutes
Adjusted Loader Cycle Time:		0.570	minutes
Net Load Time per Truck:		3.520	minutes

Truck Cycle Time:

Truck Exchange Time:	0.70	Minutes	Adjusted for site altitude:	0.700	Minutes
Truck Load Time:	3.520	Minutes	Adjusted for site altitude:	3.520	Minutes
Truck Maneuver and Dump Time:	1.10	Minutes	Adjusted for site altitude:	1.100	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	600.00	17.00	3.00	20.00	379	1.588

Haul Time: **1.588** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	600.00	-17.00	3.00	-14.00	1377	0.566

Return Time: **0.566** minutesTotal Truck Cycle Time: **7.474** minutes

Loading Tool unit
 Production 600.89 LCY/Hour Adjusted for job efficiency: 498.74 LCY/Hour
 Truck Unit Production
339.28 LCY/Hour Adjusted for job efficiency: 281.60 LCY/Hour

Optimal No. of Trucks: 2 Truck(s) Selected Number of Trucks: 2 Truck(s)

Adjusted hourly truck team production: 563.20 LCY/Hour
 Adjusted single truck/loader team production: 498.74 LCY/Hour
 Adjusted multiple truck/loader team production: **498.74** LCY/Hour

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: **609.56** HoursUnit cost: \$2.021 /LCY Total job cost: **\$614,393**

BULLDOZER WORKTask description: **Regrade D-Portal Bench**Site: **Bowie No. 2 Mine**Permit Action: **MT6**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **002**State: **Colorado**Abbreviation: **None**Date: **9/24/2024**County: **Delta**Filename: **C083-002**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D10T - 10SU**Horsepower: **574**Blade Type: **Semi-Universal**Attachment: **NA**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$257.39	NA
Operating Cost/Hour:	\$196.93	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.59	NA

Total unit Cost/Hour: **\$492.91**Total Fleet Cost/Hour: **\$1,971.62****MATERIAL QUANTITIES**Initial Volume: **260,593**Swell factor: **1.165**Loose volume: **303,591 LCY**Source of estimated volume: **Operator Estimate**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **100 feet**Unadjusted hourly production: **1,718.9 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **10 %**Average site altitude: **6,900 feet**Material weight: **2,900 lbs/LCY**Weight description: **Decomposed rock - 50% Rock, 50% Earth****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.2794

Adjusted unit production: 480.26 LCY/hr

Adjusted fleet production: **1921.04** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$1.026/LCY

Total job time: **158.03** Hours

Total job cost: **\$311,584**

BULLDOZER WORKTask description: **Regrade Utility Bench**Site: **Bowie No. 2 Mine**Permit Action: **MT6**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **002A**State: **Colorado**Abbreviation: **None**Date: **9/26/2024**County: **Delta**Filename: **C083-002A**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D10T - 10SU**Horsepower: **574**Blade Type: **Semi-Universal**Attachment: **NA**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$257.39	NA
Operating Cost/Hour:	\$196.93	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.59	NA

Total unit Cost/Hour: **\$492.91**Total Fleet Cost/Hour: **\$985.81****MATERIAL QUANTITIES**Initial Volume: **10,300**Swell factor: **1.165**Loose volume: **12,000 LCY**Source of estimated volume: **Operator Estimate**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **50 feet**Unadjusted hourly production: **2,748.7 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **10 %**Average site altitude: **6,900 feet**Material weight: **2,900 lbs/LCY**Weight description: **Decomposed rock - 50% Rock, 50% Earth****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.2794

Adjusted unit production: 767.99 LCY/hr

Adjusted fleet production: **1535.98** LCY/hr

JOB TIME AND COST

Fleet size: 2 Dozer(s)

Unit cost: \$0.642/LCY

Total job time: **7.81** Hours

Total job cost: **\$7,701**

BULLDOZER WORKTask description: **Rip and Regrade Material Storage Area at Gob Pile**Site: **Bowie No. 2 Mine**Permit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 005State: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-005User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D10T - 10SUHorsepower: 574Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$257.39</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$196.93</u>	<u>100</u>
Ripper own. Cost/Hour:	<u>\$0.00</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$38.59</u>	<u>NA</u>

Total unit Cost/Hour: \$492.91Total Fleet Cost/Hour: **\$1,971.62****MATERIAL QUANTITIES**Initial Volume: 3,630Swell factor: 1.165Loose volume: **4,229 LCY**Source of estimated volume: Map 15-1Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 100 feetUnadjusted hourly production: 1,718.9 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: 0 %Average site altitude: 6,000 feetMaterial weight: 2,900 lbs/LCYWeight description: Decomposed rock - 50% Rock, 50% Earth**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	<u>0.750</u>	<u>(AVG.)</u>
Material consistency:	<u>0.900</u>	<u>(CAT HB))</u>
Dozing method:	<u>1.000</u>	<u>(GEN.)</u>
Visibility:	<u>1.000</u>	<u>(AVG.)</u>

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:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3554

Adjusted unit production: 610.90 LCY/hr

Adjusted fleet production: **2443.6** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$0.807/LCY

Total job time: **1.73** Hours

Total job cost: **\$3,412**

HYDRAULIC EXCAVATOR WORK

Task description: Pull Back Material @ Old Truck Loadout Material Storage Area

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 006

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-006

User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat 365C L 13'-7" Stick

Attachment 1: ROPS Cab

Horsepower: 404

Weight (MT): 70.51

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$244.29	NA
Operating Cost/Hour:	\$218.49	100
Operator Cost/Hour:	\$33.87	NA
Total Unit Cost/Hour:	\$496.65	
Total Fleet Cost/Hour:	\$993.31	

MATERIAL QUANTITIES

Initial volume: 9,790

CCY

Swell factor: 1.165

Loose volume: 11,405

LCY

Source of estimated volume: Page 3.02-2

Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

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

Basic Job Condition Description: SEVERE

Secondary Job Condition within Basic Description: SEVERE

Cycle Time Value: 0.570 minutes

Load Bucket Capacity

Bucket Size Class: Small

Rated Capacity: 3.61 LCY (heaped)

Bucket Fill Factor: 0.850 Hard, tough clay (80% - 90%) 0.850

Adjusted Capacity: 3.07 LCY

Job Condition Correction Factors

Site Altitude: 6500 feet

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

Unadjusted Hourly Unit Production: 323.00 LCY/Hour

Adjusted Hourly Unit Production: 268.09 LCY/Hour

Adjusted Hourly Fleet Production: 536.18 LCY/Hour

JOB TIME AND COST

Fleet size: 2 Excavator Total job time: 21.27 Hours

Unit cost: \$1.853 /LCY Total job cost: \$21,129

BULLDOZER WORKTask description: **Regrade Old Truck Loadout Material Storage Area**Site: **Bowie No. 2 Mine**Permit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 007State: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-007User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D10T - 10SUHorsepower: 574Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$257.39</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$196.93</u>	<u>100</u>
Ripper own. Cost/Hour:	<u>\$0.00</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$38.59</u>	<u>NA</u>

Total unit Cost/Hour: \$492.91Total Fleet Cost/Hour: **\$1,971.62****MATERIAL QUANTITIES**Initial Volume: 9,790Swell factor: 1.165Loose volume: **11,405 LCY**Source of estimated volume: Page 3.02-2Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 150 feetUnadjusted hourly production: 1,243.2 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: 10 %Average site altitude: 6,500 feetMaterial weight: 2,900 lbs/LCYWeight description: Decomposed rock - 50% Rock, 50% Earth**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	<u>0.750</u>	<u>(AVG.)</u>
Material consistency:	<u>0.900</u>	<u>(CAT HB))</u>
Dozing method:	<u>1.000</u>	<u>(GEN.)</u>
Visibility:	<u>1.000</u>	<u>(AVG.)</u>

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.2794

Adjusted unit production: 347.35 LCY/hr

Adjusted fleet production: **1389.4** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$1.419/LCY

Total job time: **8.21** Hours

Total job cost: **\$16,185**

HYDRAULIC EXCAVATOR WORK

Task description: Pull Back Material at Truck Loadout/Coal Stockpile

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 008

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-008

User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat 365C L 13'-7" Stick

Attachment 1: ROPS Cab

Horsepower: 404

Weight (MT): 70.51

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	<u>\$244.29</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$218.49</u>	<u>100</u>
Operator Cost/Hour:	<u>\$33.87</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$496.65</u>	
Total Fleet Cost/Hour:	<u>\$993.31</u>	

MATERIAL QUANTITIES

Initial volume: 67,920

CCY

Swell factor: 1.165

Loose volume: 79,127

LCY

Source of estimated volume: Operator Estimate

Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

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

Basic Job Condition Description: SEVERE

Secondary Job Condition within Basic Description: SEVERE

Cycle Time Value: 0.570 minutes

Load Bucket Capacity

Bucket Size Class: Small

Rated Capacity: 3.61 LCY (heaped)

Bucket Fill Factor: 0.850 Hard, tough clay (80% - 90%) 0.850

Adjusted Capacity: 3.07 LCY

Job Condition Correction Factors

Site Altitude: 6000 feet

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

Unadjusted Hourly Unit Production: 323.00 LCY/Hour

Adjusted Hourly Unit Production: 268.09 LCY/Hour

Adjusted Hourly Fleet Production: 536.18 LCY/Hour

JOB TIME AND COST

Fleet size: 2 Excavator Total job time: 147.58 Hours

Unit cost: \$1.853 /LCY Total job cost: \$146,588

BULLDOZER WORKTask description: **Regrade New Truck Loadout and Coal Stockpile**Site: **Bowie No. 2 Mine**Permit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 009State: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-009User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D10T - 10SUHorsepower: 574Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$257.39</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$196.93</u>	<u>100</u>
Ripper own. Cost/Hour:	<u>\$0.00</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$38.59</u>	<u>NA</u>

Total unit Cost/Hour: \$492.91Total Fleet Cost/Hour: **\$1,971.62****MATERIAL QUANTITIES**Initial Volume: 67,920Swell factor: 1.165Loose volume: **79,127 LCY**Source of estimated volume: Operator EstimateSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 100 feetUnadjusted hourly production: 1,718.9 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: 0 %Average site altitude: 6,000 feetMaterial weight: 2,900 lbs/LCYWeight description: Decomposed rock - 50% Rock, 50% Earth**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	<u>0.750</u>	<u>(AVG.)</u>
Material consistency:	<u>0.900</u>	<u>(CAT HB))</u>
Dozing method:	<u>1.000</u>	<u>(GEN.)</u>
Visibility:	<u>1.000</u>	<u>(AVG.)</u>

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:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3554

Adjusted unit production: 610.90 LCY/hr

Adjusted fleet production: **2443.6** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$0.807/LCY

Total job time: **32.38** Hours

Total job cost: **\$63,844**

HYDRAULIC EXCAVATOR WORK

Task description: Pull Material Back onto Train L/O Facil. and Railbed Benches

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 010

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-010

User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat 365C L 13'-7" Stick

Attachment 1: ROPS Cab

Horsepower: 404

Weight (MT): 70.51

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$244.29	NA
Operating Cost/Hour:	\$218.49	100
Operator Cost/Hour:	\$33.87	NA
Total Unit Cost/Hour:	\$496.65	
Total Fleet Cost/Hour:	\$993.31	

MATERIAL QUANTITIES

Initial volume: 231,495

CCY

Swell factor: 1.000

Loose volume: 231,495

LCY

Source of estimated volume: Operator Estimate

Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

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

Basic Job Condition Description: SEVERE

Secondary Job Condition within Basic Description: SEVERE

Cycle Time Value: 0.570 minutes

Load Bucket Capacity

Bucket Size Class: Small

Rated Capacity: 3.61 LCY (heaped)

Bucket Fill Factor: 0.850 Hard, tough clay (80% - 90%) 0.850

Adjusted Capacity: 3.07 LCY

Job Condition Correction Factors

Site Altitude: 5900 feet

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

Unadjusted Hourly Unit Production: 323.00 LCY/Hour

Adjusted Hourly Unit Production: 268.09 LCY/Hour

Adjusted Hourly Fleet Production: 536.18 LCY/Hour

JOB TIME AND COST

Fleet size: 2 Excavator Total job time: 431.75 Hours

Unit cost: \$1.853 /LCY Total job cost: \$428,860

BULLDOZER WORKTask description: **Regrade Train Loadout Facilities and Railbed Benches**Site: **Bowie No. 2 Mine**Permit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 011State: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-011User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D10T - 10SUHorsepower: 574Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$257.39</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$196.93</u>	<u>100</u>
Ripper own. Cost/Hour:	<u>\$0.00</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$38.59</u>	<u>NA</u>

Total unit Cost/Hour: \$492.91Total Fleet Cost/Hour: **\$1,971.62****MATERIAL QUANTITIES**Initial Volume: 231,495Swell factor: 1.000Loose volume: **231,495 LCY**Source of estimated volume: Operator EstimateSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 200 feetUnadjusted hourly production: 946.0 LCY/hrMaterials consistency description: Consolidated stockpile 1.0Average push gradient: 5 %Average site altitude: 5,900 feetMaterial weight: 2,900 lbs/LCYWeight description: Decomposed rock - 50% Rock, 50% Earth**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	<u>0.750</u>	<u>(AVG.)</u>
Material consistency:	<u>1.000</u>	<u>(CAT HB)</u>
Dozing method:	<u>1.000</u>	<u>(GEN.)</u>
Visibility:	<u>1.000</u>	<u>(AVG.)</u>

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3566

Adjusted unit production: 337.34 LCY/hr

Adjusted fleet production: **1349.36** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$1.461/LCY

Total job time: **171.56** Hours

Total job cost: **\$338,250**

BULLDOZER WORKTask description: **Backfill and Regrade Train L/O Overland Conveyor Corridor**Site: **Bowie No. 2 Mine**Permit Action: **MT6**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **012**State: **Colorado**Abbreviation: **None**Date: **9/24/2024**County: **Delta**Filename: **C083-012**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D10T - 10SU**Horsepower: **574**Blade Type: **Semi-Universal**Attachment: **NA**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$257.39	NA
Operating Cost/Hour:	\$196.93	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.59	NA

Total unit Cost/Hour: **\$492.91**Total Fleet Cost/Hour: **\$1,971.62****MATERIAL QUANTITIES**Initial Volume: **9,259**Swell factor: **1.165**Loose volume: **10,787 LCY**Source of estimated volume: **Division Estimate**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **100 feet**Unadjusted hourly production: **1,718.9 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **10 %**Average site altitude: **5,900 feet**Material weight: **2,900 lbs/LCY**Weight description: **Decomposed rock - 50% Rock, 50% Earth****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.2794

Adjusted unit production: 480.26 LCY/hr

Adjusted fleet production: **1921.04** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$1.026/LCY

Total job time: **5.62** Hours

Total job cost: **\$11,071**

SCRAPER TEAM WORKTask description: **Haul Fill from Upper Mat'l Strge Area to B-Seam Portal Bench**Site: **Bowie No. 2 Mine**Permit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 013State: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-013User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

	Equipment Description
-Scraper:	Cat 627G w/push-pull
-Dozer:	NA
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

Cost Breakdown:**Scraper Work Team****Support Equipment****Maintenance Equipment**

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	NA	NA	NA
Ownership cost/hour:	\$234.09	NA	NA	NA	NA	NA
Operating cost/hour:	\$265.71	NA	NA	NA	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$530.70	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$1,061.40		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$1,061.40****MATERIAL QUANTITIES**Initial volume: 39,000

CCY

Swell factor: 1.165Loose volume: **45,435**

LCY

Source of estimated volume: Operator Estimate, minus 14,000 cy TR79/TR84 to Gob PileSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight: 2,900 lbs/LCY
 Material description: Decomposed rock - 50% Rock, 50% Earth
 Rated Payload: 52,800 pounds
 Payload Capacity: 18.21 LCY

Struck Volume: 15.70 LCY
 Heaped Volume: 22.00 LCY
 Average Volume: 18.85 LCY
 Adjusted Capacity: **18.21** LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 6750 feet

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

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	800.00	0.00	3.00	3.00	2824	0.52

Haul Time: 0.52 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	800.00	0.00	3.00	3.00	2874	0.40

Return Time: 0.40 minutesTotal Scraper team cycle time: 2.42 minutesAdjusted for job conditions: 749.34 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 749.34 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 749.34 LCY/HourUnadjusted unit production/hour: 902.82 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 60.63 HoursUnit cost: \$1.416 /LCYTotal job cost: \$64,356

TRUCK/LOADER TEAM WORKTask description: Haul Fill fr Adj. Mat'l Storage Area to B-Seam Portal BenchSite: Bowie No. 2 MinePermit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 014State: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-014User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Shift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Cat 773F
-Loader:	CAT 988H
Support Equipment -Load Area:	NA
-Dump Area:	NA
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	100	NA	NA	NA	NA
Ownership cost/hour:	\$128.28	\$131.26	NA	NA	NA	NA
Operating cost/hour:	\$102.12	\$100.12	NA	NA	NA	NA
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Operator cost/hour:	\$25.24	\$36.85	NA	NA	NA	NA
Unit Subtotals:	\$255.64	\$268.23	NA	NA	NA	NA
Number of Units:	2	1	0	0	0	0
Group Subtotals:	Work: \$779.51		Support: \$0.00		Maint: \$0.00	

Total work team cost/hour: \$779.51**MATERIAL QUANTITIES**Initial volume: 53,000

CCY

Swell factor: 1.165Loose volume: 61,745

LCY

Source of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat HandbookMaterial Purchase Cost: \$0.00Total Cost: \$0.00**HOURLY PRODUCTION****Truck Capacity:**Truck Payload (weight) Basis:Material weight: 2,900

Pounds/LCY

Description: Decomposed rock - 50% Rock, 50% EarthRated Payload: 122,520

Pounds

Payload Capacity: 42.25

LCY

Truck Bed (volume) Basis:

Struck Volume:	35.00	LCY
Heaped Volume:	46.50	LCY
Average Volume:	40.75	LCY
Adjusted Volume:	42.25	LCY

Final Truck Volume Based on Number of Loader Passes: 40.25 LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	9.200	LCY (heaped)
Bucket Fill Factor:	0.875	Loose material - 1" and over (85 - 90%) 0.875
Adjusted Capacity:	8.050	LCY

Job Condition Corrections:

Site Altitude (ft.): 6900 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	

Loading Tool Cycle Time: Number of Loading Tool Passes Required to Fill Truck: 5 passes

Excavators and Front Shovels:

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

Track Loaders – Material Description: _____

Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100

Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.575 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Mixed material 0.02	0.020	(Cat HB)
Stockpile:	Conveyor or dozer piled 10 ft. high or less 0.01	0.010	(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:		-0.050	minutes
Adjusted Loader Cycle Time:		0.525	minutes
Net Load Time per Truck:		2.200	minutes

Truck Cycle Time:

Truck Exchange Time:	0.70	Minutes	Adjusted for site altitude:	0.700	Minutes
Truck Load Time:	2.200	Minutes	Adjusted for site altitude:	2.200	Minutes
Truck Maneuver and Dump Time:	1.10	Minutes	Adjusted for site altitude:	1.100	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	600.00	0.00	3.00	3.00	2983	0.764

Haul Time: **0.764** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	600.00	0.00	3.00	3.00	3569	0.381

Return Time: **0.381** minutesTotal Truck Cycle Time: **5.145** minutes

Loading Tool unit

Production 832.76 LCY/Hour Adjusted for job efficiency: 691.19 LCY/Hour
Truck Unit Production 469.39 LCY/Hour Adjusted for job efficiency: 389.59 LCY/Hour

Optimal No. of Trucks: 2 Truck(s) Selected Number of Trucks: 2 Truck(s)

Adjusted hourly truck team production: 779.18 LCY/Hour
Adjusted single truck/loader team production: 691.19 LCY/Hour
Adjusted multiple truck/loader team production: **691.19** LCY/Hour

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: **89.33** HoursUnit cost: \$1.128 /LCY Total job cost: **\$69,635**

BULLDOZER WORKTask description: **Backfill and Regrade B-Seam Portal Bench**Site: **Bowie No. 2 Mine**Permit Action: **MT6**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **015**State: **Colorado**Abbreviation: **None**Date: **9/24/2024**County: **Delta**Filename: **C083-015**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D10T - 10SU**Horsepower: **574**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$257.39	NA
Operating Cost/Hour:	\$196.93	100
Ripper own. Cost/Hour:	\$25.02	NA
Ripper op. Cost/Hour:	\$11.73	100
Operator Cost/Hour:	\$38.59	NA

Total unit Cost/Hour: **\$529.66**Total Fleet Cost/Hour: **\$2,118.62****MATERIAL QUANTITIES**Initial Volume: **32,000**Swell factor: **1.165**Loose volume: **37,280 LCY**Source of estimated volume: **Operator Estimate**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **150 feet**Unadjusted hourly production: **1,243.2 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **20 %**Average site altitude: **6,750 feet**Material weight: **2,900 lbs/LCY**Weight description: **Decomposed rock - 50% Rock, 50% Earth****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.545	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.1937

Adjusted unit production: 240.81 LCY/hr

Adjusted fleet production: **963.24** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$2.199/LCY

Total job time: **38.70** Hours

Total job cost: **\$81,996**

BULLDOZER WORKTask description: **Regrade Drill Pads from MRs and TRs**Site: **Bowie No. 2 Mine**Permit Action: **MT6**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **019**State: **Colorado**Abbreviation: **None**Date: **9/24/2024**County: **Delta**Filename: **C083-019**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D10T - 10SU**Horsepower: **574**Blade Type: **Semi-Universal**Attachment: **NA**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$257.39	NA
Operating Cost/Hour:	\$196.93	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.59	NA

Total unit Cost/Hour: **\$492.91**Total Fleet Cost/Hour: **\$1,971.62****MATERIAL QUANTITIES**Initial Volume: **15,173**Swell factor: **1.165**Loose volume: **17,677 LCY**Source of estimated volume: **6.27 acres, 1.5' depth**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **100 feet**Unadjusted hourly production: **1,718.9 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **5 %**Average site altitude: **7,500 feet**Material weight: **2,900 lbs/LCY**Weight description: **Decomposed rock - 50% Rock, 50% Earth****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3209

Adjusted unit production: 551.60 LCY/hr

Adjusted fleet production: **2206.4** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$0.894/LCY

Total job time: **8.01** Hours

Total job cost: **\$15,796**

BULLDOZER WORKTask description: **Regrade Material Storage Area from TR-29**Site: **Bowie No. 2 Mine**Permit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 020State: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-020User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D10T - 10SUHorsepower: 574Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$257.39	NA
Operating Cost/Hour:	\$196.93	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.59	NA

Total unit Cost/Hour: \$492.91Total Fleet Cost/Hour: **\$1,971.62****MATERIAL QUANTITIES**Initial Volume: 500Swell factor: 1.165Loose volume: **583 LCY**Source of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 200 feetUnadjusted hourly production: 946.0 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: 5 %Average site altitude: 6,000 feetMaterial weight: 2,900 lbs/LCYWeight description: Decomposed rock - 50% Rock, 50% Earth**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3209

Adjusted unit production: 303.57 LCY/hr

Adjusted fleet production: **1214.28** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$1.624/LCY

Total job time: **0.48** Hours

Total job cost: **\$946**

BULLDOZER WORKTask description: **Backfill and Regrade New Prep Plant Bench**Site: **Bowie No. 2 Mine**Permit Action: **MT6**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **021**State: **Colorado**Abbreviation: **None**Date: **9/24/2024**County: **Delta**Filename: **C083-021**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D10T - 10SU**Horsepower: **574**Blade Type: **Semi-Universal**Attachment: **NA**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$257.39	NA
Operating Cost/Hour:	\$196.93	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.59	NA

Total unit Cost/Hour: **\$492.91**Total Fleet Cost/Hour: **\$1,971.62****MATERIAL QUANTITIES**Initial Volume: **61,000**Swell factor: **1.165**Loose volume: **71,065 LCY**Source of estimated volume: **Operator Estimate**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **100 feet**Unadjusted hourly production: **1,718.9 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **10 %**Average site altitude: **6,050 feet**Material weight: **2,900 lbs/LCY**Weight description: **Decomposed rock - 50% Rock, 50% Earth****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.2794

Adjusted unit production: 480.26 LCY/hr

Adjusted fleet production: **1921.04** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$1.026/LCY

Total job time: **36.99** Hours

Total job cost: **\$72,936**

SCRAPER TEAM WORKTask description: **Replace Fill from Material Storage Area to Water Tank Bench**Site: **Bowie No. 2 Mine**Permit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 022State: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-022User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 627G w/push-pull
-Dozer:	NA
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

Cost Breakdown:**Scraper Work Team****Support Equipment****Maintenance Equipment**

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	NA	NA	NA
Ownership cost/hour:	\$234.09	NA	NA	NA	NA	NA
Operating cost/hour:	\$265.71	NA	NA	NA	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$530.70	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$1,061.40		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$1,061.40****MATERIAL QUANTITIES**Initial volume: 700

CCY

Swell factor: 1.165Loose volume: **816**

LCY

Source of estimated volume: Operator EstimateSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight: 2,900 lbs/LCY
 Material description: Decomposed rock - 50% Rock, 50% Earth
 Rated Payload: 52,800 pounds
 Payload Capacity: 18.21 LCY

Struck Volume: 15.70 LCY
 Heaped Volume: 22.00 LCY
 Average Volume: 18.85 LCY
 Adjusted Capacity: **18.21** LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 6750 feet

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

Travel Time:Road Condition: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	-15.00	5.00	-10.00	1749	0.69

Haul Time: 0.69 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	15.00	5.00	20.00	868	1.17

Return Time: 1.17 minutesTotal Scraper team cycle time: 3.36 minutesAdjusted for job conditions: 539.70 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 539.70 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 539.70 LCY/HourUnadjusted unit production/hour: 650.25 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 1.51 HoursUnit cost: \$1.967 /LCYTotal job cost: \$1,604

BULLDOZER WORKTask description: **Regrade Borrow Area**Site: **Bowie No. 2 Mine**Permit Action: **MT6**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **023**State: **Colorado**Abbreviation: **None**Date: **9/24/2024**County: **Delta**Filename: **C083-023**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D10T - 10SU**Horsepower: **574**Blade Type: **Semi-Universal**Attachment: **NA**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$257.39	NA
Operating Cost/Hour:	\$196.93	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.59	NA

Total unit Cost/Hour: **\$492.91**Total Fleet Cost/Hour: **\$1,971.62****MATERIAL QUANTITIES**Initial Volume: **25,600**Swell factor: **1.250**Loose volume: **32,000 LCY**Source of estimated volume: **Operator Estimate**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **175 feet**Unadjusted hourly production: **1,074.3 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **0 %**Average site altitude: **6,200 feet**Material weight: **2,650 lbs/LCY**Weight description: **Decomposed rock - 25% Rock, 75% 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:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3890

Adjusted unit production: 417.90 LCY/hr

Adjusted fleet production: **1671.6** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$1.179/LCY

Total job time: **19.14** Hours

Total job cost: **\$37,743**

HYDRAULIC EXCAVATOR WORK

Task description: Regrade Upper Parking Lot Expansion Area

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 025

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-025

User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat 365C L 13'-7" Stick

Attachment 1: ROPS Cab

Horsepower: 404

Weight (MT): 70.51

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$244.29	NA
Operating Cost/Hour:	\$218.49	100
Operator Cost/Hour:	\$33.87	NA
Total Unit Cost/Hour:	\$496.65	
Total Fleet Cost/Hour:	\$496.65	

MATERIAL QUANTITIES

Initial volume: 1,500

CCY

Swell factor: 1.250

Loose volume: 1,875

LCY

Source of estimated volume: Opeator Estimate

Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

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

Basic Job Condition Description: SEVERE

Secondary Job Condition within Basic Description: SEVERE

Cycle Time Value: 0.570 minutes

Load Bucket Capacity

Bucket Size Class: Large

Rated Capacity: 6.90 LCY (heaped)

Bucket Fill Factor: 0.850 Hard, tough clay (80% - 90%) 0.850

Adjusted Capacity: 5.87 LCY

Job Condition Correction Factors

Site Altitude: 6900 feet

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

Unadjusted Hourly Unit Production: 617.37 LCY/Hour

Adjusted Hourly Unit Production: 512.42 LCY/Hour

Adjusted Hourly Fleet Production: 512.42 LCY/Hour

JOB TIME AND COST

Fleet size: 1 Excavator Total job time: 3.66 Hours

Unit cost: \$0.969 /LCY Total job cost: \$1,817

BULLDOZER WORKTask description: **Spread Uncompacted Refuse on Gob Pile #2**Site: **Bowie No. 2 Mine**Permit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 036State: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-036User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D10T - 10SUHorsepower: 574Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$257.39</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$196.93</u>	<u>100</u>
Ripper own. Cost/Hour:	<u>\$0.00</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$38.59</u>	<u>NA</u>

Total unit Cost/Hour: \$492.91Total Fleet Cost/Hour: **\$1,971.62****MATERIAL QUANTITIES**Initial Volume: 200,000Swell factor: 1.000Loose volume: **200,000 LCY**Source of estimated volume: TR-44 Submittal Page 4Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 200 feetUnadjusted hourly production: 946.0 LCY/hrMaterials consistency description: Partly consolidated stockpile 1.1Average push gradient: 0 %Average site altitude: 6,100 feetMaterial weight: 2,667 lbs/LCYWeight description: User Provided**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	<u>0.750</u>	<u>(AVG.)</u>
Material consistency:	<u>1.100</u>	<u>(CAT HB)</u>
Dozing method:	<u>1.000</u>	<u>(GEN.)</u>
Visibility:	<u>1.000</u>	<u>(AVG.)</u>

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:	0.862	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5903

Adjusted unit production: 558.42 LCY/hr

Adjusted fleet production: **2233.68** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$0.883/LCY

Total job time: **89.54** Hours

Total job cost: **\$176,536**

BULLDOZER WORKTask description: **Spread Uncompacted Refuse at Gob Pile #3**Site: **Bowie No. 2 Mine**Permit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 037State: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-037User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D10T - 10SUHorsepower: 574Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$257.39</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$196.93</u>	<u>100</u>
Ripper own. Cost/Hour:	<u>\$0.00</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$38.59</u>	<u>NA</u>

Total unit Cost/Hour: \$492.91Total Fleet Cost/Hour: **\$1,971.62****MATERIAL QUANTITIES**Initial Volume: 225,000Swell factor: 1.000Loose volume: **225,000 LCY**Source of estimated volume: TR-44 Submittal Page 4Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 200 feetUnadjusted hourly production: 946.0 LCY/hrMaterials consistency description: Partly consolidated stockpile 1.1Average push gradient: 0 %Average site altitude: 6,100 feetMaterial weight: 2,667 lbs/LCYWeight description: User Provided**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	<u>0.750</u>	<u>(AVG.)</u>
Material consistency:	<u>1.100</u>	<u>(CAT HB)</u>
Dozing method:	<u>1.000</u>	<u>(GEN.)</u>
Visibility:	<u>1.000</u>	<u>(AVG.)</u>

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:	0.862	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5903

Adjusted unit production: 558.42 LCY/hr

Adjusted fleet production: **2233.68** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$0.883/LCY

Total job time: **100.73** Hours

Total job cost: **\$198,603**

COMPACTION WORK

Task description: Compact Material Hauled to Gob Pile #1

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 038

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-038

User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 825H

Horsepower: 354

Compactor Type: Soil - tamping foot

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

Ownership Cost/Hour:	\$164.53	Utilization %	NA
Operating Cost/Hour:	\$161.21		100
Operator Cost/Hour:	\$25.60		NA
Total Unit Cost/Hour:	\$351.34		
Total Fleet Cost/Hour:	\$351.34		

MATERIAL QUANTITIES

Loose volume: 14,349

LCY

Shrinkage factor: 0.875

Compacted volume: 12,555

CCY

Source of estimated volume: Total of all material hauled to Gob Pile

Source of estimated shrinkage factor: Cat Handbook

HOURLY PRODUCTION

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

Compacted width per pass (W):	<u>7.34</u>	feet
Average Compactor Speed (S):	<u>4.00</u>	mph
Compacted thickness of each lift (L):	<u>8.00</u>	inches
Conversion Constant (C):	<u>16.3</u>	(5,280ft./12in./27cu.ft.)
Required number of machine passes (P):	<u>3</u>	passes
Unadjusted Hourly Unit Production:	<u>1,276.18</u>	CCY/hour

Job Condition Correction Factors

Site Altitude: 6,400 feet

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

Adjusted Hourly Unit Production: 1,059.23 CCY/Hour

Adjusted Hourly Fleet Production: 1,059.23 CCY/Hour

JOB TIME AND COST

Fleet size: 1 Compactor(s)

Total job time: 11.85 Hours

Unit cost: \$0.332 per CCY

Total job cost: \$4,165

COMPACTION WORK

Task description: Compact Refuse on Gob Pile #2

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 039

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-039

User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 825H

Horsepower: 354

Compactor Type: Soil - tamping foot

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

Ownership Cost/Hour:	\$164.53	Utilization %	NA
Operating Cost/Hour:	\$161.21		100
Operator Cost/Hour:	\$25.60		NA
Total Unit Cost/Hour:	\$351.34		
Total Fleet Cost/Hour:	\$351.34		

MATERIAL QUANTITIES

Loose volume: 200,000

LCY

Shrinkage factor: 0.900

Compacted volume: 180,000

CCY

Source of estimated volume: Page 2.05-45

Source of estimated shrinkage factor: Cat Handbook

HOURLY PRODUCTION

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

Compacted width per pass (W):	<u>7.34</u>	feet
Average Compactor Speed (S):	<u>4.00</u>	mph
Compacted thickness of each lift (L):	<u>10.00</u>	inches
Conversion Constant (C):	<u>16.3</u>	(5,280ft./12in./27cu.ft.)
Required number of machine passes (P):	<u>3</u>	passes
Unadjusted Hourly Unit Production:	<u>1,595.23</u>	CCY/hour

Job Condition Correction Factors

Site Altitude: 6,100 feet

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

Adjusted Hourly Unit Production: 1,324.04 CCY/Hour

Adjusted Hourly Fleet Production: 1,324.04 CCY/Hour

JOB TIME AND COST

Fleet size: 1 Compactor(s)

Total job time: 135.95 Hours

Unit cost: \$0.265 per CCY

Total job cost: \$47,764

TRUCK/LOADER TEAM WORKTask description: **Haul refuse out of Gob Pile #2/#3 drying areas for placement**Site: **Bowie No. 2 Mine**Permit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 040State: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-040User: RDZAgency 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 345D L 12'-10" Stick
Support Equipment -Load Area:	NA
-Dump Area:	NA
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	NA	NA	NA	NA
Ownership cost/hour:	\$22.44	\$281.20	NA	NA	NA	NA
Operating cost/hour:	\$60.44	\$202.68	NA	NA	NA	NA
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Operator cost/hour:	\$0.00	\$33.87	NA	NA	NA	NA
Unit Subtotals:	\$82.88	\$517.75	NA	NA	NA	NA
Number of Units:	2	1	0	0	0	0
Group Subtotals:	Work: \$683.51		Support: \$0.00		Maint: \$0.00	

Total work team cost/hour: **\$683.51****MATERIAL QUANTITIES**Initial volume: 325,000

CCY

Swell factor: 1.000Loose volume: **325,000**

LCY

Source of estimated volume: Vol XI, p. 4a, Vol IX p 12-all 225k yds @ #3, 100k yds @ #2Source of estimated swell factor: Cat HandbookMaterial Purchase Cost: \$0.00Total Cost: \$0.00**HOURLY PRODUCTION****Truck Capacity:****Truck Payload (weight) Basis:**Material weight: 1,600

Pounds/LCY

Description: Coal - Bituminous, RawRated Payload: 35,400

Pounds

Payload Capacity: 22.13

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: 9.18 LCY

Loading Tool Capacity

Bucket Size Class: Medium

Rated Capacity:	3.140	LCY (heaped)
Bucket Fill Factor:	0.975	Loose material - mixed moist aggregates (95-100%) 0.975
Adjusted Capacity:	3.062	LCY

Job Condition Corrections:

Site Altitude (ft.): 6900 feet

	Truck	Loader	Source
Altitude Adj:	1.000	0.960	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	0.830	0.797	

Loading Tool Cycle Time:

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

Excavators and Front Shovels:

Machine Cycle Time vs. Job Condition Rating: ABOVE AVERAGE

Selected Value within this Basic Rating: AVERAGE

Track Loaders – Material Description: _____

Cycle Time Elements (min.):

Load: NA

Maneuver: NA

Dump: 0.100

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

Cycle Time Factors		Factor (min.)	Source
Material:	NA	NA	(Cat HB)
Stockpile:	NA	NA	(Cat HB)
Truck Ownership:	NA	NA	(Cat HB)
Operation:	NA	NA	(Cat HB)
Dump Target:	NA	NA	(Cat HB)
Net Cycle Time Adjustment:		NA	minutes
Adjusted Loader Cycle Time:		0.273	minutes
Net Load Time per Truck:		0.646	minutes

Truck Cycle Time:

Truck Exchange Time:	0.50	Minutes	Adjusted for site altitude:	0.500	Minutes
Truck Load Time:	0.646	Minutes	Adjusted for site altitude:	0.673	Minutes
Truck Maneuver and Dump Time:	0.90	Minutes	Adjusted for site altitude:	0.900	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	500.00	0.00	4.00	4.00	2665	0.285

Haul Time: **0.285** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	0.00	4.00	4.00	2849	0.201

Return Time: **0.201** minutesTotal Truck Cycle Time: **2.559** minutes

Loading Tool unit
 Production 469.83 LCY/Hour Adjusted for job efficiency: 389.96 LCY/Hour
 Truck Unit Production
215.35 LCY/Hour Adjusted for job efficiency: 178.74 LCY/Hour
 Optimal No. of Trucks: 2 Truck(s) Selected Number of Trucks: 2 Truck(s)

Adjusted hourly truck team production: 357.49 LCY/Hour
 Adjusted single truck/loader team production: 357.49 LCY/Hour
 Adjusted multiple truck/loader team production: **357.49** LCY/Hour

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: **909.13** HoursUnit cost: \$1.912 /LCY Total job cost: **\$621,398**

COMPACTION WORK

Task description: Compact Refuse at Gob Pile #3

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 041

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-041

User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 825H

Horsepower: 354

Compactor Type: Soil - tamping foot

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

Ownership Cost/Hour:	\$164.53	Utilization %	NA
Operating Cost/Hour:	\$161.21		100
Operator Cost/Hour:	\$25.60		NA
Total Unit Cost/Hour:	\$351.34		
Total Fleet Cost/Hour:	\$351.34		

MATERIAL QUANTITIES

Loose volume: 225,000

LCY

Shrinkage factor: 0.870

Compacted volume: 195,750

CCY

Source of estimated volume: Volume XI, Page 1

Source of estimated shrinkage factor: Cat Handbook

HOURLY PRODUCTION

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

Compacted width per pass (W):	<u>7.34</u>	feet
Average Compactor Speed (S):	<u>4.00</u>	mph
Compacted thickness of each lift (L):	<u>10.00</u>	inches
Conversion Constant (C):	<u>16.3</u>	(5,280ft./12in./27cu.ft.)
Required number of machine passes (P):	<u>3</u>	passes
Unadjusted Hourly Unit Production:	<u>1,595.23</u>	CCY/hour

Job Condition Correction Factors

Site Altitude: 5,900 feet

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

Adjusted Hourly Unit Production: 1,324.04 CCY/Hour

Adjusted Hourly Fleet Production: 1,324.04 CCY/Hour

JOB TIME AND COST

Fleet size: 1 Compactor(s)

Total job time: 147.84 Hours

Unit cost: \$0.265 per CCY

Total job cost: \$51,943

SCRAPER TEAM WORKTask description: **Haul Topsoil from Stockpile Area to Gob Pile #1**Site: **Bowie No. 2 Mine**Permit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 042State: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-042User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 627G w/push-pull
-Dozer:	NA
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

Cost Breakdown:

Scraper Work Team

Support Equipment

Maintenance Equipment

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	NA	NA	NA
Ownership cost/hour:	\$234.09	NA	NA	NA	NA	NA
Operating cost/hour:	\$265.71	NA	NA	NA	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$530.70	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$1,061.40		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$1,061.40****MATERIAL QUANTITIES**Initial volume: 966

CCY

Swell factor: 1.000Loose volume: **966**

LCY

Source of estimated volume: Volume IX, Appendix ASource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Scraper Bowl (volume) Basis:

Material weight:	<u>2,900 lbs/LCY</u>	Struck Volume:	<u>15.70</u>	LCY
Material description:	<u>User Provided</u>	Heaped Volume:	<u>22.00</u>	LCY
Rated Payload:	<u>52,800 pounds</u>	Average Volume:	<u>18.85</u>	LCY
Payload Capacity:	<u>18.21 LCY</u>	Adjusted Capacity:	<u>18.21</u>	LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 6750 feet

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

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	3200.00	0.00	3.00	3.00	2824	1.37

Haul Time: 1.37 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	3200.00	0.00	3.00	3.00	2874	1.23

Return Time: 1.23 minutesTotal Scraper team cycle time: 4.10 minutesAdjusted for job conditions: 442.29 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 442.29 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 442.29 LCY/HourUnadjusted unit production/hour: 532.88 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 2.18 HoursUnit cost: \$2.400 /LCYTotal job cost: \$2,318

SCRAPER TEAM WORKTask description: **Place 3.5' of Coverfill on Gob Pile #1**Site: **Bowie No. 2 Mine**Permit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 043State: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-043User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 627G w/push-pull
-Dozer:	NA
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

Cost Breakdown:**Scraper Work Team****Support Equipment****Maintenance Equipment**

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	NA	NA	NA
Ownership cost/hour:	\$234.09	NA	NA	NA	NA	NA
Operating cost/hour:	\$265.71	NA	NA	NA	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$530.70	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$1,061.40		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$1,061.40****MATERIAL QUANTITIES**Initial volume: 6,324

CCY

Swell factor: 1.165Loose volume: **7,367**

LCY

Source of estimated volume: Volume IX, Appendix ASource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>2,900 lbs/LCY</u>	Struck Volume:	<u>15.70</u>	LCY
Material description:	<u>Decomposed rock - 50% Rock, 50% Earth</u>	Heaped Volume:	<u>22.00</u>	LCY
Rated Payload:	<u>52,800 pounds</u>	Average Volume:	<u>18.85</u>	LCY
Payload Capacity:	<u>18.21 LCY</u>	Adjusted Capacity:	<u>18.21</u>	LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 6750 feet

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

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	1500.00	10.00	3.00	13.00	834	1.82

Haul Time: 1.82 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1500.00	-10.00	3.00	-7.00	2938	0.57

Return Time: 0.57 minutesTotal Scraper team cycle time: 3.89 minutesAdjusted for job conditions: 466.17 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 466.17 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 466.17 LCY/HourUnadjusted unit production/hour: 561.65 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 15.80 HoursUnit cost: \$2.277 /LCYTotal job cost: \$16,775

SCRAPER TEAM WORKTask description: **Place Coverfill from Stockpiles on Gob Pile #2**Site: **Bowie No. 2 Mine**Permit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 044State: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-044User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 627G w/push-pull
-Dozer:	NA
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

Cost Breakdown:**Scraper Work Team****Support Equipment****Maintenance Equipment**

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	NA	NA	NA
Ownership cost/hour:	\$234.09	NA	NA	NA	NA	NA
Operating cost/hour:	\$265.71	NA	NA	NA	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$530.70	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$1,061.40		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$1,061.40****MATERIAL QUANTITIES**Initial volume: 92,937

CCY

Swell factor: 1.165Loose volume: **108,272**

LCY

Source of estimated volume: Volume IX, Appendix ASource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>2,900 lbs/LCY</u>	Struck Volume:	<u>15.70</u>	LCY
Material description:	<u>Decomposed rock - 50% Rock, 50% Earth</u>	Heaped Volume:	<u>22.00</u>	LCY
Rated Payload:	<u>52,800 pounds</u>	Average Volume:	<u>18.85</u>	LCY
Payload Capacity:	<u>18.21 LCY</u>	Adjusted Capacity:	<u>18.21</u>	LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 6750 feet

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

Travel Time:Road Condition: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	5.00	5.00	10.00	1068	0.97

Haul Time: 0.97 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	-5.00	5.00	0.00	2921	0.44

Return Time: 0.44 minutesTotal Scraper team cycle time: 2.91 minutesAdjusted for job conditions: 623.16 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 623.16 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 623.16 LCY/HourUnadjusted unit production/hour: 750.80 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 173.74 HoursUnit cost: \$1.703 /LCYTotal job cost: \$184,413

TRUCK/LOADER TEAM WORKTask description: Haul Cover Material from Gob Pile #3 to Gob Pile #2Site: Bowie No. 2 MinePermit Action: MT6Permit/Job#: C1996083PROJECT IDENTIFICATIONTask #: 045State: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-045User: RDZAgency or organization name: DRMSHOURLY EQUIPMENT COSTShift basis: 1 per day

		Equipment Description
Truck Loader Team -Truck:		Generic 10-12 cy, 6x4
-Loader:		CAT 950H
Support Equipment -Load Area:		NA
-Dump Area:		NA
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	100	NA	NA	NA	NA
Ownership cost/hour:	\$22.44	\$36.61	NA	NA	NA	NA
Operating cost/hour:	\$60.44	\$35.43	NA	NA	NA	NA
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Operator cost/hour:	\$0.00	\$36.85	NA	NA	NA	NA
Unit Subtotals:	\$82.88	\$108.89	NA	NA	NA	NA
Number of Units:	4	1	0	0	0	0
Group Subtotals:	Work: \$440.41		Support: \$0.00		Maint: \$0.00	

Total work team cost/hour: \$440.41MATERIAL QUANTITIESInitial volume: 58,943

CCY

Swell factor: 1.165Loose volume: 68,669

LCY

Source of estimated volume: Volume IX, Appendix ASource of estimated swell factor: Cat HandbookMaterial Purchase Cost: \$0.00Total Cost: \$0.00HOURLY PRODUCTIONTruck Capacity:

Truck Payload (weight) Basis:

Material weight: 2,900 Pounds/LCYDescription: Decomposed rock - 50% Rock, 50% EarthRated Payload: 35,400 PoundsPayload Capacity: 12.21 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: **10.64** LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	4.300	LCY (heaped)
Bucket Fill Factor:	0.825	Blasted rock - avg. blasted (75 - 90%) 0.825
Adjusted Capacity:	3.548	LCY

Job Condition Corrections:

Site Altitude (ft.): 6300 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	

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

Excavators and Front Shovels:

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

Track Loaders – Material Description: _____

Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100

Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.500 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Material 3/4" to 6" diameter 0.00	0.000	(Cat HB)
Stockpile:	Conveyor or dozer piled 10 ft. high or less 0.01	0.010	(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:		-0.070	minutes
Adjusted Loader Cycle Time:		0.430	minutes
Net Load Time per Truck:		0.960	minutes

Truck Cycle Time:

Truck Exchange Time:	0.50	Minutes	Adjusted for site altitude:	0.500	Minutes
Truck Load Time:	0.960	Minutes	Adjusted for site altitude:	0.960	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	2000.00	0.00	3.00	3.00	2824	0.810
2	4000.00	0.00	3.00	3.00	2824	1.416
3	1000.00	10.00	3.00	13.00	834	0.191

Haul Time: **2.417** minutes

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	0.410
2	4000.00	0.00	3.00	3.00	2874	1.392
3	2000.00	0.00	3.00	3.00	2874	0.696

Return Time: **2.498** minutesTotal Truck Cycle Time: **7.275** minutes

Loading Tool unit

Production 437.36 LCY/Hour Adjusted for job efficiency: 363.01 LCY/Hour
Truck Unit Production 87.77 LCY/Hour Adjusted for job efficiency: 72.85 LCY/Hour

Optimal No. of Trucks: 5 Truck(s) Selected Number of Trucks: 4 Truck(s)

Adjusted hourly truck team production: 291.41 LCY/Hour
Adjusted single truck/loader team production: 291.41 LCY/Hour
Adjusted multiple truck/loader team production: **291.41** LCY/Hour

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: **235.64** HoursUnit cost: \$1.511 /LCY Total job cost: **\$103,780**

BULLDOZER WORKTask description: Distribute Gob Pile #2 cover hauled by T/LSite: Bowie No. 2 MinePermit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 045AState: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-045AUser: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D10T - 10SUHorsepower: 574Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$257.39	NA
Operating Cost/Hour:	\$196.93	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.59	NA

Total unit Cost/Hour: \$492.91Total Fleet Cost/Hour: **\$492.91****MATERIAL QUANTITIES**Initial Volume: 134,142Swell factor: 1.000Loose volume: **134,142** LCYSource of estimated volume: Volume IX, Appendix ASource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 250 feetUnadjusted hourly production: 754.3 LCY/hrMaterials consistency description: Loose stockpile 1.2Average push gradient: 0 %Average site altitude: 6,300 feetMaterial weight: 2,900 lbs/LCYWeight description: Decomposed rock - 50% Rock, 50% Earth**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(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:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4739

Adjusted unit production: 357.46 LCY/hr

Adjusted fleet production: **357.46** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$1.379/LCY

Total job time: **375.26** Hours

Total job cost: **\$184,970**

TRUCK/LOADER TEAM WORKTask description: **Haul Cover Material from Borrow Area #1 to Gob Pile #2**Site: **Bowie No. 2 Mine**Permit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 045BState: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-045BUser: RDZAgency 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:	NA
-Dump Area:	NA
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	100	NA	NA	NA	NA
Ownership cost/hour:	\$22.44	\$36.61	NA	NA	NA	NA
Operating cost/hour:	\$60.44	\$35.43	NA	NA	NA	NA
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Operator cost/hour:	\$0.00	\$36.85	NA	NA	NA	NA
Unit Subtotals:	\$82.88	\$108.89	NA	NA	NA	NA
Number of Units:	1	1	0	0	0	0
Group Subtotals:	Work: \$191.77		Support: \$0.00		Maint: \$0.00	

Total work team cost/hour: **\$191.77****MATERIAL QUANTITIES**Initial volume: 7,200

CCY

Swell factor: 1.165Loose volume: **8,388**

LCY

Source of estimated volume: Volume IX, Appendix ASource of estimated swell factor: Cat HandbookMaterial Purchase Cost: \$0.00Total Cost: \$0.00**HOURLY PRODUCTION****Truck Capacity:****Truck Payload (weight) Basis:**Material weight: 2,900

Pounds/LCY

Description: Decomposed rock - 50% Rock, 50% EarthRated Payload: 35,400

Pounds

Payload Capacity: 12.21

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: **10.97** LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	4.300	LCY (heaped)
Bucket Fill Factor:	0.850	Hard, tough clay (80% - 90%) 0.850
Adjusted Capacity:	3.655	LCY

Job Condition Corrections:

Site Altitude (ft.): 6300 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	

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

Excavators and Front Shovels:

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

Track Loaders – Material Description: _____

Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100

Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.500 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Bank or broken material 0.04	0.040	(Cat HB)
Stockpile:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Truck Ownership:	Common ownership of trucks and loaders -0.04	-0.040	(Cat HB)
Operation:	Inconsistent 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:		0.540	minutes
Net Load Time per Truck:		1.180	minutes

Truck Cycle Time:

Truck Exchange Time:	0.50	Minutes	Adjusted for site altitude:	0.500	Minutes
Truck Load Time:	1.180	Minutes	Adjusted for site altitude:	1.180	Minutes
Truck Maneuver and Dump Time:	0.90	Minutes	Adjusted for site altitude:	0.900	Minutes

Truck Travel (Haul & Return) Time:
penetration 5.0

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

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	5.00	5.00	10.00	1068	0.482

Haul Time: **0.482** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	-5.00	5.00	0.00	2938	0.195

Return Time: **0.195** minutesTotal Truck Cycle Time: **3.257** minutes

Loading Tool unit
 Production 391.61 LCY/Hour Adjusted for job efficiency: 325.03 LCY/Hour
 Truck Unit Production
202.00 LCY/Hour Adjusted for job efficiency: 167.66 LCY/Hour
 Optimal No. of Trucks: 2 Truck(s) Selected Number of Trucks: 1 Truck(s)

Adjusted hourly truck team production: 167.66 LCY/Hour
 Adjusted single truck/loader team production: 167.66 LCY/Hour
 Adjusted multiple truck/loader team production: **167.66** LCY/Hour

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: **50.03** HoursUnit cost: \$1.144 /LCY Total job cost: **\$9,594**

TRUCK/LOADER TEAM WORKTask description: Haul Cover Material from Borrow Area #2 to Gob Pile #2Site: Bowie No. 2 MinePermit Action: MT6Permit/Job#: C1996083PROJECT IDENTIFICATIONTask #: 045CState: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-045CUser: RDZAgency or organization name: DRMSHOURLY EQUIPMENT COSTShift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Generic 10-12 cy, 6x4
-Loader:	CAT 950H
Support Equipment -Load Area:	NA
-Dump Area:	NA
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	100	NA	NA	NA	NA
Ownership cost/hour:	\$22.44	\$36.61	NA	NA	NA	NA
Operating cost/hour:	\$60.44	\$35.43	NA	NA	NA	NA
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Operator cost/hour:	\$0.00	\$36.85	NA	NA	NA	NA
Unit Subtotals:	\$82.88	\$108.89	NA	NA	NA	NA
Number of Units:	1	1	0	0	0	0
Group Subtotals:	Work: \$191.77		Support: \$0.00		Maint: \$0.00	

Total work team cost/hour: \$191.77MATERIAL QUANTITIESInitial volume: 30,000

CCY

Swell factor: 1.165Loose volume: 34,950

LCY

Source of estimated volume: Volume IX, Appendix ASource of estimated swell factor: Cat HandbookMaterial Purchase Cost: \$0.00Total Cost: \$0.00HOURLY PRODUCTIONTruck Capacity:

Truck Payload (weight) Basis:

Material weight: 2,900 Pounds/LCYDescription: Decomposed rock - 50% Rock, 50% EarthRated Payload: 35,400 PoundsPayload Capacity: 12.21 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: **10.97** LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	4.300	LCY (heaped)
Bucket Fill Factor:	0.850	Hard, tough clay (80% - 90%) 0.850
Adjusted Capacity:	3.655	LCY

Job Condition Corrections:

Site Altitude (ft.): 6300 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	

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

Excavators and Front Shovels:

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

Track Loaders – Material Description: _____

Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100

Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.500 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Bank or broken material 0.04	0.040	(Cat HB)
Stockpile:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Truck Ownership:	Common ownership of trucks and loaders -0.04	-0.040	(Cat HB)
Operation:	Inconsistent 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:		0.540	minutes
Net Load Time per Truck:		1.180	minutes

Truck Cycle Time:

Truck Exchange Time:	0.50	Minutes	Adjusted for site altitude:	0.500	Minutes
Truck Load Time:	1.180	Minutes	Adjusted for site altitude:	1.180	Minutes
Truck Maneuver and Dump Time:	0.90	Minutes	Adjusted for site altitude:	0.900	Minutes

Truck Travel (Haul & Return) Time:
penetration 5.0

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

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	750.00	5.00	5.00	10.00	1068	0.716

Haul Time: **0.716** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	750.00	-5.00	5.00	0.00	2938	0.280

Return Time: **0.280** minutesTotal Truck Cycle Time: **3.576** minutes

Loading Tool unit
 Production 391.61 LCY/Hour Adjusted for job efficiency: 325.03 LCY/Hour
 Truck Unit Production
183.98 LCY/Hour Adjusted for job efficiency: 152.70 LCY/Hour
 Optimal No. of Trucks: 2 Truck(s) Selected Number of Trucks: 1 Truck(s)

Adjusted hourly truck team production: 152.70 LCY/Hour
 Adjusted single truck/loader team production: 152.70 LCY/Hour
 Adjusted multiple truck/loader team production: **152.70** LCY/Hour

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: **228.88** HoursUnit cost: \$1.256 /LCY Total job cost: **\$43,892**

TRUCK/LOADER TEAM WORKTask description: **Haul Cover Material from Borrow Area #3 to Gob Pile #2**Site: **Bowie No. 2 Mine**Permit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 045DState: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-045DUser: RDZAgency 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:		NA
-Dump Area:		NA
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	100	NA	NA	NA	NA
Ownership cost/hour:	\$22.44	\$36.61	NA	NA	NA	NA
Operating cost/hour:	\$60.44	\$35.43	NA	NA	NA	NA
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Operator cost/hour:	\$0.00	\$36.85	NA	NA	NA	NA
Unit Subtotals:	\$82.88	\$108.89	NA	NA	NA	NA
Number of Units:	1	1	0	0	0	0
Group Subtotals:	Work:	\$191.77	Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$191.77****MATERIAL QUANTITIES**Initial volume: 5,000

CCY

Swell factor: 1.165Loose volume: **5,825**

LCY

Source of estimated volume: Volume IX, Appendix ASource of estimated swell factor: Cat HandbookMaterial Purchase Cost: \$0.00Total Cost: \$0.00**HOURLY PRODUCTION****Truck Capacity:****Truck Payload (weight) Basis:**Material weight: 2,900

Pounds/LCY

Description: Decomposed rock - 50% Rock, 50% EarthRated Payload: 35,400

Pounds

Payload Capacity: 12.21

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: **10.97** LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	4.300	LCY (heaped)
Bucket Fill Factor:	0.850	Hard, tough clay (80% - 90%) 0.850
Adjusted Capacity:	3.655	LCY

Job Condition Corrections:

Site Altitude (ft.): 6300 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	

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

Excavators and Front Shovels:

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

Track Loaders – Material Description: _____

Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100

Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.500 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Bank or broken material 0.04	0.040	(Cat HB)
Stockpile:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Truck Ownership:	Common ownership of trucks and loaders -0.04	-0.040	(Cat HB)
Operation:	Inconsistent 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:		0.540	minutes
Net Load Time per Truck:		1.180	minutes

Truck Cycle Time:

Truck Exchange Time:	0.50	Minutes	Adjusted for site altitude:	0.500	Minutes
Truck Load Time:	1.180	Minutes	Adjusted for site altitude:	1.180	Minutes
Truck Maneuver and Dump Time:	0.90	Minutes	Adjusted for site altitude:	0.900	Minutes

Truck Travel (Haul & Return) Time:
penetration 5.0

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

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	5.00	5.00	10.00	1068	0.950

Haul Time: **0.950** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	-5.00	5.00	0.00	2938	0.365

Return Time: **0.365** minutesTotal Truck Cycle Time: **3.895** minutes

Loading Tool unit
 Production 391.61 LCY/Hour Adjusted for job efficiency: 325.03 LCY/Hour
 Truck Unit Production
168.91 LCY/Hour Adjusted for job efficiency: 140.19 LCY/Hour
 Optimal No. of Trucks: 2 Truck(s) Selected Number of Trucks: 1 Truck(s)

Adjusted hourly truck team production: 140.19 LCY/Hour
 Adjusted single truck/loader team production: 140.19 LCY/Hour
 Adjusted multiple truck/loader team production: **140.19** LCY/Hour

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: **41.55** HoursUnit cost: \$1.368 /LCY Total job cost: **\$7,968**

TRUCK/LOADER TEAM WORKTask description: **Haul Cover Material from B Portal Storage to Gob Pile #2**Site: **Bowie No. 2 Mine**Permit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 045EState: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-045EUser: RDZAgency 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:		NA
-Dump Area:		NA
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	100	NA	NA	NA	NA
Ownership cost/hour:	\$22.44	\$36.61	NA	NA	NA	NA
Operating cost/hour:	\$60.44	\$35.43	NA	NA	NA	NA
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Operator cost/hour:	\$0.00	\$36.85	NA	NA	NA	NA
Unit Subtotals:	\$82.88	\$108.89	NA	NA	NA	NA
Number of Units:	4	1	0	0	0	0
Group Subtotals:	Work: \$440.41		Support: \$0.00		Maint: \$0.00	

Total work team cost/hour: **\$440.41****MATERIAL QUANTITIES**Initial volume: 14,000

CCY

Swell factor: 1.165Loose volume: **16,310**

LCY

Source of estimated volume: Volume XI, Appendix ASource of estimated swell factor: Cat HandbookMaterial Purchase Cost: \$0.00Total Cost: \$0.00**HOURLY PRODUCTION****Truck Capacity:****Truck Payload (weight) Basis:**Material weight: 2,900 Pounds/LCYDescription: Decomposed rock - 50% Rock, 50% EarthRated Payload: 35,400 PoundsPayload Capacity: 12.21 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: **10.64** LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	4.300	LCY (heaped)
Bucket Fill Factor:	0.825	Blasted rock - avg. blasted (75 - 90%) 0.825
Adjusted Capacity:	3.548	LCY

Job Condition Corrections:

Site Altitude (ft.): 6300 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	

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

Excavators and Front Shovels:

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

Track Loaders – Material Description: _____

Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100

Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.500 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Material 3/4" to 6" diameter 0.00	0.000	(Cat HB)
Stockpile:	Conveyor or dozer piled 10 ft. high or less 0.01	0.010	(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:		-0.070	minutes
Adjusted Loader Cycle Time:		0.430	minutes
Net Load Time per Truck:		0.960	minutes

Truck Cycle Time:

Truck Exchange Time:	0.50	Minutes	Adjusted for site altitude:	0.500	Minutes
Truck Load Time:	0.960	Minutes	Adjusted for site altitude:	0.960	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	6500.00	-10.70	3.00	-7.70	1749	3.831
2	3100.00	0.00	3.00	3.00	2824	1.128
3	1000.00	10.00	3.00	13.00	834	0.191

Haul Time: **5.150** minutes

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	0.410
2	3100.00	0.00	3.00	3.00	2874	1.079
3	6500.00	10.70	3.00	13.70	1274	5.147

Return Time: **6.636** minutesTotal Truck Cycle Time: **14.146** minutes

Loading Tool unit

Production 437.36 LCY/Hour Adjusted for job efficiency: 363.01 LCY/Hour

Truck Unit Production 45.14 LCY/Hour Adjusted for job efficiency: 37.47 LCY/Hour

Optimal No. of Trucks: 10 Truck(s) Selected Number of Trucks: 4 Truck(s)

Adjusted hourly truck team production: 149.86 LCY/Hour

Adjusted single truck/loader team production: 149.86 LCY/Hour

Adjusted multiple truck/loader team production: **149.86** LCY/Hour

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: **108.83** HoursUnit cost: \$2.939 /LCY Total job cost: **\$47,930**

SCRAPER TEAM WORKTask description: Place 2.5' of Coverfill on Gob Pile #3, from stockpileSite: Bowie No. 2 MinePermit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 046State: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-046User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 627G w/push-pull
-Dozer:	NA
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

Cost Breakdown:**Scraper Work Team****Support Equipment****Maintenance Equipment**

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	NA	NA	NA
Ownership cost/hour:	\$234.09	NA	NA	NA	NA	NA
Operating cost/hour:	\$265.71	NA	NA	NA	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$530.70	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$1,061.40		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: \$1,061.40**MATERIAL QUANTITIES**Initial volume: 78,050

CCY

Swell factor: 1.165Loose volume: 90,928

LCY

Source of estimated volume: Volume XI, Appendix ASource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>2,900 lbs/LCY</u>	Struck Volume:	<u>15.70</u>	LCY
Material description:	<u>Decomposed rock - 50% Rock, 50% Earth</u>	Heaped Volume:	<u>22.00</u>	LCY
Rated Payload:	<u>52,800 pounds</u>	Average Volume:	<u>18.85</u>	LCY
Payload Capacity:	<u>18.21 LCY</u>	Adjusted Capacity:	<u>18.21</u>	LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 6100 feet

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

Travel Time:Road Condition: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2600.00	0.00	5.00	5.00	2218	1.35

Haul Time: 1.35 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2600.00	0.00	5.00	5.00	2814	1.07

Return Time: 1.07 minutesTotal Scraper team cycle time: 3.92 minutesAdjusted for job conditions: 462.60 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 462.60 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 462.60 LCY/HourUnadjusted unit production/hour: 557.35 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 196.56 HoursUnit cost: \$2.294 /LCYTotal job cost: \$208,626

BULLDOZER WORKTask description: **Push temp coverfill mat. to face of Gob pile #3**Site: **Bowie No. 2 Mine**Permit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 047State: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-047User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D9T - 9SUHorsepower: 405Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$253.16</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$164.35</u>	<u>100</u>
Ripper own. Cost/Hour:	<u>\$0.00</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$38.59</u>	<u>NA</u>

Total unit Cost/Hour: \$456.10Total Fleet Cost/Hour: **\$456.10****MATERIAL QUANTITIES**Initial Volume: 5,500Swell factor: 1.000Loose volume: **5,500 LCY**Source of estimated volume: MR199 app.Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 200 feetUnadjusted hourly production: 700.0 LCY/hrMaterials consistency description: Loose stockpile 1.2Average push gradient: 5 %Average site altitude: 5,900 feetMaterial weight: 2,650 lbs/LCYWeight description: Decomposed rock - 25% Rock, 75% Earth**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	<u>0.750</u>	<u>(AVG.)</u>
Material consistency:	<u>1.200</u>	<u>(CAT HB)</u>
Dozing method:	<u>1.000</u>	<u>(GEN.)</u>
Visibility:	<u>1.000</u>	<u>(AVG.)</u>

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5855

Adjusted unit production: 409.85 LCY/hr

Adjusted fleet production: **409.85** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$1.113/LCY

Total job time: **13.42** Hours

Total job cost: **\$6,121**

COMPACTION WORK

Task description: Compact Backfilled D-Portal Bench,Roads, & Utility Corridor

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 050

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-050

User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 825H

Horsepower: 354

Compactor Type: Soil - tamping foot

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

Ownership Cost/Hour:	\$164.53	Utilization %	NA
Operating Cost/Hour:	\$161.21		100
Operator Cost/Hour:	\$25.60		NA
Total Unit Cost/Hour:	\$351.34		
Total Fleet Cost/Hour:	\$351.34		

MATERIAL QUANTITIES

Loose volume: 619,112

LCY

Shrinkage factor: 0.875

Compacted volume: **541,723**

CCY

Source of estimated volume: Total of All Backfilling Tasks

Source of estimated shrinkage factor: Cat Handbook

HOURLY PRODUCTION

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

Compacted width per pass (W):	<u>7.34</u>	feet
Average Compactor Speed (S):	<u>4.00</u>	mph
Compacted thickness of each lift (L):	<u>8.00</u>	inches
Conversion Constant (C):	<u>16.3</u>	(5,280ft./12in./27cu.ft.)
Required number of machine passes (P):	<u>3</u>	passes
Unadjusted Hourly Unit Production:	<u>1,276.18</u>	CCY/hour

Job Condition Correction Factors

Site Altitude: 6,500 feet

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

Adjusted Hourly Unit Production: 1,059.23 CCY/Hour

Adjusted Hourly Fleet Production: **1,059.23** CCY/Hour

JOB TIME AND COST

Fleet size: 1 Compactor(s)

Total job time: **511.43** Hours

Unit cost: \$0.332 per CCY

Total job cost: **\$179,686**

COMPACTION WORK

Task description: Compact Backfilled Material at Truck Loadout/Coal Stockpile

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 051

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-051

User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 825H

Horsepower: 354

Compactor Type: Soil - tamping foot

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

Ownership Cost/Hour:	\$164.53	Utilization %	NA
Operating Cost/Hour:	\$161.21		100
Operator Cost/Hour:	\$25.60		NA
Total Unit Cost/Hour:	\$351.34		
Total Fleet Cost/Hour:	\$351.34		

MATERIAL QUANTITIES

Loose volume: 67,920

LCY

Shrinkage factor: 0.875

Compacted volume: **59,430**

CCY

Source of estimated volume: Operator Estimate

Source of estimated shrinkage factor: Cat Handbook

HOURLY PRODUCTION

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

Compacted width per pass (W):	<u>7.34</u>	feet
Average Compactor Speed (S):	<u>4.00</u>	mph
Compacted thickness of each lift (L):	<u>8.00</u>	inches
Conversion Constant (C):	<u>16.3</u>	(5,280ft./12in./27cu.ft.)
Required number of machine passes (P):	<u>3</u>	passes
Unadjusted Hourly Unit Production:	<u>1,276.18</u>	CCY/hour

Job Condition Correction Factors

Site Altitude: 6,000 feet

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

Adjusted Hourly Unit Production: 1,059.23 CCY/Hour

Adjusted Hourly Fleet Production: **1,059.23** CCY/Hour

JOB TIME AND COST

Fleet size: 1 Compactor(s)

Total job time: **56.11** Hours

Unit cost: \$0.332 per CCY

Total job cost: **\$19,713**

COMPACTION WORK

Task description: Compact Backfilled Train Loadout

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 052

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-052

User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 825H

Horsepower: 354

Compactor Type: Soil - tamping foot

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

Ownership Cost/Hour:	\$164.53	Utilization %	NA
Operating Cost/Hour:	\$161.21		100
Operator Cost/Hour:	\$25.60		NA
Total Unit Cost/Hour:	\$351.34		
Total Fleet Cost/Hour:	\$351.34		

MATERIAL QUANTITIES

Loose volume: 231,495

LCY

Shrinkage factor: 0.875

Compacted volume: **202,558**

CCY

Source of estimated volume: Operator Estimate

Source of estimated shrinkage factor: Cat Handbook

HOURLY PRODUCTION

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

Compacted width per pass (W):	<u>7.34</u>	feet
Average Compactor Speed (S):	<u>4.00</u>	mph
Compacted thickness of each lift (L):	<u>8.00</u>	inches
Conversion Constant (C):	<u>16.3</u>	(5,280ft./12in./27cu.ft.)
Required number of machine passes (P):	<u>3</u>	passes
Unadjusted Hourly Unit Production:	<u>1,276.18</u>	CCY/hour

Job Condition Correction Factors

Site Altitude: 5,900 feet

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

Adjusted Hourly Unit Production: 1,059.23 CCY/Hour

Adjusted Hourly Fleet Production: **1,059.23** CCY/Hour

JOB TIME AND COST

Fleet size: 1 Compactor(s)

Total job time: **191.23** Hours

Unit cost: \$0.332 per CCY

Total job cost: **\$67,187**

COMPACTION WORK

Task description: Compact B-Seam Portal Bench

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 053

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-053

User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 825H

Horsepower: 354

Compactor Type: Soil - tamping foot

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

Ownership Cost/Hour:	\$164.53	Utilization %	NA
Operating Cost/Hour:	\$161.21		100
Operator Cost/Hour:	\$25.60		NA
Total Unit Cost/Hour:	\$351.34		
Total Fleet Cost/Hour:	\$351.34		

MATERIAL QUANTITIES

Loose volume: 138,000

LCY

Shrinkage factor: 0.875

Compacted volume: 120,750

CCY

Source of estimated volume: Operator Estimate

Source of estimated shrinkage factor: Cat Handbook

HOURLY PRODUCTION

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

Compacted width per pass (W):	<u>7.34</u>	feet
Average Compactor Speed (S):	<u>4.00</u>	mph
Compacted thickness of each lift (L):	<u>8.00</u>	inches
Conversion Constant (C):	<u>16.3</u>	(5,280ft./12in./27cu.ft.)
Required number of machine passes (P):	<u>3</u>	passes
Unadjusted Hourly Unit Production:	<u>1,276.18</u>	CCY/hour

Job Condition Correction Factors

Site Altitude: 6,750 feet

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

Adjusted Hourly Unit Production: 1,059.23 CCY/Hour

Adjusted Hourly Fleet Production: 1,059.23 CCY/Hour

JOB TIME AND COST

Fleet size: 1 Compactor(s)

Total job time: 114.00 Hours

Unit cost: \$0.332 per CCY

Total job cost: \$40,052

BULLDOZER RIPPING WORK

Task description: Rip Utility Bench

Site: Bowie No. 2 Mine Permit Action: MT6 Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 060 State: Colorado Abbreviation: None
Date: 9/24/2024 County: Delta Filename: C083-060
User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU Horsepower: 574
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	<u>\$257.39</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$196.93</u>	<u>100</u>
Ripper Ownership Cost/Hour:	<u>\$25.02</u>	<u>NA</u>
Ripper Operating Cost/Hour:	<u>\$11.73</u>	<u>100</u>
Operator Cost/Hour:	<u>\$38.59</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$529.66</u>	
Total Fleet Cost/Hour:	<u>\$2,118.62</u>	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 0.75 acres Rip Depth (ft): 2.63 Volume: 3,182 BCY or CCY

Source of estimated quantity: Map 15-2

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth: 2.88 feet/pass
Average Ripping Width: 8.67 feet/pass
Average Ripping Length: 50.00 feet/pass
Average Dozer Speed: 88.00 feet/minute
Average Maneuver Time: 0.25 minutes/pass
Production per unit area: 0.730 acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.730 Acres/hr
Site Altitude: 6,800 feet
Altitude Adj: 1.00 (CAT HB)
Job Efficiency: 0.83 (1 shift/day)
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.61 Acres/hr
Adjusted Hourly Fleet Production: 2.42 Acres/hr

JOB TIME AND COST

Fleet size: 4 Grader(s) Total job time: 0.31 Hours

Unit cost: \$874.413 Per acre Total job cost: \$656

BULLDOZER RIPPING WORK

Task description: Rip D-Portal Bench

Site: Bowie No. 2 Mine Permit Action: MT6 Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 061 State: Colorado Abbreviation: None
Date: 9/24/2024 County: Delta Filename: C083-061
User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU Horsepower: 574
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	<u>\$257.39</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$196.93</u>	<u>100</u>
Ripper Ownership Cost/Hour:	<u>\$25.02</u>	<u>NA</u>
Ripper Operating Cost/Hour:	<u>\$11.73</u>	<u>100</u>
Operator Cost/Hour:	<u>\$38.59</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$529.66</u>	
Total Fleet Cost/Hour:	<u>\$2,118.62</u>	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 9.00 acres Rip Depth (ft): 2.63 Volume: 38,188 BCY or CCY

Source of estimated quantity: Map 15-2

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth: 2.88 feet/pass
Average Ripping Width: 8.67 feet/pass
Average Ripping Length: 50.00 feet/pass
Average Dozer Speed: 88.00 feet/minute
Average Maneuver Time: 0.25 minutes/pass
Production per unit area: 0.730 acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.730 Acres/hr
Site Altitude: 6,800 feet
Altitude Adj: 1.00 (CAT HB)
Job Efficiency: 0.83 (1 shift/day)
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.61 Acres/hr
Adjusted Hourly Fleet Production: 2.42 Acres/hr

JOB TIME AND COST

Fleet size: 4 Grader(s) Total job time: 3.71 Hours

Unit cost: \$874.413 Per acre Total job cost: \$7,870

BULLDOZER RIPPING WORK

Task description: Rip Truck Loadout/Coal Stockpile Area

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 062

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-062

User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU
Ripper Attachment: 3-Shank Ripper

Horsepower: 574

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$257.39	NA
Operating Cost/Hour:	\$196.93	100
Ripper Ownership Cost/Hour:	\$25.02	NA
Ripper Operating Cost/Hour:	\$11.73	100
Operator Cost/Hour:	\$38.59	NA
Total Unit Cost/Hour:	\$529.66	
Total Fleet Cost/Hour:	\$2,118.62	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 5.00 acres Rip Depth (ft): 2.63 Volume: 21,215 BCY or CCY

Source of estimated quantity: Map 15-1

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth: 2.88 feet/pass
Average Ripping Width: 8.67 feet/pass
Average Ripping Length: 50.00 feet/pass
Average Dozer Speed: 88.00 feet/minute
Average Maneuver Time: 0.25 minutes/pass
Production per unit area: 0.730 acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.730 Acres/hr
Site Altitude: 6,000 feet
Altitude Adj: 1.00 (CAT HB)
Job Efficiency: 0.83 (1 shift/day)
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.61 Acres/hr
Adjusted Hourly Fleet Production: **2.42** Acres/hr

JOB TIME AND COST

Fleet size: 4 Grader(s) Total job time: **2.06** Hours

Unit cost: \$874.413 Per acre Total job cost: **\$4,372**

BULLDOZER RIPPING WORK

Task description: Rip Regraded Mine Area Prior to Topsoil Replacement

Site: Bowie No. 2 Mine Permit Action: MT6 Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 063 State: Colorado Abbreviation: None
Date: 9/24/2024 County: Delta Filename: C083-063
User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU Horsepower: 574
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	<u>\$257.39</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$196.93</u>	<u>100</u>
Ripper Ownership Cost/Hour:	<u>\$25.02</u>	<u>NA</u>
Ripper Operating Cost/Hour:	<u>\$11.73</u>	<u>100</u>
Operator Cost/Hour:	<u>\$38.59</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$529.66</u>	
Total Fleet Cost/Hour:	<u>\$2,118.62</u>	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 169.00 acres Rip Depth (ft): 2.63 Volume: 717,078 BCY or CCY

Source of estimated quantity: Total Regraded Area (Ripping per Page 2.05-48)

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth: 2.88 feet/pass
Average Ripping Width: 8.67 feet/pass
Average Ripping Length: 100.00 feet/pass
Average Dozer Speed: 88.00 feet/minute
Average Maneuver Time: 0.25 minutes/pass
Production per unit area: 0.861 acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.861 Acres/hr
Site Altitude: 6,500 feet
Altitude Adj: 1.00 (CAT HB)
Job Efficiency: 0.83 (1 shift/day)
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.71 Acres/hr
Adjusted Hourly Fleet Production: **2.86** Acres/hr

JOB TIME AND COST

Fleet size: 4 Grader(s) Total job time: **59.09** Hours

Unit cost: \$740.822 Per acre Total job cost: **\$125,198**

BULLDOZER RIPPING WORK

Task description: Rip Train Loadout Facilities and Railbed Benches

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 064

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-064

User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU

Horsepower: 574

Ripper Attachment: 3-Shank Ripper

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$257.39	NA
Operating Cost/Hour:	\$196.93	100
Ripper Ownership Cost/Hour:	\$25.02	NA
Ripper Operating Cost/Hour:	\$11.73	100
Operator Cost/Hour:	\$38.59	NA
Total Unit Cost/Hour:	\$529.66	
Total Fleet Cost/Hour:	\$2,118.62	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 22.00 acres Rip Depth (ft): 2.63 Volume: 93,347 BCY or CCY

Source of estimated quantity: Division Estimate

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth:	<u>2.88</u>	feet/pass
Average Ripping Width:	<u>8.67</u>	feet/pass
Average Ripping Length:	<u>100.00</u>	feet/pass
Average Dozer Speed:	<u>88.00</u>	feet/minute
Average Maneuver Time:	<u>0.25</u>	minutes/pass
Production per unit area:	<u>0.861</u>	acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.861 Acres/hr

Site Altitude: 5,900 feet

Altitude Adj: 1.00 (CAT HB)

Job Efficiency: 0.83 (1 shift/day)

Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.71 Acres/hr

Adjusted Hourly Fleet Production: **2.86** Acres/hr

JOB TIME AND COST

Fleet size: 4 Grader(s) Total job time: **7.69** Hours

Unit cost: \$740.822 Per acre Total job cost: **\$16,298**

BULLDOZER RIPPING WORK

Task description: Rip B-Seam Portal Bench

Site: Bowie No. 2 Mine Permit Action: MT6 Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 065 State: Colorado Abbreviation: None
Date: 9/24/2024 County: Delta Filename: C083-065
User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU Horsepower: 574
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	<u>\$257.39</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$196.93</u>	<u>100</u>
Ripper Ownership Cost/Hour:	<u>\$25.02</u>	<u>NA</u>
Ripper Operating Cost/Hour:	<u>\$11.73</u>	<u>100</u>
Operator Cost/Hour:	<u>\$38.59</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$529.66</u>	
Total Fleet Cost/Hour:	<u>\$2,118.62</u>	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 9.00 acres Rip Depth (ft): 2.63 Volume: 38,188 BCY or CCY

Source of estimated quantity: Operator Estimate

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth:	<u>2.88</u>	<u>feet/pass</u>
Average Ripping Width:	<u>8.67</u>	<u>feet/pass</u>
Average Ripping Length:	<u>50.00</u>	<u>feet/pass</u>
Average Dozer Speed:	<u>88.00</u>	<u>feet/minute</u>
Average Maneuver Time:	<u>0.25</u>	<u>minutes/pass</u>
Production per unit area:	<u>0.730</u>	<u>acres/hour</u>

Job Condition Correction Factors

Unadjusted Hourly Unit Production:	<u>0.730</u>	<u>Acres/hr</u>
Site Altitude:	<u>6,750</u>	<u>feet</u>
Altitude Adj:	<u>1.00</u>	<u>(CAT HB)</u>
Job Efficiency:	<u>0.83</u>	<u>(1 shift/day)</u>
Net Correction:	<u>0.83</u>	<u>multiplier</u>

Adjusted Hourly Unit Production: 0.61 Acres/hr
Adjusted Hourly Fleet Production: 2.42 Acres/hr

JOB TIME AND COST

Fleet size: 4 Grader(s) Total job time: 3.71 Hours

Unit cost: \$874.413 Per acre Total job cost: \$7,870

BULLDOZER RIPPING WORK

Task description: Rip Rock Laydown Pad Topsoil

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 066

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-066

User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU

Horsepower: 574

Ripper Attachment: 3-Shank Ripper

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$257.39	NA
Operating Cost/Hour:	\$196.93	100
Ripper Ownership Cost/Hour:	\$25.02	NA
Ripper Operating Cost/Hour:	\$11.73	100
Operator Cost/Hour:	\$38.59	NA
Total Unit Cost/Hour:	\$529.66	
Total Fleet Cost/Hour:	\$529.66	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 0.20 acres Rip Depth (ft): 2.00 Volume: 645 BCY or CCY

Source of estimated quantity: Operator Estimate

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth: 2.88 feet/pass
Average Ripping Width: 8.67 feet/pass
Average Ripping Length: 25.00 feet/pass
Average Dozer Speed: 88.00 feet/minute
Average Maneuver Time: 0.25 minutes/pass
Production per unit area: 0.559 acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.559 Acres/hr

Site Altitude: 7,100 feet

Altitude Adj: 1.00 (CAT HB)

Job Efficiency: 0.83 (1 shift/day)

Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.46 Acres/hr

Adjusted Hourly Fleet Production: **0.46** Acres/hr

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **0.43** Hours

Unit cost: \$1141.594 Per acre Total job cost: **\$228**

BULLDOZER RIPPING WORK

Task description: Rip Haul Roads (Portion Being Reclaimed) & Old Truck Loadout

Site: Bowie No. 2 Mine Permit Action: MT6 Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 070 State: Colorado Abbreviation: None
Date: 9/24/2024 County: Delta Filename: C083-070
User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU Horsepower: 574
Ripper Attachment: 1-Shank Ripper Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	<u>\$257.39</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$196.93</u>	<u>100</u>
Ripper Ownership Cost/Hour:	<u>\$20.05</u>	<u>NA</u>
Ripper Operating Cost/Hour:	<u>\$12.67</u>	<u>100</u>
Operator Cost/Hour:	<u>\$38.59</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$525.63</u>	
Total Fleet Cost/Hour:	<u>\$2,102.50</u>	

MATERIAL QUANTITIES

Selected estimating method: Seismic

Alternate Methods:

Seismic: 260,481 BCY Bank Volume: 260,481 BCY Adverse
Area: NA acres Rip Depth (ft): NA Volume: NA BCY or CCY

Source of estimated quantity: Operator Estimate

HOURLY PRODUCTION

Seismic:

Seismic Velocity: 5,000 feet/second

Area:

Average Ripping Depth: NA feet/pass
Average Ripping Width: NA feet/pass
Average Ripping Length: NA feet/pass
Average Dozer Speed: NA feet/minute
Average Maneuver Time: NA minutes/pass
Production per unit area: NA acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 673.60 Cu. yds./hr
Site Altitude: 6,500 feet
Altitude Adj: 1.00 (CAT HB)
Job Efficiency: 0.83 (1 shift/day)
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 559.09 Cu. yds./hr
Adjusted Hourly Fleet Production: **2,236.35** Cu. yds./hr

JOB TIME AND COST

Fleet size: 4 Grader(s) Total job time: **116.48** Hours

Unit cost: \$0.940 Per cu. yd. Total job cost: **\$244,890**

SCRAPER TEAM WORKTask description: **Remove Haul Road Subbase and Place on Gob Pile #1**Site: **Bowie No. 2 Mine**Permit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 071State: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-071User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 627G w/push-pull
-Dozer:	NA
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

Cost Breakdown:**Scraper Work Team****Support Equipment****Maintenance Equipment**

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	NA	NA	NA
Ownership cost/hour:	\$234.09	NA	NA	NA	NA	NA
Operating cost/hour:	\$265.71	NA	NA	NA	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$530.70	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$1,061.40		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$1,061.40****MATERIAL QUANTITIES**Initial volume: 7,484

CCY

Swell factor: 1.000Loose volume: **7,484**

LCY

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

Material weight:	<u>2,800 lbs/LCY</u>	Struck Volume:	<u>15.70</u>	LCY
Material description:	<u>Clay - Natural bed</u>	Heaped Volume:	<u>22.00</u>	LCY
Rated Payload:	<u>52,800 pounds</u>	Average Volume:	<u>18.85</u>	LCY
Payload Capacity:	<u>18.86 LCY</u>	Adjusted Capacity:	<u>18.85</u>	LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 6750 feet

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

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	6850.00	-6.00	3.00	-3.00	2938	2.40

Haul Time: 2.40 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	6850.00	6.00	3.00	9.00	1930	3.63

Return Time: 3.63 minutesTotal Scraper team cycle time: 7.53 minutesAdjusted for job conditions: 249.33 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 249.33 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 249.33 LCY/HourUnadjusted unit production/hour: 300.40 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 30.02 HoursUnit cost: \$4.257 /LCYTotal job cost: \$31,859

BULLDOZER RIPPING WORK

Task description: Rip Truck Loadout Road

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 072

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-072

User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU

Horsepower: 574

Ripper Attachment: 1-Shank Ripper

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$257.39	NA
Operating Cost/Hour:	\$196.93	100
Ripper Ownership Cost/Hour:	\$20.05	NA
Ripper Operating Cost/Hour:	\$12.67	100
Operator Cost/Hour:	\$38.59	NA
Total Unit Cost/Hour:	\$525.63	
Total Fleet Cost/Hour:	\$2,102.50	

MATERIAL QUANTITIES

Selected estimating method: Seismic

Alternate Methods:

Seismic: 4,800 BCY Bank Volume: 4,800 BCY Adverse
Area: NA acres Rip Depth (ft): NA Volume: NA BCY or CCY

Source of estimated quantity: Division Estimate

HOURLY PRODUCTION

Seismic:

Seismic Velocity: 5,000 feet/second

Area:

Average Ripping Depth: NA feet/pass
Average Ripping Width: NA feet/pass
Average Ripping Length: NA feet/pass
Average Dozer Speed: NA feet/minute
Average Maneuver Time: NA minutes/pass
Production per unit area: NA acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 673.60 Cu. yds./hr

Site Altitude: 6,000 feet

Altitude Adj: 1.00 (CAT HB)

Job Efficiency: 0.83 (1 shift/day)

Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 559.09 Cu. yds./hr

Adjusted Hourly Fleet Production: **2,236.35** Cu. yds./hr

JOB TIME AND COST

Fleet size: 4 Grader(s) Total job time: **2.15** Hours

Unit cost: \$0.940 Per cu. yd. Total job cost: **\$4,513**

SCRAPER TEAM WORKTask description: **Haul Truck Loadout Subbase to Gob Pile #1**Site: **Bowie No. 2 Mine**Permit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 073State: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-073User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 627G w/push-pull
-Dozer:	NA
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

Cost Breakdown:

Scraper Work Team

Support Equipment

Maintenance Equipment

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	NA	NA	NA
Ownership cost/hour:	\$234.09	NA	NA	NA	NA	NA
Operating cost/hour:	\$265.71	NA	NA	NA	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$530.70	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$1,061.40		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$1,061.40****MATERIAL QUANTITIES**Initial volume: 6,000

CCY

Swell factor: 1.000Loose volume: **6,000**

LCY

Source of estimated volume: Page 2.08-18Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>2,850 lbs/LCY</u>	Struck Volume:	<u>15.70</u>	LCY
Material description:	<u>Gravel - Dry (1/4" - 2" diam.)</u>	Heaped Volume:	<u>22.00</u>	LCY
Rated Payload:	<u>52,800 pounds</u>	Average Volume:	<u>18.85</u>	LCY
Payload Capacity:	<u>18.53 LCY</u>	Adjusted Capacity:	<u>18.53</u>	LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 6750 feet

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

Travel Time:Road Condition: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2600.00	0.00	5.00	5.00	2218	1.35

Haul Time: 1.35 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2600.00	0.00	5.00	5.00	2814	1.07

Return Time: 1.07 minutesTotal Scraper team cycle time: 3.92 minutesAdjusted for job conditions: 470.72 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 470.72 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 470.72 LCY/HourUnadjusted unit production/hour: 567.13 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 12.75 HoursUnit cost: \$2.255 /LCYTotal job cost: \$13,529

BULLDOZER RIPPING WORK

Task description: Rip Upper Haul Road Asphalt Prior to Road Narrowing

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 074

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-074

User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU
Ripper Attachment: 1-Shank Ripper

Horsepower: 574

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$257.39	NA
Operating Cost/Hour:	\$196.93	100
Ripper Ownership Cost/Hour:	\$20.05	NA
Ripper Operating Cost/Hour:	\$12.67	100
Operator Cost/Hour:	\$38.59	NA
Total Unit Cost/Hour:	\$525.63	
Total Fleet Cost/Hour:	\$2,102.50	

MATERIAL QUANTITIES

Selected estimating method: Seismic

Alternate Methods:

Seismic: 6,600 BCY Bank Volume: 6,600 BCY Adverse
Area: NA acres Rip Depth (ft): NA Volume: NA BCY or CCY

Source of estimated quantity: Division Estimate

HOURLY PRODUCTION

Seismic:

Seismic Velocity: 5,000 feet/second

Area:

Average Ripping Depth: NA feet/pass
Average Ripping Width: NA feet/pass
Average Ripping Length: NA feet/pass
Average Dozer Speed: NA feet/minute
Average Maneuver Time: NA minutes/pass
Production per unit area: NA acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 673.60 Cu. yds./hr

Site Altitude: 6,800 feet

Altitude Adj: 1.00 (CAT HB)

Job Efficiency: 0.83 (1 shift/day)

Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 559.09 Cu. yds./hr

Adjusted Hourly Fleet Production: **2,236.35** Cu. yds./hr

JOB TIME AND COST

Fleet size: 4 Grader(s) Total job time: **2.95** Hours

Unit cost: \$0.940 Per cu. yd. Total job cost: **\$6,205**

TRUCK/LOADER TEAM WORKTask description: Pull Back/Haul Fill Mat'l from Upper Haul Rd NarrowingSite: Bowie No. 2 MinePermit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 075State: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-075User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Shift basis: 1 per day

Equipment Description	
Truck Loader Team -Truck:	Cat 773F
-Loader:	Cat 365C L 13'-7" Stick
Support Equipment -Load Area:	NA
-Dump Area:	NA
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	NA	NA	NA	NA
Ownership cost/hour:	\$128.28	\$244.29	NA	NA	NA	NA
Operating cost/hour:	\$102.12	\$218.49	NA	NA	NA	NA
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Operator cost/hour:	\$25.24	\$33.87	NA	NA	NA	NA
Unit Subtotals:	\$255.64	\$496.65	NA	NA	NA	NA
Number of Units:	2	1	0	0	0	0
Group Subtotals:	Work: \$1,007.93		Support: \$0.00		Maint: \$0.00	

Total work team cost/hour: \$1,007.93**MATERIAL QUANTITIES**Initial volume: 60,564

CCY

Swell factor: 1.165Loose volume: 70,557

LCY

Source of estimated volume: Operator EstimateSource of estimated swell factor: Cat HandbookMaterial Purchase Cost: \$0.00Total Cost: \$0.00**HOURLY PRODUCTION****Truck Capacity:**Truck Payload (weight) Basis:Material weight: 2,900

Pounds/LCY

Description: Decomposed rock - 50% Rock, 50% EarthRated Payload: 122,520

Pounds

Payload Capacity: 42.25

LCY

Truck Bed (volume) Basis:

Struck Volume:	35.00	LCY
Heaped Volume:	46.50	LCY
Average Volume:	40.75	LCY
Adjusted Volume:	42.25	LCY

Final Truck Volume Based on Number of Loader Passes: 42.26 LCY

Loading Tool Capacity

Bucket Size Class: Large

Rated Capacity:	6.900	LCY (heaped)
Bucket Fill Factor:	0.875	Loose material - 1" and over (85 - 90%) 0.875
Adjusted Capacity:	6.038	LCY

Job Condition Corrections:

Site Altitude (ft.): 6900 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	

Loading Tool Cycle Time: Number of Loading Tool Passes Required to Fill Truck: 7 passes

Excavators and Front Shovels:

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

Track Loaders – Material Description: _____

Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100

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

Cycle Time Factors		Factor (min.)	Source
Material:	NA	NA	(Cat HB)
Stockpile:	NA	NA	(Cat HB)
Truck Ownership:	NA	NA	(Cat HB)
Operation:	NA	NA	(Cat HB)
Dump Target:	NA	NA	(Cat HB)
Net Cycle Time Adjustment:		NA	minutes
Adjusted Loader Cycle Time:		0.570	minutes
Net Load Time per Truck:		3.520	minutes

Truck Cycle Time:

Truck Exchange Time:	0.70	Minutes	Adjusted for site altitude:	0.700	Minutes
Truck Load Time:	3.520	Minutes	Adjusted for site altitude:	3.520	Minutes
Truck Maneuver and Dump Time:	1.10	Minutes	Adjusted for site altitude:	1.100	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	750.00	10.00	3.00	13.00	678	1.135

Haul Time: **1.135** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	750.00	-10.00	3.00	-7.00	3512	0.267

Return Time: **0.267** minutesTotal Truck Cycle Time: **6.722** minutes

Loading Tool unit
 Production 600.89 LCY/Hour Adjusted for job efficiency: 498.74 LCY/Hour
 Truck Unit Production 377.23 LCY/Hour Adjusted for job efficiency: 313.10 LCY/Hour
 Optimal No. of Trucks: 2 Truck(s) Selected Number of Trucks: 2 Truck(s)

Adjusted hourly truck team production: 626.20 LCY/Hour
 Adjusted single truck/loader team production: 498.74 LCY/Hour
 Adjusted multiple truck/loader team production: **498.74** LCY/Hour

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: **141.47** HoursUnit cost: \$2.021 /LCY Total job cost: **\$142,593**

BULLDOZER WORKTask description: **Regrade Narrowed Section of Haul Road**Site: **Bowie No. 2 Mine**Permit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 076State: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-076User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D10T - 10SUHorsepower: 574Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$257.39</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$196.93</u>	<u>100</u>
Ripper own. Cost/Hour:	<u>\$0.00</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$38.59</u>	<u>NA</u>

Total unit Cost/Hour: \$492.91Total Fleet Cost/Hour: **\$1,971.62****MATERIAL QUANTITIES**Initial Volume: 60,564Swell factor: 1.165Loose volume: **70,557 LCY**Source of estimated volume: Operator EstimateSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 75 feetUnadjusted hourly production: 2,105.3 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: 5 %Average site altitude: 6,500 feetMaterial weight: 2,900 lbs/LCYWeight description: Decomposed rock - 50% Rock, 50% Earth**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	<u>0.750</u>	<u>(AVG.)</u>
Material consistency:	<u>0.900</u>	<u>(CAT HB))</u>
Dozing method:	<u>1.000</u>	<u>(GEN.)</u>
Visibility:	<u>1.000</u>	<u>(AVG.)</u>

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3209

Adjusted unit production: 675.59 LCY/hr

Adjusted fleet production: **2702.36** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$0.730/LCY

Total job time: **26.11** Hours

Total job cost: **\$51,478**

BULLDOZER RIPPING WORK

Task description: Rip Gob Pile #1 Road

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 077

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-077

User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU

Horsepower: 574

Ripper Attachment: 1-Shank Ripper

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$257.39	NA
Operating Cost/Hour:	\$196.93	100
Ripper Ownership Cost/Hour:	\$20.05	NA
Ripper Operating Cost/Hour:	\$12.67	100
Operator Cost/Hour:	\$38.59	NA
Total Unit Cost/Hour:	\$525.63	
Total Fleet Cost/Hour:	\$2,102.50	

MATERIAL QUANTITIES

Selected estimating method: Seismic

Alternate Methods:

Seismic: 5,277 BCY Bank Volume: 5,277 BCY Adverse
Area: NA acres Rip Depth (ft): NA Volume: NA BCY or CCY

Source of estimated quantity: Page 3.02-2

HOURLY PRODUCTION

Seismic:

Seismic Velocity: 5,000 feet/second

Area:

Average Ripping Depth: NA feet/pass
Average Ripping Width: NA feet/pass
Average Ripping Length: NA feet/pass
Average Dozer Speed: NA feet/minute
Average Maneuver Time: NA minutes/pass
Production per unit area: NA acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 673.60 Cu. yds./hr

Site Altitude: 6,000 feet

Altitude Adj: 1.00 (CAT HB)

Job Efficiency: 0.83 (1 shift/day)

Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 559.09 Cu. yds./hr

Adjusted Hourly Fleet Production: **2,236.35** Cu. yds./hr

JOB TIME AND COST

Fleet size: 4 Grader(s) Total job time: **2.36** Hours

Unit cost: \$0.940 Per cu. yd. Total job cost: **\$4,961**

BULLDOZER WORKTask description: **Regrade Gob Pile #1 Road**Site: **Bowie No. 2 Mine**Permit Action: **MT6**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **078**State: **Colorado**Abbreviation: **None**Date: **9/24/2024**County: **Delta**Filename: **C083-078**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D10T - 10SU**Horsepower: **574**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$257.39	NA
Operating Cost/Hour:	\$196.93	100
Ripper own. Cost/Hour:	\$25.02	NA
Ripper op. Cost/Hour:	\$11.73	100
Operator Cost/Hour:	\$38.59	NA

Total unit Cost/Hour: **\$529.66**Total Fleet Cost/Hour: **\$2,118.62****MATERIAL QUANTITIES**Initial Volume: **5,963**Swell factor: **1.165**Loose volume: **6,947 LCY**Source of estimated volume: **Page 3.02-2**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **200 feet**Unadjusted hourly production: **946.0 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **0 %**Average site altitude: **6,000 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:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3554

Adjusted unit production: 336.21 LCY/hr

Adjusted fleet production: **1344.84** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$1.575/LCY

Total job time: **5.17** Hours

Total job cost: **\$10,944**

BULLDOZER RIPPING WORK

Task description: Rip Access Road

Site: Bowie No. 2 Mine Permit Action: MT6 Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 079 State: Colorado Abbreviation: None
Date: 9/24/2024 County: Delta Filename: C083-079
User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU Horsepower: 574
Ripper Attachment: 1-Shank Ripper Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	<u>\$257.39</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$196.93</u>	<u>100</u>
Ripper Ownership Cost/Hour:	<u>\$20.05</u>	<u>NA</u>
Ripper Operating Cost/Hour:	<u>\$12.67</u>	<u>100</u>
Operator Cost/Hour:	<u>\$38.59</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$525.63</u>	
Total Fleet Cost/Hour:	<u>\$2,102.50</u>	

MATERIAL QUANTITIES

Selected estimating method: Seismic

Alternate Methods:

Seismic: 1,648 BCY Bank Volume: 1,648 BCY Adverse
Area: NA acres Rip Depth (ft): NA Volume: NA BCY or CCY

Source of estimated quantity: Division Estimate

HOURLY PRODUCTION

Seismic:

Seismic Velocity: 5,000 feet/second

Area:

Average Ripping Depth: NA feet/pass
Average Ripping Width: NA feet/pass
Average Ripping Length: NA feet/pass
Average Dozer Speed: NA feet/minute
Average Maneuver Time: NA minutes/pass
Production per unit area: NA acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 673.60 Cu. yds./hr
Site Altitude: 6,500 feet
Altitude Adj: 1.00 (CAT HB)
Job Efficiency: 0.83 (1 shift/day)
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 559.09 Cu. yds./hr
Adjusted Hourly Fleet Production: **2,236.35** Cu. yds./hr

JOB TIME AND COST

Fleet size: 4 Grader(s) Total job time: **0.74** Hours

Unit cost: \$0.940 Per cu. yd. Total job cost: **\$1,549**

SCRAPER TEAM WORKTask description: **Haul Access Road Surface to Gob Pile #1**Site: **Bowie No. 2 Mine**Permit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 080State: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-080User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 627G w/push-pull
-Dozer:	NA
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

Cost Breakdown:**Scraper Work Team****Support Equipment****Maintenance Equipment**

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	NA	NA	NA
Ownership cost/hour:	\$234.09	NA	NA	NA	NA	NA
Operating cost/hour:	\$265.71	NA	NA	NA	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$530.70	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$1,061.40		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$1,061.40****MATERIAL QUANTITIES**Initial volume: 1,928

CCY

Swell factor: 1.000Loose volume: **1,928**

LCY

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

Material weight:	<u>2,900 lbs/LCY</u>	Struck Volume:	<u>15.70</u>	LCY
Material description:	<u>Decomposed rock - 50% Rock, 50% Earth</u>	Heaped Volume:	<u>22.00</u>	LCY
Rated Payload:	<u>52,800 pounds</u>	Average Volume:	<u>18.85</u>	LCY
Payload Capacity:	<u>18.21 LCY</u>	Adjusted Capacity:	<u>18.21</u>	LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 6750 feet

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

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	3900.00	-2.50	3.00	0.50	2921	1.50

Haul Time: 1.50 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	3900.00	2.50	3.00	5.50	2736	1.57

Return Time: 1.57 minutesTotal Scraper team cycle time: 4.57 minutesAdjusted for job conditions: 396.81 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 396.81 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 396.81 LCY/HourUnadjusted unit production/hour: 478.08 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 4.86 HoursUnit cost: \$2.675 /LCYTotal job cost: \$5,157

BULLDOZER WORKTask description: **Regrade Access Road**Site: **Bowie No. 2 Mine**Permit Action: **MT6**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **081**State: **Colorado**Abbreviation: **None**Date: **9/24/2024**County: **Delta**Filename: **C083-081**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D10T - 10SU**Horsepower: **574**Blade Type: **Semi-Universal**Attachment: **NA**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$257.39	NA
Operating Cost/Hour:	\$196.93	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.59	NA

Total unit Cost/Hour: **\$492.91**Total Fleet Cost/Hour: **\$1,971.62****MATERIAL QUANTITIES**Initial Volume: **3,296**Swell factor: **1.330**Loose volume: **4,384 LCY**Source of estimated volume: **Division of Reclamation, Mining & Safety**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **100 feet**Unadjusted hourly production: **1,718.9 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **0 %**Average site altitude: **6,500 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:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3554

Adjusted unit production: 610.90 LCY/hr

Adjusted fleet production: **2443.6** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$0.807/LCY

Total job time: **1.79** Hours

Total job cost: **\$3,537**

BULLDOZER WORKTask description: **Backfill and Regrade Haul Road to Gob Pile #2**Site: **Bowie No. 2 Mine**Permit Action: **MT6**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **083**State: **Colorado**Abbreviation: **None**Date: **9/24/2024**County: **Delta**Filename: **C083-083**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D10T - 10SU**Horsepower: **574**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$257.39	NA
Operating Cost/Hour:	\$196.93	100
Ripper own. Cost/Hour:	\$25.02	NA
Ripper op. Cost/Hour:	\$11.73	100
Operator Cost/Hour:	\$38.59	NA

Total unit Cost/Hour: **\$529.66**Total Fleet Cost/Hour: **\$2,118.62****MATERIAL QUANTITIES**Initial Volume: **600**Swell factor: **1.165**Loose volume: **699 LCY**Source of estimated volume: **Division of Reclamation, Mining & Safety**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **150 feet**Unadjusted hourly production: **1,243.2 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **5 %**Average site altitude: **6,100 feet**Material weight: **2,900 lbs/LCY**Weight description: **Decomposed rock - 50% Rock, 50% Earth****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3209

Adjusted unit production: 398.94 LCY/hr

Adjusted fleet production: **1595.76** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$1.328/LCY

Total job time: **0.44** Hours

Total job cost: **\$928**

BULLDOZER RIPPING WORK

Task description: Rip Lower Haul Road

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 084

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-084

User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU

Ripper Attachment: 3-Shank Ripper

Horsepower: 574

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$257.39	NA
Operating Cost/Hour:	\$196.93	100
Ripper Ownership Cost/Hour:	\$25.02	NA
Ripper Operating Cost/Hour:	\$11.73	100
Operator Cost/Hour:	\$38.59	NA
Total Unit Cost/Hour:	\$529.66	
Total Fleet Cost/Hour:	\$2,118.62	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 3.00 acres Rip Depth (ft): 2.00 Volume: 9,680 BCY or CCY

Source of estimated quantity: Division Estimate

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth: 2.88 feet/pass
Average Ripping Width: 8.67 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: 0.947 acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.947 Acres/hr
Site Altitude: 6,500 feet
Altitude Adj: 1.00 (CAT HB)
Job Efficiency: 0.83 (1 shift/day)
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.79 Acres/hr

Adjusted Hourly Fleet Production: 3.14 Acres/hr

JOB TIME AND COST

Fleet size: 4 Grader(s) Total job time: 0.95 Hours

Unit cost: \$674.026 Per acre Total job cost: \$2,022

BULLDOZER WORKTask description: **Regrade Lower Haul Road**Site: **Bowie No. 2 Mine**Permit Action: **MT6**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **085**State: **Colorado**Abbreviation: **None**Date: **9/24/2024**County: **Delta**Filename: **C083-085**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D10T - 10SU**Horsepower: **574**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$257.39	NA
Operating Cost/Hour:	\$196.93	100
Ripper own. Cost/Hour:	\$25.02	NA
Ripper op. Cost/Hour:	\$11.73	100
Operator Cost/Hour:	\$38.59	NA

Total unit Cost/Hour: **\$529.66**Total Fleet Cost/Hour: **\$2,118.62****MATERIAL QUANTITIES**Initial Volume: **37,998**Swell factor: **1.165**Loose volume: **44,268 LCY**Source of estimated volume: **Division of Reclamation, Mining & Safety**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **200 feet**Unadjusted hourly production: **946.0 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **5 %**Average site altitude: **6,500 feet**Material weight: **2,900 lbs/LCY**Weight description: **Decomposed rock - 50% Rock, 50% Earth****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3209

Adjusted unit production: 303.57 LCY/hr

Adjusted fleet production: **1214.28** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$1.745/LCY

Total job time: **36.46** Hours

Total job cost: **\$77,236**

BULLDOZER WORKTask description: **Regrade Light Use Roads from MRs and TRs**Site: **Bowie No. 2 Mine**Permit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 086State: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-086User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D10T - 10SUHorsepower: 574Blade Type: Semi-UniversalAttachment: 3-shank ripperShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$257.39</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$196.93</u>	<u>100</u>
Ripper own. Cost/Hour:	<u>\$25.02</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$11.73</u>	<u>100</u>
Operator Cost/Hour:	<u>\$38.59</u>	<u>NA</u>

Total unit Cost/Hour: \$529.66Total Fleet Cost/Hour: **\$2,118.62****MATERIAL QUANTITIES**Initial Volume: 115,458Swell factor: 1.165Loose volume: **134,509 LCY**Source of estimated volume: 46.71 acres, 1.5' depthSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 100 feetUnadjusted hourly production: 1,718.9 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: 5 %Average site altitude: 7,500 feetMaterial weight: 2,900 lbs/LCYWeight description: Decomposed rock - 50% Rock, 50% Earth**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	<u>0.750</u>	<u>(AVG.)</u>
Material consistency:	<u>0.900</u>	<u>(CAT HB))</u>
Dozing method:	<u>1.000</u>	<u>(GEN.)</u>
Visibility:	<u>1.000</u>	<u>(AVG.)</u>

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3209

Adjusted unit production: 551.60 LCY/hr

Adjusted fleet production: **2206.4** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$0.960/LCY

Total job time: **60.96** Hours

Total job cost: **\$129,157**

MOTOR GRADER WORK

Task description: Finish Grade Disturbed Mine Area

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 090

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-090

User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 14M

Horsepower: 259

Ripper Attachment: Multi-Shank Ripper

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$129.81	NA
Operating Cost/Hour:	\$89.13	100
Ripper Ownership Cost/Hour:	\$5.75	NA
Ripper Operating Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$27.76	NA
Total Unit Cost/Hour:	\$252.45	
Total Fleet Cost/Hour:	\$252.45	

MATERIAL QUANTITIES

Total Area to be graded or ripped: 169.00 acres

Source of estimated acreage: Total of all disturbed areas

HOURLY PRODUCTION

Average Grader Speed:	<u>1.25</u>	mph
Selected Application:	<u>Production Deration - 1.25</u>	
Selected Blade Angle:	<u>30</u>	degrees
Effective Blade Length:	<u>12.10</u>	feet
Width of blade overlap per pass:	<u>2.00</u>	feet
Net grading or ripping width per pass:	<u>10.10</u>	feet
Unadjusted Hourly Unit Production:	<u>1.5303</u>	acres/hour

Job Condition Correction Factors

Site Altitude: 6500 feet

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

Adjusted Hourly Unit Production: 1.3008 acres/Hour

Adjusted Hourly Fleet Production: **1.3008** acres/Hour

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **129.92** Hours

Unit cost: \$194.08 per acre Total job cost: **\$32,799**

MOTOR GRADER WORK

Task description: Finish Grade Train Loadout

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 091

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-091

User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 14M

Horsepower: 259

Ripper Attachment: Multi-Shank Ripper

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$129.81	NA
Operating Cost/Hour:	\$89.13	100
Ripper Ownership Cost/Hour:	\$5.75	NA
Ripper Operating Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$27.76	NA
Total Unit Cost/Hour:	\$252.45	
Total Fleet Cost/Hour:	\$252.45	

MATERIAL QUANTITIES

Total Area to be graded or ripped: 22.00 acres

Source of estimated acreage: Operator estimate

HOURLY PRODUCTION

Average Grader Speed:	<u>1.25</u>	mph
Selected Application:	<u>Production Deration - 1.25</u>	
Selected Blade Angle:	<u>30</u>	degrees
Effective Blade Length:	<u>12.10</u>	feet
Width of blade overlap per pass:	<u>2.00</u>	feet
Net grading or ripping width per pass:	<u>10.10</u>	feet
Unadjusted Hourly Unit Production:	<u>1.5303</u>	acres/hour

Job Condition Correction Factors

Site Altitude: 5900 feet

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

Adjusted Hourly Unit Production: 1.3008 acres/Hour

Adjusted Hourly Fleet Production: **1.3008** acres/Hour

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **16.91** Hours

Unit cost: \$194.08 per acre Total job cost: **\$4,270**

MOTOR GRADER WORK

Task description: Finish Grade B-Seam Portal Bench

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 092

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-092

User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 14M

Horsepower: 259

Ripper Attachment: Multi-Shank Ripper

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$129.81	NA
Operating Cost/Hour:	\$89.13	100
Ripper Ownership Cost/Hour:	\$5.75	NA
Ripper Operating Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$27.76	NA
Total Unit Cost/Hour:	\$252.45	
Total Fleet Cost/Hour:	\$252.45	

MATERIAL QUANTITIES

Total Area to be graded or ripped: 9.00 acres

Source of estimated acreage: Operator Estimate

HOURLY PRODUCTION

Average Grader Speed:	<u>1.25</u>	mph
Selected Application:	<u>Production Deration - 1.25</u>	
Selected Blade Angle:	<u>30</u>	degrees
Effective Blade Length:	<u>12.10</u>	feet
Width of blade overlap per pass:	<u>2.00</u>	feet
Net grading or ripping width per pass:	<u>10.10</u>	feet
Unadjusted Hourly Unit Production:	<u>1.5303</u>	acres/hour

Job Condition Correction Factors

Site Altitude: 6750 feet

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

Adjusted Hourly Unit Production: 1.3008 acres/Hour

Adjusted Hourly Fleet Production: **1.3008** acres/Hour

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **6.92** Hours

Unit cost: \$194.08 per acre Total job cost: **\$1,747**

MOTOR GRADER WORK

Task description: Finish Grade Gob Piles #1, #2, #3, and #4

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 093

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-093

User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 14M

Horsepower: 259

Ripper Attachment: Multi-Shank Ripper

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$129.81	NA
Operating Cost/Hour:	\$89.13	100
Ripper Ownership Cost/Hour:	\$5.75	NA
Ripper Operating Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$27.76	NA
Total Unit Cost/Hour:	\$252.45	
Total Fleet Cost/Hour:	\$252.45	

MATERIAL QUANTITIES

Total Area to be graded or ripped: 78.60 acres

Source of estimated acreage: Permit Volume IX

HOURLY PRODUCTION

Average Grader Speed:	<u>1.25</u>	mph
Selected Application:	<u>Production Deration - 1.25</u>	
Selected Blade Angle:	<u>30</u>	degrees
Effective Blade Length:	<u>12.10</u>	feet
Width of blade overlap per pass:	<u>2.00</u>	feet
Net grading or ripping width per pass:	<u>10.10</u>	feet
Unadjusted Hourly Unit Production:	<u>1.5303</u>	acres/hour

Job Condition Correction Factors

Site Altitude: 6100 feet

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

Adjusted Hourly Unit Production: 1.3008 acres/Hour

Adjusted Hourly Fleet Production: **1.3008** acres/Hour

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **60.43** Hours

Unit cost: \$194.08 per acre Total job cost: **\$15,255**

BULLDOZER WORKTask description: **Backfill and Regrade Pond B**Site: **Bowie No. 2 Mine**Permit Action: **MT6**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **095**State: **Colorado**Abbreviation: **None**Date: **9/24/2024**County: **Delta**Filename: **C083-095**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D10T - 10SU**Horsepower: **574**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$257.39	NA
Operating Cost/Hour:	\$196.93	100
Ripper own. Cost/Hour:	\$25.02	NA
Ripper op. Cost/Hour:	\$11.73	100
Operator Cost/Hour:	\$38.59	NA

Total unit Cost/Hour: **\$529.66**Total Fleet Cost/Hour: **\$529.66****MATERIAL QUANTITIES**Initial Volume: **4,290**Swell factor: **1.330**Loose volume: **5,706 LCY**Source of estimated volume: **Map 22B; Operator Estimate**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **75 feet**Unadjusted hourly production: **2,105.3 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **0 %**Average site altitude: **6,000 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:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3554

Adjusted unit production: 748.22 LCY/hr

Adjusted fleet production: **748.22** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.708/LCY

Total job time: **7.63** Hours

Total job cost: **\$4,039**

BULLDOZER WORKTask description: **Backfill and Regrade Pond C**Site: **Bowie No. 2 Mine**Permit Action: **MT6**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **096**State: **Colorado**Abbreviation: **None**Date: **9/24/2024**County: **Delta**Filename: **C083-096**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D10T - 10SU**Horsepower: **574**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$257.39	NA
Operating Cost/Hour:	\$196.93	100
Ripper own. Cost/Hour:	\$25.02	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.59	NA

Total unit Cost/Hour: **\$517.93**Total Fleet Cost/Hour: **\$517.93****MATERIAL QUANTITIES**Initial Volume: **5,334**Swell factor: **1.330**Loose volume: **7,094 LCY**Source of estimated volume: **Map 22C; Operator Estimate**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **100 feet**Unadjusted hourly production: **1,718.9 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **0 %**Average site altitude: **6,000 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:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3554

Adjusted unit production: 610.90 LCY/hr

Adjusted fleet production: **610.9** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.848/LCY

Total job time: **11.61** Hours

Total job cost: **\$6,015**

BULLDOZER WORKTask description: **Backfill and Regrade Gob Pile Pond D**Site: **Bowie No. 2 Mine**Permit Action: **MT6**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **097**State: **Colorado**Abbreviation: **None**Date: **9/24/2024**County: **Delta**Filename: **C083-097**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D10T - 10SU**Horsepower: **574**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$257.39	NA
Operating Cost/Hour:	\$196.93	100
Ripper own. Cost/Hour:	\$25.02	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.59	NA

Total unit Cost/Hour: **\$517.93**Total Fleet Cost/Hour: **\$517.93****MATERIAL QUANTITIES**Initial Volume: **3,759**Swell factor: **1.330**Loose volume: **4,999 LCY**Source of estimated volume: **Map 95266-04; Operator Estimate**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **100 feet**Unadjusted hourly production: **1,718.9 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **0 %**Average site altitude: **6,000 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:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3554

Adjusted unit production: 610.90 LCY/hr

Adjusted fleet production: **610.9** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.848/LCY

Total job time: **8.18** Hours

Total job cost: **\$4,239**

BULLDOZER WORKTask description: **Backfill and Regrade Pond F**Site: **Bowie No. 2 Mine**Permit Action: **MT6**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **098**State: **Colorado**Abbreviation: **None**Date: **9/24/2024**County: **Delta**Filename: **C083-098**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D10T - 10SU**Horsepower: **574**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$257.39	NA
Operating Cost/Hour:	\$196.93	100
Ripper own. Cost/Hour:	\$25.02	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.59	NA

Total unit Cost/Hour: **\$517.93**Total Fleet Cost/Hour: **\$517.93****MATERIAL QUANTITIES**Initial Volume: **5,700**Swell factor: **1.165**Loose volume: **6,641 LCY**Source of estimated volume: **Appendix B-4; Division Estimate**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **100 feet**Unadjusted hourly production: **1,718.9 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **0 %**Average site altitude: **6,100 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:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3554

Adjusted unit production: 610.90 LCY/hr

Adjusted fleet production: **610.9** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.848/LCY

Total job time: **10.87** Hours

Total job cost: **\$5,630**

BULLDOZER WORKTask description: **Backfill and Regrade Pond J**Site: **Bowie No. 2 Mine**Permit Action: **MT6**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **099**State: **Colorado**Abbreviation: **None**Date: **9/24/2024**County: **Delta**Filename: **C083-099**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D10T - 10SU**Horsepower: **574**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$257.39	NA
Operating Cost/Hour:	\$196.93	100
Ripper own. Cost/Hour:	\$25.02	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.59	NA

Total unit Cost/Hour: **\$517.93**Total Fleet Cost/Hour: **\$517.93****MATERIAL QUANTITIES**Initial Volume: **11,320**Swell factor: **1.330**Loose volume: **15,056 LCY**Source of estimated volume: **Map 22J; Operator Estimate**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **100 feet**Unadjusted hourly production: **1,718.9 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **0 %**Average site altitude: **5,900 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:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3554

Adjusted unit production: 610.90 LCY/hr

Adjusted fleet production: **610.9** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.848/LCY

Total job time: **24.64** Hours

Total job cost: **\$12,764**

BULLDOZER WORKTask description: **Backfill and Regrade Pond K**Site: **Bowie No. 2 Mine**Permit Action: **MT6**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **100**State: **Colorado**Abbreviation: **None**Date: **9/24/2024**County: **Delta**Filename: **C083-100**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D10T - 10SU**Horsepower: **574**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$257.39	NA
Operating Cost/Hour:	\$196.93	100
Ripper own. Cost/Hour:	\$25.02	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.59	NA

Total unit Cost/Hour: **\$517.93**Total Fleet Cost/Hour: **\$517.93****MATERIAL QUANTITIES**Initial Volume: **700**Swell factor: **1.330**Loose volume: **931 LCY**Source of estimated volume: **Map 22K; Operator Estimate**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **100 feet**Unadjusted hourly production: **1,718.9 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **0 %**Average site altitude: **5,900 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:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3554

Adjusted unit production: 610.90 LCY/hr

Adjusted fleet production: **610.9** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.848/LCY

Total job time: **1.52** Hours

Total job cost: **\$789**

HYDRAULIC EXCAVATOR WORK

Task description: Excavate for Post-mining Channel at B-Seam Portals

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 101

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-101

User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat 365C L 13'-7" Stick

Attachment 1: ROPS Cab

Horsepower: 404

Weight (MT): 70.51

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	<u>\$244.29</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$218.49</u>	<u>100</u>
Operator Cost/Hour:	<u>\$33.87</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$496.65</u>	
Total Fleet Cost/Hour:	<u>\$993.31</u>	

MATERIAL QUANTITIES

Initial volume: 290

CCY

Swell factor: 1.165

Loose volume: 338

LCY

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

Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

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

Basic Job Condition Description: SEVERE

Secondary Job Condition within Basic Description: SEVERE

Cycle Time Value: 0.570 minutes

Load Bucket Capacity

Bucket Size Class: Small

Rated Capacity: 3.61 LCY (heaped)

Bucket Fill Factor: 0.850 Hard, tough clay (80% - 90%) 0.850

Adjusted Capacity: 3.07 LCY

Job Condition Correction Factors

Site Altitude: 6650 feet

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

Unadjusted Hourly Unit Production: 323.00 LCY/Hour

Adjusted Hourly Unit Production: 268.09 LCY/Hour

Adjusted Hourly Fleet Production: 536.18 LCY/Hour

JOB TIME AND COST

Fleet size: 2 Excavator Total job time: 0.63 Hours

Unit cost: \$1.853 /LCY Total job cost: \$626

TRUCK/LOADER TEAM WORKTask description: Haul riprap 800' to B Portal area for channel constructionSite: Bowie No. 2 MinePermit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 101AState: ColoradoAbbreviation: NoneDate: 9/26/2024County: DeltaFilename: C083-101AUser: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Shift basis: 1 per day

Equipment Description	
Truck Loader Team -Truck:	Cat 773F
-Loader:	Cat 365C L 13'-7" Stick
Support Equipment -Load Area:	NA
-Dump Area:	NA
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	NA	NA	NA	NA
Ownership cost/hour:	\$128.28	\$244.29	NA	NA	NA	NA
Operating cost/hour:	\$102.12	\$218.49	NA	NA	NA	NA
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Operator cost/hour:	\$25.24	\$33.87	NA	NA	NA	NA
Unit Subtotals:	\$255.64	\$496.65	NA	NA	NA	NA
Number of Units:	2	1	0	0	0	0
Group Subtotals:	Work: \$1,007.93		Support: \$0.00		Maint: \$0.00	

Total work team cost/hour: \$1,007.93**MATERIAL QUANTITIES**Initial volume: 722

CCY

Swell factor: 1.335Loose volume: 964

LCY

Source of estimated volume: Division estimate based on 65' wide and 150' longSource of estimated swell factor: Cat HandbookMaterial Purchase Cost: \$0.00Total Cost: \$0.00**HOURLY PRODUCTION****Truck Capacity:**Truck Payload (weight) Basis:Material weight: 2,700

Pounds/LCY

Description: Stone - crushedRated Payload: 122,520

Pounds

Payload Capacity: 45.38

LCY

Truck Bed (volume) Basis:

Struck Volume:	35.00	LCY
Heaped Volume:	46.50	LCY
Average Volume:	40.75	LCY
Adjusted Volume:	45.38	LCY

Final Truck Volume Based on Number of Loader Passes: 41.92 LCY

Loading Tool Capacity

Bucket Size Class: Large

Rated Capacity:	6.900	LCY (heaped)
Bucket Fill Factor:	0.675	Rock - Well blasted (60% - 75%) 0.675
Adjusted Capacity:	4.658	LCY

Job Condition Corrections:

Site Altitude (ft.): 6900 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	

Loading Tool Cycle Time: Number of Loading Tool Passes Required to Fill Truck: 9 passes

Excavators and Front Shovels:

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

Track Loaders – Material Description: _____

Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100

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

Cycle Time Factors		Factor (min.)	Source
Material:	NA	NA	(Cat HB)
Stockpile:	NA	NA	(Cat HB)
Truck Ownership:	NA	NA	(Cat HB)
Operation:	NA	NA	(Cat HB)
Dump Target:	NA	NA	(Cat HB)
Net Cycle Time Adjustment:		NA	minutes
Adjusted Loader Cycle Time:		0.380	minutes
Net Load Time per Truck:		3.140	minutes

Truck Cycle Time:

Truck Exchange Time:	0.70	Minutes	Adjusted for site altitude:	0.700	Minutes
Truck Load Time:	3.140	Minutes	Adjusted for site altitude:	3.140	Minutes
Truck Maneuver and Dump Time:	1.10	Minutes	Adjusted for site altitude:	1.100	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	800.00	0.00	3.00	3.00	2983	0.831

Haul Time: **0.831** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	800.00	0.00	3.00	3.00	3569	0.437

Return Time: **0.437** minutesTotal Truck Cycle Time: **6.208** minutes

Loading Tool unit

Production 654.96 LCY/Hour Adjusted for job efficiency: 543.62 LCY/Hour
Truck Unit Production 405.13 LCY/Hour Adjusted for job efficiency: 336.26 LCY/Hour

Optimal No. of Trucks: 2 Truck(s) Selected Number of Trucks: 2 Truck(s)

Adjusted hourly truck team production: 672.52 LCY/Hour
Adjusted single truck/loader team production: 543.62 LCY/Hour
Adjusted multiple truck/loader team production: **543.62** LCY/Hour

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: **1.77** HoursUnit cost: \$1.854 /LCY Total job cost: **\$1,787**

Post-Mining Drainage Channel Construction (Ditches)

Task description:

Install Riprap, Gravel, and Geotextile in B-Seam Channel

Site: **Bowie No. 2 Mine**

Permit Action: **MT6**

Permit/Job#: **C1996083**

PROJECT IDENTIFICATION

Task #: **102**

State: **Colorado**

Abbreviation: **None**

Date: **9/24/2024**

County: **Delta**

Filename: **C083-102**

User: **RDZ**

Agency or organization name: **DRMS**

Channel	Length (ft)	Depth (ft)	Width (bottom) (ft)	Side Slopes (XH:1V)	Width (top) (ft)	Excavated Vol./LF (CY)	Excavated Vol. (total) (CY)
C/F	150	6.00	5.00	5.00	65.00	7.7778	1,167
Totals:	150						1,167

Riprap	Riprap Thickness (2xD50) (ft)	Perimeter, P (ft)	Area for Geotextile (excl. anchor trenches) (sf)	Riprap Vol. (CY)
	0.00	66.19	9,928	0
Totals:			9,928	0

Materials Needed:

Geotextile (SY incl. 15% wastage): **1,269**

Riprap (CY): **0**

Excavation (CY): **1,167**

Costs:

Material Costs:	Geotextile (SY):	\$3.30	Riprap (CY):	\$34.50	Excavation (CY):	\$0.00
Labor Cost:		\$0.32		\$14.65		\$2.84
Equipment Cost:		\$0.00		\$15.10		\$2.39
Means Reference	31 32 1916 1510		31 37 1310 0100		31 23 1642 0310	

Totals:

Geotextile (SY): **\$4,592.36**

Riprap (CY): **\$0.00**

Excavation (CY): **\$6,101.67**

Hours:

Geotextile (SY): **14.50**

87.50 SY/HR

Riprap (CY): **0.00**

7.75 CY/HR

Excavation (CY): **29.17**

40.00 CY/HR

Total Post-Mining Channel Reconstruction hours:

43.67

Hours

Total Post-Mining Channel Reconstruction Cost:

\$10,694

BOREHOLE SEALING WORK

Task description: Plug and seal AW-15

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106AG

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106ag

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	3	86	3.58	bag	\$22.00	\$78.76
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	3	NA	0.30	LF	\$3.23	\$0.97
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	6.00	EA	\$142.90	\$857.40
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	6.00	EA	\$75.02	\$450.12

Job Hours: 6.00

Total Cost: \$1,433.00

BOREHOLE SEALING WORK

Task description: Plug and seal AW16

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106AH

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106ah

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	3	75	3.12	bag	\$22.00	\$68.64
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	3	NA	0.30	LF	\$3.23	\$0.97
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	6.00	EA	\$142.90	\$857.40
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	6.00	EA	\$75.02	\$450.12

Job Hours: 6.00

Total Cost: \$1,423.00

BOREHOLE SEALING WORK

Task description: Plug and seal AW-17

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106AI

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106ai

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	3	62	2.58	bag	\$22.00	\$56.76
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	3	NA	0.30	LF	\$3.23	\$0.97
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	6.00	EA	\$142.90	\$857.40
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	6.00	EA	\$75.02	\$450.12

Job Hours: 6.00

Total Cost: \$1,411.00

BOREHOLE SEALING WORK

Task description: Plug and seal BD-101

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106AJ

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106aj

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	2	16.5	0.31	bag	\$22.00	\$6.82
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	2	NA	0.20	LF	\$3.23	\$0.65
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	4.00	EA	\$142.90	\$571.60
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	4.00	EA	\$75.02	\$300.08

Job Hours: 4.00

Total Cost: \$925.00

BOREHOLE SEALING WORK

Task description: Plug and seal BD-103

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106AK

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106ak

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	2	53	0.98	bag	\$22.00	\$21.56
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	2	NA	0.50	LF	\$3.23	\$1.62
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	6.00	EA	\$142.90	\$857.40
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	6.00	EA	\$75.02	\$450.12

Job Hours: 6.00

Total Cost: \$1,377.00

BOREHOLE SEALING WORK

Task description: Plug and seal BD-105

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106AL

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106al

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	2	107	1.98	bag	\$22.00	\$43.56
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	2	NA	0.50	LF	\$3.23	\$1.62
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	7.00	EA	\$142.90	\$1,000.30
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	7.00	EA	\$75.02	\$525.14

Job Hours: 7.00

Total Cost: \$1,617.00

BOREHOLE SEALING WORK

Task description: Plug and seal BD-105A

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106AM

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106am

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	2	38.5	0.71	bag	\$22.00	\$15.62
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	2	NA	0.50	LF	\$3.23	\$1.62
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	6.00	EA	\$142.90	\$857.40
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	6.00	EA	\$75.02	\$450.12

Job Hours: 6.00

Total Cost: \$1,371.00

BOREHOLE SEALING WORK

Task description: Plug and seal BD-102

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106AN

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106an

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	2	30	0.55	bag	\$22.00	\$12.10
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	2	NA	0.50	LF	\$3.23	\$1.62
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	6.00	EA	\$142.90	\$857.40
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	6.00	EA	\$75.02	\$450.12

Job Hours: 6.00

Total Cost: \$1,367.00

BOREHOLE SEALING WORK

Task description: Plug and seal BL-101A

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106AO

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106ao

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	2	29	0.54	bag	\$22.00	\$11.88
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	2	NA	0.50	LF	\$3.23	\$1.62
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	6.00	EA	\$142.90	\$857.40
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	6.00	EA	\$75.02	\$450.12

Job Hours: 6.00

Total Cost: \$1,367.00

BOREHOLE SEALING WORK

Task description: Plug and seal BL-102

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106AP

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106ap

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	2	34	0.63	bag	\$22.00	\$13.86
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	2	NA	0.50	LF	\$3.23	\$1.62
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	6.00	EA	\$142.90	\$857.40
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	6.00	EA	\$75.02	\$450.12

Job Hours: 6.00

Total Cost: \$1,369.00

BOREHOLE SEALING WORK

Task description: Plug and seal BL-102A

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106AQ

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106aq

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	2	29	0.54	bag	\$22.00	\$11.88
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	2	NA	0.50	LF	\$3.23	\$1.62
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	6.00	EA	\$142.90	\$857.40
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	6.00	EA	\$75.02	\$450.12

Job Hours: 6.00

Total Cost: \$1,367.00

BOREHOLE SEALING WORK

Task description: Plug and seal GVB-6A

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106BB

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106bb

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 8 in. diameter borehole	7.625	NA	1.00	EA	\$89.31	\$89.31
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	7.625	700	188.11	bag	\$22.00	\$4,138.42
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	7.625	NA	2.00	LF	\$3.23	\$6.46
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	11.00	EA	\$142.90	\$1,571.90
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	11.00	EA	\$75.02	\$825.22

Job Hours: 11.00

Total Cost: \$6,677.00

BOREHOLE SEALING WORK

Task description: Plug and seal MR133 Utility Hole #1

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106CN

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106cn

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 10 in. diameter borehole	10	NA	1.00	EA	\$122.34	\$122.34
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	10	520	240.35	bag	\$22.00	\$5,287.70
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	10	NA	2.50	LF	\$3.23	\$8.08
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	10.00	EA	\$142.90	\$1,429.00
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	10.00	EA	\$75.02	\$750.20

Job Hours: 10.00

Total Cost: \$7,643.00

BOREHOLE SEALING WORK

Task description: Plug and seal MR133 Utility Hole #2

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106CO

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106co

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 10 in. diameter borehole	10	NA	1.00	EA	\$122.34	\$122.34
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	10	520	240.35	bag	\$22.00	\$5,287.70
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	10	NA	2.50	LF	\$3.23	\$8.08
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	10.00	EA	\$142.90	\$1,429.00
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	10.00	EA	\$75.02	\$750.20

Job Hours: 10.00

Total Cost: \$7,643.00

BOREHOLE SEALING WORK

Task description: Plug and seal MR133 Utility Hole #3

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106CP

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106cp

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 10 in. diameter borehole	10	NA	1.00	EA	\$122.34	\$122.34
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	10	540	240.35	bag	\$22.00	\$5,287.70
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	10	NA	2.50	LF	\$3.23	\$8.08
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	10.00	EA	\$142.90	\$1,429.00
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	10.00	EA	\$75.02	\$750.20

Job Hours: 10.00

Total Cost: \$7,643.00

BOREHOLE SEALING WORK

Task description: Plug and seal MR133 Utility Hole #4

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106CQ

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106cq

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 10 in. diameter borehole	10	NA	1.00	EA	\$122.34	\$122.34
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	10	520	240.35	bag	\$22.00	\$5,287.70
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	10	NA	2.50	LF	\$3.23	\$8.08
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	10.00	EA	\$142.90	\$1,429.00
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	10.00	EA	\$75.02	\$750.20

Job Hours: 10.00

Total Cost: \$7,643.00

BOREHOLE SEALING WORK

Task description: Plug and seal GVB-D-3A (aka GVB-D3-A)

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106CY

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106cy

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 8 in. diameter borehole	7.625	NA	1.00	EA	\$89.31	\$89.31
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	7.625	870	133.56	bag	\$22.00	\$2,938.32
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	7.625	NA	2.00	LF	\$3.23	\$6.46
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	12.00	EA	\$142.90	\$1,714.80
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	12.00	EA	\$75.02	\$900.24

Job Hours: 12.00

Total Cost: \$5,695.00

BOREHOLE SEALING WORK

Task description: Plug and seal GVB-D-7A (aka GVB-D7-A)

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106DB

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106db

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 6 in. diameter borehole	5.5	NA	1.00	EA	\$65.19	\$65.19
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	5.5	465	65.02	bag	\$22.00	\$1,430.44
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	5.5	NA	1.50	LF	\$3.23	\$4.85
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	10.00	EA	\$142.90	\$1,429.00
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	10.00	EA	\$75.02	\$750.20

Job Hours: 10.00

Total Cost: \$3,726.00

BOREHOLE SEALING WORK

Task description: Plug and seal GVB-D-5A

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106DD

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106dd

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 6 in. diameter borehole	5.5	NA	1.00	EA	\$65.19	\$65.19
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	5.5	332	46.42	bag	\$22.00	\$1,021.24
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	5.5	NA	1.50	LF	\$3.23	\$4.85
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	9.00	EA	\$142.90	\$1,286.10
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	9.00	EA	\$75.02	\$675.18

Job Hours: 9.00

Total Cost: \$3,099.00

BOREHOLE SEALING WORK

Task description: Plug and seal GVB-D-6A (aka GVB-D6-A)

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106DO

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106do

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 6 in. diameter borehole	5.5	NA	1.00	EA	\$65.19	\$65.19
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	5.5	461	64.46	bag	\$22.00	\$1,418.12
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	5.5	NA	1.50	LF	\$3.23	\$4.85
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	10.00	EA	\$142.90	\$1,429.00
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	10.00	EA	\$75.02	\$750.20

Job Hours: 10.00

Total Cost: \$3,713.00

BOREHOLE SEALING WORK

Task description: Plug and seal GVB-D-6B (aka GVB-D6-B)

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106DP

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106dp

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 6 in. diameter borehole	5.5	NA	1.00	EA	\$65.19	\$65.19
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	5.5	900	125.84	bag	\$22.00	\$2,768.48
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	5.5	NA	1.50	LF	\$3.23	\$4.85
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	12.00	EA	\$142.90	\$1,714.80
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	12.00	EA	\$75.02	\$900.24

Job Hours: 6.00

Total Cost: \$5,500.00

BOREHOLE SEALING WORK

Task description: Plug and seal GVB-D-7B (aka GVB-D7-B)

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106DQ

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106dq

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 6 in. diameter borehole	5.5	NA	1.00	EA	\$65.19	\$65.19
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	5.5	720	100.67	bag	\$22.00	\$2,214.74
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	5.5	NA	1.50	LF	\$3.23	\$4.85
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	11.00	EA	\$142.90	\$1,571.90
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	11.00	EA	\$75.02	\$825.22

Job Hours: 11.00

Total Cost: \$4,728.00

BOREHOLE SEALING WORK

Task description: Plug and seal GVB-D-8C (aka GVB-D8-C)

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106DU

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106du

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 6 in. diameter borehole	5.5	NA	1.00	EA	\$65.19	\$65.19
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	5.5	1000	139.82	bag	\$22.00	\$3,076.04
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	5.5	NA	1.50	LF	\$3.23	\$4.85
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	12.00	EA	\$142.90	\$1,714.80
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	12.00	EA	\$75.02	\$900.24

Job Hours: 12.00

Total Cost: \$5,807.00

BOREHOLE SEALING WORK

Task description: Plug and seal P-TC-03-01 (aka TC-03-01)

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106ED

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106ed

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 6 in. diameter borehole	6	NA	1.00	EA	\$65.19	\$65.19
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	6	580	96.51	bag	\$22.00	\$2,123.22
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	6	NA	1.50	LF	\$3.23	\$4.85
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	10.00	EA	\$142.90	\$1,429.00
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	10.00	EA	\$75.02	\$750.20

Job Hours: 10.00

Total Cost: \$4,418.00

BOREHOLE SEALING WORK

Task description: Plug and seal P-TC-03-02 (aka TC-03-02)

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106EE

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106ee

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 6 in. diameter borehole	6	NA	1.00	EA	\$65.19	\$65.19
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	6	580	96.51	bag	\$22.00	\$2,123.22
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	6	NA	1.50	LF	\$3.23	\$4.85
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	10.00	EA	\$142.90	\$1,429.00
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	10.00	EA	\$75.02	\$750.20

Job Hours: 10.00

Total Cost: \$4,418.00

BOREHOLE SEALING WORK

Task description: Plug and seal GVB-17C (aka GVB-B17C)

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106GB

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106gb

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 10 in. diameter borehole	9.375	NA	1.00	EA	\$122.34	\$122.34
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	9.375	1090	442.81	bag	\$22.00	\$9,741.82
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	9.375	NA	2.50	LF	\$3.23	\$8.08
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	GENERIC 3.0 in. - 1, 700 ft. capy.	NA	NA	12.00	EA	\$140.06	\$1,680.72
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	12.00	EA	\$75.02	\$900.24

Job Hours: 12.00

Total Cost: \$12,499.00

BOREHOLE SEALING WORK

Task description: Plug and seal GVB-17D (aka GVB-B17D)

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106GC

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106gc

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 10 in. diameter borehole	9.375	NA	1.00	EA	\$122.34	\$122.34
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	9.375	1300	528.12	bag	\$22.00	\$11,618.64
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	9.375	NA	2.50	LF	\$3.23	\$8.08
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	12.00	EA	\$142.90	\$1,714.80
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	12.00	EA	\$75.02	\$900.24

Job Hours: 12.00

Total Cost: \$14,410.00

BOREHOLE SEALING WORK

Task description: Plug and seal GVB-17E (aka GVB-B17E)

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106GD

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106gd

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 10 in. diameter borehole	9.375	NA	1.00	EA	\$122.34	\$122.34
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	9.375	1620	658.12	bag	\$22.00	\$14,478.64
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	9.375	NA	2.50	LF	\$3.23	\$8.08
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	12.00	EA	\$142.90	\$1,714.80
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	12.00	EA	\$75.02	\$900.24

Job Hours: 12.00

Total Cost: \$17,270.00

BOREHOLE SEALING WORK

Task description: Plug and seal GVB-17F (aka GVB-B17F)

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106GI

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106gi

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 10 in. diameter borehole	9.375	NA	1.00	EA	\$122.34	\$122.34
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	9.375	1660	674.37	bag	\$22.00	\$14,836.14
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	9.375	NA	2.50	LF	\$3.23	\$8.08
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	12.00	EA	\$142.90	\$1,714.80
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	12.00	EA	\$75.02	\$900.24

Job Hours: 12.00

Total Cost: \$17,628.00

BOREHOLE SEALING WORK

Task description: Plug and seal AW-1

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106GN

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106gn

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	4	120	8.87	bag	\$22.00	\$195.14
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	4	NA	1.00	LF	\$3.23	\$3.23
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	7.00	EA	\$142.90	\$1,000.30
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	7.00	EA	\$75.02	\$525.14

Job Hours: 7.00

Total Cost: \$1,770.00

BOREHOLE SEALING WORK

Task description: Plug and seal AW-2

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106GO

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106go

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	4	60	4.43	bag	\$22.00	\$97.46
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	4	NA	1.00	LF	\$3.23	\$3.23
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	6.00	EA	\$142.90	\$857.40
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	6.00	EA	\$75.02	\$450.12

Job Hours: 6.00

Total Cost: \$1,454.00

BOREHOLE SEALING WORK

Task description: Plug and seal AW-3

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106GP

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106gp

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	4	150	11.09	bag	\$22.00	\$243.98
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	4	NA	1.00	LF	\$3.23	\$3.23
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	7.00	EA	\$142.90	\$1,000.30
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	7.00	EA	\$75.02	\$525.14

Job Hours: 7.00

Total Cost: \$1,819.00

BOREHOLE SEALING WORK

Task description: Plug and seal AW-4

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106GQ

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106gq

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	4	60	4.44	bag	\$22.00	\$97.68
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	4	NA	1.00	LF	\$3.23	\$3.23
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	6.00	EA	\$142.90	\$857.40
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	6.00	EA	\$75.02	\$450.12

Job Hours: 6.00

Total Cost: \$1,454.00

BOREHOLE SEALING WORK

Task description: Plug and seal AW-6

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106GS

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106gs

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	4	112	8.28	bag	\$22.00	\$182.16
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	4	NA	1.00	LF	\$3.23	\$3.23
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	7.00	EA	\$142.90	\$1,000.30
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	7.00	EA	\$75.02	\$525.14

Job Hours: 7.00

Total Cost: \$1,757.00

BOREHOLE SEALING WORK

Task description: Plug and seal AW-7

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106GT

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106gt

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	2.5	193	5.58	bag	\$22.00	\$122.76
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	2.5	NA	0.50	LF	\$3.23	\$1.62
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	8.00	EA	\$142.90	\$1,143.20
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	8.00	EA	\$75.02	\$600.16

Job Hours: 8.00

Total Cost: \$1,914.00

BOREHOLE SEALING WORK

Task description: Plug and seal AW-8

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106GU

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106gu

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	2.5	60	1.73	bag	\$22.00	\$38.06
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	2.5	NA	0.50	LF	\$3.23	\$1.62
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	6.00	EA	\$142.90	\$857.40
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	6.00	EA	\$75.02	\$450.12

Job Hours: 6.00

Total Cost: \$1,393.00

BOREHOLE SEALING WORK

Task description: Plug and seal AW-9

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106GV

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106gv

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	2.5	80	2.31	bag	\$22.00	\$50.82
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	2.5	NA	0.50	LF	\$3.23	\$1.62
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	6.00	EA	\$142.90	\$857.40
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	6.00	EA	\$75.02	\$450.12

Job Hours: 6.00

Total Cost: \$1,406.00

BOREHOLE SEALING WORK

Task description: Plug and seal AW-11

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106GW

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106gw

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	2	80	1.48	bag	\$22.00	\$32.56
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	2	NA	0.50	LF	\$3.23	\$1.62
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	6.00	EA	\$142.90	\$857.40
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	6.00	EA	\$75.02	\$450.12

Job Hours: 6.00

Total Cost: \$1,388.00

BOREHOLE SEALING WORK

Task description: Plug and seal AW-12

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106GX

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106gx

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	2	60	1.11	bag	\$22.00	\$24.42
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	2	NA	0.50	LF	\$3.23	\$1.62
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	6.00	EA	\$142.90	\$857.40
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	6.00	EA	\$75.02	\$450.12

Job Hours: 6.00

Total Cost: \$1,380.00

BOREHOLE SEALING WORK

Task description: Plug and seal AW-13

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106GY

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106gy

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	2	80	1.48	bag	\$22.00	\$32.56
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	2	NA	0.50	LF	\$3.23	\$1.62
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	6.00	EA	\$142.90	\$857.40
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	6.00	EA	\$75.02	\$450.12

Job Hours: 6.00

Total Cost: \$1,388.00

BOREHOLE SEALING WORK

Task description: Plug and seal AW-14

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106GZ

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106gz

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	2	30	0.55	bag	\$22.00	\$12.10
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	2	NA	0.50	LF	\$3.23	\$1.62
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	6.00	EA	\$142.90	\$857.40
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	6.00	EA	\$75.02	\$450.12

Job Hours: 6.00

Total Cost: \$1,367.00

BOREHOLE SEALING WORK

Task description: Plug and seal DH-13

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106HD

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106hd

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 4 in. diameter borehole	4	NA	1.00	EA	\$36.06	\$36.06
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	4	1000	73.95	bag	\$22.00	\$1,626.90
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	4	NA	1.00	LF	\$3.23	\$3.23
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	12.00	EA	\$142.90	\$1,714.80
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	12.00	EA	\$75.02	\$900.24

Job Hours: 12.00

Total Cost: \$4,327.00

BOREHOLE SEALING WORK

Task description: Plug and seal DH-15

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106HE

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106he

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	4	216	15.97	bag	\$22.00	\$351.34
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	4	NA	1.00	LF	\$3.23	\$3.23
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	8.00	EA	\$142.90	\$1,143.20
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	8.00	EA	\$75.02	\$600.16

Job Hours: 8.00

Total Cost: \$2,144.00

BOREHOLE SEALING WORK

Task description: Plug and seal DH-15

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106HF

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106hf

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 4 in. diameter borehole	4	NA	1.00	EA	\$36.06	\$36.06
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	4	395	29.21	bag	\$22.00	\$642.62
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	4	NA	1.00	LF	\$3.23	\$3.23
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	9.00	EA	\$142.90	\$1,286.10
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	9.00	EA	\$75.02	\$675.18

Job Hours: 9.00

Total Cost: \$2,689.00

BOREHOLE SEALING WORK

Task description: Plug and seal DH-25

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106HG

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106hg

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 4 in. diameter borehole	4	NA	1.00	EA	\$36.06	\$36.06
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	4	333	24.63	bag	\$22.00	\$541.86
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	4	NA	1.00	LF	\$3.23	\$3.23
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	9.00	EA	\$142.90	\$1,286.10
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	9.00	EA	\$75.02	\$675.18

Job Hours: 9.00

Total Cost: \$2,588.00

BOREHOLE SEALING WORK

Task description: Plug and seal DH-34C

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106HQ

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106hq

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 4 in. diameter borehole	4	NA	1.00	EA	\$36.06	\$36.06
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	4	124	9.17	bag	\$22.00	\$201.74
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	4	NA	1.00	LF	\$3.23	\$3.23
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	7.00	EA	\$142.90	\$1,000.30
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	7.00	EA	\$75.02	\$525.14

Job Hours: 7.00

Total Cost: \$1,812.00

BOREHOLE SEALING WORK

Task description: Plug and seal DH-38

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106HR

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106hr

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	4	454	33.58	bag	\$22.00	\$738.76
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	4	NA	1.00	LF	\$3.23	\$3.23
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	10.00	EA	\$142.90	\$1,429.00
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	10.00	EA	\$75.02	\$750.20

Job Hours: 10.00

Total Cost: \$2,967.00

BOREHOLE SEALING WORK

Task description: Plug and seal DH-39

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106HS

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106hs

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	4	180	13.31	bag	\$22.00	\$292.82
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	4	NA	1.00	LF	\$3.23	\$3.23
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	8.00	EA	\$142.90	\$1,143.20
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	8.00	EA	\$75.02	\$600.16

Job Hours: 8.00

Total Cost: \$2,085.00

BOREHOLE SEALING WORK

Task description: Plug and seal CWI-DH-47

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106HV

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106hv

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	4	1800	133.12	bag	\$22.00	\$2,928.64
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	4	NA	1.00	LF	\$3.23	\$3.23
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	12.00	EA	\$142.90	\$1,714.80
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	12.00	EA	\$75.02	\$900.24

Job Hours: 12.00

Total Cost: \$5,593.00

BOREHOLE SEALING WORK

Task description: Plug and seal CWI-DH-48

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106HW

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106hw

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	4	2200	162.70	bag	\$22.00	\$3,579.40
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	4	NA	1.00	LF	\$3.23	\$3.23
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	12.00	EA	\$142.90	\$1,714.80
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	12.00	EA	\$75.02	\$900.24

Job Hours: 12.00

Total Cost: \$6,244.00

BOREHOLE SEALING WORK

Task description: Plug and seal DH-49

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106HX

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106hx

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	4	323	23.89	bag	\$22.00	\$525.58
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	4	NA	1.00	LF	\$3.23	\$3.23
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	9.00	EA	\$142.90	\$1,286.10
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	9.00	EA	\$75.02	\$675.18

Job Hours: 9.00

Total Cost: \$2,536.00

BOREHOLE SEALING WORK

Task description: Plug and seal DH-57B (aka 98-57B)

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106IF

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106if

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 4 in. diameter borehole	3	NA	1.00	EA	\$36.06	\$36.06
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	3	1512	62.90	bag	\$22.00	\$1,383.80
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	3	NA	0.50	LF	\$3.23	\$1.62
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	12.00	EA	\$142.90	\$1,714.80
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	12.00	EA	\$75.02	\$900.24

Job Hours: 12.00

Total Cost: \$4,083.00

BOREHOLE SEALING WORK

Task description: Plug and seal CWI-DH-60 (aka Mon Well)

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106IJ

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106ij

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	2	1073	19.84	bag	\$22.00	\$436.48
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	2	NA	0.50	LF	\$3.23	\$1.62
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	12.00	EA	\$142.90	\$1,714.80
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	12.00	EA	\$75.02	\$900.24

Job Hours: 12.00

Total Cost: \$3,099.00

BOREHOLE SEALING WORK

Task description: Plug and seal DH-67B

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106IP

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106ip

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	2.75	594	20.76	bag	\$22.00	\$456.72
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	2.75	NA	0.50	LF	\$3.23	\$1.62
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	10.00	EA	\$142.90	\$1,429.00
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	10.00	EA	\$75.02	\$750.20

Job Hours: 10.00

Total Cost: \$2,684.00

BOREHOLE SEALING WORK

Task description: Plug and seal DH-67-D

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106IQ

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106iq

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	2.75	325	11.36	bag	\$22.00	\$249.92
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	2.75	NA	0.50	LF	\$3.23	\$1.62
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	9.00	EA	\$142.90	\$1,286.10
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	9.00	EA	\$75.02	\$675.18

Job Hours: 9.00

Total Cost: \$2,259.00

BOREHOLE SEALING WORK

Task description: Plug and seal DH-67-Abv

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106IR

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106ir

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	2.75	193	6.75	bag	\$22.00	\$148.50
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	2.75	NA	0.50	LF	\$3.23	\$1.62
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	8.00	EA	\$142.90	\$1,143.20
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	8.00	EA	\$75.02	\$600.16

Job Hours: 8.00

Total Cost: \$1,939.00

BOREHOLE SEALING WORK

Task description: Plug and seal CWI-DH-69 (aka B-1 Mon Well)

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106IT

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106it

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	2	1950	36.05	bag	\$22.00	\$793.10
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	2	NA	0.50	LF	\$3.23	\$1.62
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	12.00	EA	\$142.90	\$1,714.80
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	12.00	EA	\$75.02	\$900.24

Job Hours: 12.00

Total Cost: \$3,456.00

BOREHOLE SEALING WORK

Task description: Plug and seal CWI-DH-70 (aka B-1 Mon Well)

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106IU

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106iu

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	4	695	51.40	bag	\$22.00	\$1,130.80
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	4	NA	1.00	LF	\$3.23	\$3.23
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	11.00	EA	\$142.90	\$1,571.90
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	11.00	EA	\$75.02	\$825.22

Job Hours: 11.00

Total Cost: \$3,577.00

BOREHOLE SEALING WORK

Task description: Plug and seal 2010-1B

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106IY

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106iy

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	4	1220	90.22	bag	\$22.00	\$1,984.84
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	4	NA	1.00	LF	\$3.23	\$3.23
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	12.00	EA	\$142.90	\$1,714.80
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	12.00	EA	\$75.02	\$900.24

Job Hours: 12.00

Total Cost: \$4,649.00

BOREHOLE SEALING WORK

Task description: Plug and seal 2010-1SS

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106IZ

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-106iz

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	4	1140	84.31	bag	\$22.00	\$1,854.82
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	4	NA	1.00	LF	\$3.23	\$3.23
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	12.00	EA	\$142.90	\$1,714.80
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	12.00	EA	\$75.02	\$900.24

Job Hours: 12.00

Total Cost: \$4,519.00

BOREHOLE SEALING WORK

Task description: Seal Well DH-67blw

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 369

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-369

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Cement seal	Portland cement grout (Bag, material cost only...94 lb. bag)	8.75	360	127.40	bag	\$22.00	\$2,802.80
Casing removal	Exposed casing removal - Calculate Circumference in Linear Feet	8.75	3	2.00	LF	\$3.23	\$6.46
Hole marker	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig Time	ATLAS COPCO ROC D7-11,4.0 in.	NA	NA	12.00	EA	\$450.94	\$5,411.28
Water Truck Time	Water Tanker, 3,500 Gal.	NA	NA	12.00	EA	\$75.02	\$900.24

Job Hours: 12.00

Total Cost: \$9,167.00

BOREHOLE SEALING WORK

Task description: Seal CWI-DH-58A

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 374

State: Colorado

Abbreviation: None

Date: 9/24/2024

County: Delta

Filename: C083-374

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Seal hole	Portland cement grout (Bag, material cost only...94 lb. bag)	8.75	550	194.37	bag	\$22.00	\$4,276.14
Remove casing	Exposed casing removal - Calculate Circumference in Linear Feet	8.75	3	2.00	LF	\$3.23	\$6.46
Hole marker	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$46.00	\$46.00
Drill Rig Time	ATLAS COPCO ROC D7-11,4.0 in.	NA	NA	12.00	EA	\$439.52	\$5,274.24
Water Truck Time	Water Tanker, 3,500 Gal.	NA	NA	12.00	EA	\$75.02	\$900.24

Job Hours: 12.00

Total Cost: \$10,503.00

SCRAPER TEAM WORKTask description: **Replace Topsoil from Stockpile A to Portal/Utility Bench**Site: **Bowie No. 2 Mine**Permit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 110State: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-110User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 627G w/push-pull
-Dozer:	NA
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

Cost Breakdown:**Scraper Work Team****Support Equipment****Maintenance Equipment**

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	NA	NA	NA
Ownership cost/hour:	\$234.09	NA	NA	NA	NA	NA
Operating cost/hour:	\$265.71	NA	NA	NA	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$530.70	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$1,061.40		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$1,061.40****MATERIAL QUANTITIES**Initial volume: 91,800

CCY

Swell factor: 1.125Loose volume: **103,275**

LCY

Source of estimated volume: Page 2.05-35Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight: 2,550 lbs/LCY
 Material description: Earth - Dry packed
 Rated Payload: 52,800 pounds
 Payload Capacity: 20.71 LCY

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

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 6750 feet

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

Travel Time:Road Condition: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	8000.00	5.00	5.00	10.00	1068	7.53

Haul Time: 7.53 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	8000.00	-5.00	5.00	0.00	2921	2.83

Return Time: 2.83 minutesTotal Scraper team cycle time: 11.86 minutesAdjusted for job conditions: 158.30 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 158.30 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 158.30 LCY/HourUnadjusted unit production/hour: 190.73 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 652.39 HoursUnit cost: \$6.705 /LCYTotal job cost: \$692,450

SCRAPER TEAM WORKTask description: **Replace Topsoil from Stockpile A to Truck Loadout/Coal Stkpl**Site: **Bowie No. 2 Mine**Permit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 111State: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-111User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

	Equipment Description
-Scraper:	Cat 627G w/push-pull
-Dozer:	NA
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

Cost Breakdown:**Scraper Work Team****Support Equipment****Maintenance Equipment**

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	NA	NA	NA
Ownership cost/hour:	\$234.09	NA	NA	NA	NA	NA
Operating cost/hour:	\$265.71	NA	NA	NA	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$530.70	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$1,061.40		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$1,061.40****MATERIAL QUANTITIES**Initial volume: 21,722

CCY

Swell factor: 1.125Loose volume: **24,437**

LCY

Source of estimated volume: Page 2.05-35, plus 800 yds MR151, 710 yds MR153Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>2,550 lbs/LCY</u>	Struck Volume:	<u>15.70</u>	LCY
Material description:	<u>Earth - Dry packed</u>	Heaped Volume:	<u>22.00</u>	LCY
Rated Payload:	<u>52,800 pounds</u>	Average Volume:	<u>18.85</u>	LCY
Payload Capacity:	<u>20.71 LCY</u>	Adjusted Capacity:	<u>18.85</u>	LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 6750 feet

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

Travel Time:Road Condition: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2000.00	-5.00	5.00	0.00	2921	0.83

Haul Time: 0.83 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2000.00	5.00	5.00	10.00	1768	1.20

Return Time: 1.20 minutesTotal Scraper team cycle time: 3.53 minutesAdjusted for job conditions: 531.86 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 531.86 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 531.86 LCY/HourUnadjusted unit production/hour: 640.79 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 45.95 HoursUnit cost: \$1.996 /LCYTotal job cost: \$48,768

SCRAPER TEAM WORKTask description: **Replace Topsoil from Stockpile F to Train Loadout**Site: **Bowie No. 2 Mine**Permit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 112State: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-112User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 627G w/push-pull
-Dozer:	NA
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

Cost Breakdown:

Scraper Work Team

Support Equipment

Maintenance Equipment

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	NA	NA	NA
Ownership cost/hour:	\$234.09	NA	NA	NA	NA	NA
Operating cost/hour:	\$265.71	NA	NA	NA	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$530.70	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$1,061.40		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$1,061.40****MATERIAL QUANTITIES**Initial volume: 24,000

CCY

Swell factor: 1.125Loose volume: **27,000**

LCY

Source of estimated volume: Page 2.05-36; Page 2.05-48; Map 32Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>2,550 lbs/LCY</u>	Struck Volume:	<u>15.70</u>	LCY
Material description:	<u>Earth - Dry packed</u>	Heaped Volume:	<u>22.00</u>	LCY
Rated Payload:	<u>52,800 pounds</u>	Average Volume:	<u>18.85</u>	LCY
Payload Capacity:	<u>20.71 LCY</u>	Adjusted Capacity:	<u>18.85</u>	LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 6750 feet

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

Travel Time:Road Condition: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1200.00	0.00	5.00	5.00	2218	0.71

Haul Time: 0.71 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1200.00	0.00	5.00	5.00	2814	0.57

Return Time: 0.57 minutesTotal Scraper team cycle time: 2.78 minutesAdjusted for job conditions: 675.35 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 675.35 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 675.35 LCY/HourUnadjusted unit production/hour: 813.67 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 39.98 HoursUnit cost: \$1.572 /LCYTotal job cost: \$42,434

SCRAPER TEAM WORKTask description: **Replace Topsoil from Stockpile A to B-Seam Portal Bench**Site: **Bowie No. 2 Mine**Permit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 113State: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-113User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 627G w/push-pull
-Dozer:	NA
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

Cost Breakdown:

Scraper Work Team

Support Equipment

Maintenance Equipment

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	NA	NA	NA
Ownership cost/hour:	\$234.09	NA	NA	NA	NA	NA
Operating cost/hour:	\$265.71	NA	NA	NA	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$530.70	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$1,061.40		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$1,061.40****MATERIAL QUANTITIES**Initial volume: 20,489

CCY

Swell factor: 1.125Loose volume: **23,050**

LCY

Source of estimated volume: Operator EstimateSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>2,550 lbs/LCY</u>	Struck Volume:	<u>15.70</u>	LCY
Material description:	<u>Earth - Dry packed</u>	Heaped Volume:	<u>22.00</u>	LCY
Rated Payload:	<u>52,800 pounds</u>	Average Volume:	<u>18.85</u>	LCY
Payload Capacity:	<u>20.71 LCY</u>	Adjusted Capacity:	<u>18.85</u>	LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 6750 feet

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

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	3900.00	9.00	3.00	12.00	918	4.27

Haul Time: 4.27 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	3900.00	-9.00	3.00	-6.00	2938	1.37

Return Time: 1.37 minutesTotal Scraper team cycle time: 7.14 minutesAdjusted for job conditions: 262.95 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 262.95 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 262.95 LCY/HourUnadjusted unit production/hour: 316.81 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 87.66 HoursUnit cost: \$4.037 /LCYTotal job cost: \$93,042

SCRAPER TEAM WORKTask description: **Replace Topsoil from Stockpile D to Pond C and Pond D**Site: **Bowie No. 2 Mine**Permit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 115State: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-115User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 627G w/push-pull
-Dozer:	NA
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

Cost Breakdown:**Scraper Work Team****Support Equipment****Maintenance Equipment**

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	NA	NA	NA
Ownership cost/hour:	\$234.09	NA	NA	NA	NA	NA
Operating cost/hour:	\$265.71	NA	NA	NA	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$530.70	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$1,061.40		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$1,061.40****MATERIAL QUANTITIES**Initial volume: 5,300

CCY

Swell factor: 1.125Loose volume: **5,963**

LCY

Source of estimated volume: Page 2.05-35Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>2,550 lbs/LCY</u>	Struck Volume:	<u>15.70</u>	LCY
Material description:	<u>Earth - Dry packed</u>	Heaped Volume:	<u>22.00</u>	LCY
Rated Payload:	<u>52,800 pounds</u>	Average Volume:	<u>18.85</u>	LCY
Payload Capacity:	<u>20.71 LCY</u>	Adjusted Capacity:	<u>18.85</u>	LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 6750 feet

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

Travel Time:Road Condition: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1500.00	10.00	5.00	15.00	734	2.06

Haul Time: 2.06 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1500.00	-10.00	5.00	-5.00	2938	0.57

Return Time: 0.57 minutesTotal Scraper team cycle time: 4.13 minutesAdjusted for job conditions: 454.59 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 454.59 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 454.59 LCY/HourUnadjusted unit production/hour: 547.70 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 13.12 HoursUnit cost: \$2.335 /LCYTotal job cost: \$13,922

SCRAPER TEAM WORKTask description: **Replace Topsoil from Stockpile F to Pond B**Site: **Bowie No. 2 Mine**Permit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 115AState: ColoradoAbbreviation: NoneDate: 9/26/2024County: DeltaFilename: C083-115AUser: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 627G w/push-pull
-Dozer:	NA
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

Cost Breakdown:

Scraper Work Team

Support Equipment

Maintenance Equipment

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	NA	NA	NA
Ownership cost/hour:	\$234.09	NA	NA	NA	NA	NA
Operating cost/hour:	\$265.71	NA	NA	NA	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$530.70	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$1,061.40		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$1,061.40****MATERIAL QUANTITIES**Initial volume: 5,300

CCY

Swell factor: 1.125Loose volume: **5,963**

LCY

Source of estimated volume: Page 2.05-35Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>2,550 lbs/LCY</u>	Struck Volume:	<u>15.70</u>	LCY
Material description:	<u>Earth - Dry packed</u>	Heaped Volume:	<u>22.00</u>	LCY
Rated Payload:	<u>52,800 pounds</u>	Average Volume:	<u>18.85</u>	LCY
Payload Capacity:	<u>20.71 LCY</u>	Adjusted Capacity:	<u>18.85</u>	LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 6750 feet

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

Travel Time:Road Condition: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	3400.00	0.00	5.00	5.00	2218	1.70

Haul Time: 1.70 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	3400.00	0.00	5.00	5.00	2814	1.36

Return Time: 1.36 minutesTotal Scraper team cycle time: 4.56 minutesAdjusted for job conditions: 411.72 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 411.72 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 411.72 LCY/HourUnadjusted unit production/hour: 496.05 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 14.48 HoursUnit cost: \$2.578 /LCYTotal job cost: \$15,371

BULLDOZER WORKTask description: **Replace topsoil from Stockpile to Pond J**Site: **Bowie No. 2 Mine**Permit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 116State: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-116User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D10T - 10SUHorsepower: 574Blade Type: Semi-UniversalAttachment: 3-shank ripperShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$257.39</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$196.93</u>	<u>100</u>
Ripper own. Cost/Hour:	<u>\$25.02</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$11.73</u>	<u>100</u>
Operator Cost/Hour:	<u>\$38.59</u>	<u>NA</u>

Total unit Cost/Hour: \$529.66Total Fleet Cost/Hour: **\$529.66****MATERIAL QUANTITIES**Initial Volume: 1,000Swell factor: 1.125Loose volume: **1,125 LCY**Source of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 300 feetUnadjusted hourly production: 633.3 LCY/hrMaterials consistency description: Consolidated stockpile 1.0Average push gradient: 0 %Average site altitude: 6,100 feetMaterial weight: 2,550 lbs/LCYWeight description: Earth - Dry packed**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	<u>0.750</u>	<u>(AVG.)</u>
Material consistency:	<u>1.000</u>	<u>(CAT HB)</u>
Dozing method:	<u>1.000</u>	<u>(GEN.)</u>
Visibility:	<u>1.000</u>	<u>(AVG.)</u>

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:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4492

Adjusted unit production: 284.48 LCY/hr

Adjusted fleet production: **284.48** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$1.862/LCY

Total job time: **3.95** Hours

Total job cost: **\$2,095**

SCRAPER TEAM WORKTask description: **Replace topsoil from Stockpile E to Pond F**Site: **Bowie No. 2 Mine**Permit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 117State: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-117User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 627G w/push-pull
-Dozer:	NA
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

Cost Breakdown:

Scraper Work Team

Support Equipment

Maintenance Equipment

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	NA	NA	NA
Ownership cost/hour:	\$234.09	NA	NA	NA	NA	NA
Operating cost/hour:	\$265.71	NA	NA	NA	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$530.70	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$1,061.40		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$1,061.40****MATERIAL QUANTITIES**Initial volume: 1,190

CCY

Swell factor: 1.125Loose volume: **1,339**

LCY

Source of estimated volume: Page 2.05-36; Page 2.05-48 and Map 32Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>2,550 lbs/LCY</u>	Struck Volume:	<u>15.70</u>	LCY
Material description:	<u>Earth - Dry packed</u>	Heaped Volume:	<u>22.00</u>	LCY
Rated Payload:	<u>52,800 pounds</u>	Average Volume:	<u>18.85</u>	LCY
Payload Capacity:	<u>20.71 LCY</u>	Adjusted Capacity:	<u>18.85</u>	LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 6750 feet

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

Travel Time:Road Condition: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1500.00	0.00	5.00	5.00	2218	0.84

Haul Time: 0.84 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1500.00	0.00	5.00	5.00	2814	0.68

Return Time: 0.68 minutesTotal Scraper team cycle time: 3.02 minutesAdjusted for job conditions: 621.68 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 621.68 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 621.68 LCY/HourUnadjusted unit production/hour: 749.01 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 2.15 HoursUnit cost: \$1.707 /LCYTotal job cost: \$2,286

SCRAPER TEAM WORKTask description: **Replace topsoil from Stockpile F to Pond K**Site: **Bowie No. 2 Mine**Permit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 118State: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-118User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 627G w/push-pull
-Dozer:	NA
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

Cost Breakdown:**Scraper Work Team****Support Equipment****Maintenance Equipment**

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	NA	NA	NA
Ownership cost/hour:	\$234.09	NA	NA	NA	NA	NA
Operating cost/hour:	\$265.71	NA	NA	NA	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$530.70	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$1,061.40		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$1,061.40****MATERIAL QUANTITIES**Initial volume: 800

CCY

Swell factor: 1.125Loose volume: **900**

LCY

Source of estimated volume: Page 2.05-36; Page 2.05-48; Map 32Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>2,550 lbs/LCY</u>	Struck Volume:	<u>15.70</u>	LCY
Material description:	<u>Earth - Dry packed</u>	Heaped Volume:	<u>22.00</u>	LCY
Rated Payload:	<u>52,800 pounds</u>	Average Volume:	<u>18.85</u>	LCY
Payload Capacity:	<u>20.71 LCY</u>	Adjusted Capacity:	<u>18.85</u>	LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 6750 feet

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

Travel Time:Road Condition: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2700.00	0.00	5.00	5.00	2218	1.39

Haul Time: 1.39 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2700.00	0.00	5.00	5.00	2814	1.11

Return Time: 1.11 minutesTotal Scraper team cycle time: 4.00 minutesAdjusted for job conditions: 469.37 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 469.37 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 469.37 LCY/HourUnadjusted unit production/hour: 565.50 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 1.92 HoursUnit cost: \$2.261 /LCYTotal job cost: \$2,035

BULLDOZER WORKTask description: Replace topsoil fm stockpile to MR/TR Light-Use RoadsSite: Bowie No. 2 MinePermit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 119State: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-119User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D10T - 10SUHorsepower: 574Blade Type: Semi-UniversalAttachment: 3-shank ripperShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$257.39	NA
Operating Cost/Hour:	\$196.93	100
Ripper own. Cost/Hour:	\$25.02	NA
Ripper op. Cost/Hour:	\$11.73	100
Operator Cost/Hour:	\$38.59	NA

Total unit Cost/Hour: \$529.66Total Fleet Cost/Hour: \$2,118.62**MATERIAL QUANTITIES**Initial Volume: 64,347Swell factor: 1.125Loose volume: 72,390 LCYSource of estimated volume: 53.18 acres, 0.75' depthSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 100 feetUnadjusted hourly production: 1,718.9 LCY/hrMaterials consistency description: Consolidated stockpile 1.0Average push gradient: 5 %Average site altitude: 7,500 feetMaterial weight: 2,550 lbs/LCYWeight description: Earth - Dry packed**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	1.000	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4056

Adjusted unit production: 697.19 LCY/hr

Adjusted fleet production: **2788.76** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$0.760/LCY

Total job time: **25.96** Hours

Total job cost: **\$54,995**

BULLDOZER WORKTask description: Replace topsoil from stockpiles to MR/TR drill padsSite: Bowie No. 2 MinePermit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 120State: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-120User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D10T - 10SUHorsepower: 574Blade Type: Semi-UniversalAttachment: 3-shank ripperShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$257.39	NA
Operating Cost/Hour:	\$196.93	100
Ripper own. Cost/Hour:	\$25.02	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.59	NA

Total unit Cost/Hour: \$517.93Total Fleet Cost/Hour: \$2,071.70**MATERIAL QUANTITIES**Initial Volume: 58,650Swell factor: 1.125Loose volume: 65,981 LCYSource of estimated volume: DRMS EstimateSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 120 feetUnadjusted hourly production: 1,503.8 LCY/hrMaterials consistency description: Consolidated stockpile 1.0Average push gradient: 5 %Average site altitude: 7,500 feetMaterial weight: 2,550 lbs/LCYWeight description: Earth - Dry packed**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	1.000	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4056

Adjusted unit production: 609.94 LCY/hr

Adjusted fleet production: **2439.76** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$0.849/LCY

Total job time: **27.04** Hours

Total job cost: **\$56,027**

SCRAPER TEAM WORKTask description: **Replace topsoil from Stockpile A to Prep Plant Bench**Site: **Bowie No. 2 Mine**Permit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 121State: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-121User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 627G w/push-pull
-Dozer:	NA
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

Cost Breakdown:

Scraper Work Team

Support Equipment

Maintenance Equipment

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	NA	NA	NA
Ownership cost/hour:	\$234.09	NA	NA	NA	NA	NA
Operating cost/hour:	\$265.71	NA	NA	NA	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$530.70	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$1,061.40		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$1,061.40****MATERIAL QUANTITIES**Initial volume: 11,000

CCY

Swell factor: 1.125Loose volume: **12,375**

LCY

Source of estimated volume: Operator EstimateSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>2,550 lbs/LCY</u>	Struck Volume:	<u>15.70</u>	LCY
Material description:	<u>Earth - Dry packed</u>	Heaped Volume:	<u>22.00</u>	LCY
Rated Payload:	<u>52,800 pounds</u>	Average Volume:	<u>18.85</u>	LCY
Payload Capacity:	<u>20.71 LCY</u>	Adjusted Capacity:	<u>18.85</u>	LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 6750 feet

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

Travel Time:Road Condition: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	800.00	-20.00	5.00	-15.00	1295	0.77

Haul Time: 0.77 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	800.00	20.00	5.00	25.00	712	1.13

Return Time: 1.13 minutesTotal Scraper team cycle time: 3.40 minutesAdjusted for job conditions: 552.19 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 552.19 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 552.19 LCY/HourUnadjusted unit production/hour: 665.29 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 22.41 HoursUnit cost: \$1.922 /LCYTotal job cost: \$23,787

BULLDOZER WORKTask description: Replace topsoil from stockpile to Material Storage AreaSite: Bowie No. 2 MinePermit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 122State: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-122User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D10T - 10SUHorsepower: 574Blade Type: Semi-UniversalAttachment: 3-shank ripperShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$257.39	NA
Operating Cost/Hour:	\$196.93	100
Ripper own. Cost/Hour:	\$25.02	NA
Ripper op. Cost/Hour:	\$11.73	100
Operator Cost/Hour:	\$38.59	NA

Total unit Cost/Hour: \$529.66Total Fleet Cost/Hour: \$2,118.62**MATERIAL QUANTITIES**Initial Volume: 250Swell factor: 1.125Loose volume: 281 LCYSource of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 200 feetUnadjusted hourly production: 946.0 LCY/hrMaterials consistency description: Consolidated stockpile 1.0Average push gradient: 5 %Average site altitude: 6,000 feetMaterial weight: 2,550 lbs/LCYWeight description: Earth - Dry packed**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	1.000	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4056

Adjusted unit production: 383.70 LCY/hr

Adjusted fleet production: **1534.8** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$1.380/LCY

Total job time: **0.18** Hours

Total job cost: **\$388**

SCRAPER TEAM WORKTask description: **Replace topsoil from Stockpile E to Gob Pile #2**Site: **Bowie No. 2 Mine**Permit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 123State: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-123User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 627G w/push-pull
-Dozer:	NA
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

Cost Breakdown:

Scraper Work Team

Support Equipment

Maintenance Equipment

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	NA	NA	NA
Ownership cost/hour:	\$234.09	NA	NA	NA	NA	NA
Operating cost/hour:	\$265.71	NA	NA	NA	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$530.70	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$1,061.40		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$1,061.40****MATERIAL QUANTITIES**Initial volume: 40,368

CCY

Swell factor: 1.125Loose volume: **45,414**

LCY

Source of estimated volume: Appendix ASource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>2,550 lbs/LCY</u>	Struck Volume:	<u>15.70</u>	LCY
Material description:	<u>Earth - Dry packed</u>	Heaped Volume:	<u>22.00</u>	LCY
Rated Payload:	<u>52,800 pounds</u>	Average Volume:	<u>18.85</u>	LCY
Payload Capacity:	<u>20.71 LCY</u>	Adjusted Capacity:	<u>18.85</u>	LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 6100 feet

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

Travel Time:Road Condition: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	12.00	5.00	17.00	650	1.55

Haul Time: 1.55 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	-12.00	5.00	-7.00	2938	0.41

Return Time: 0.41 minutesTotal Scraper team cycle time: 3.46 minutesAdjusted for job conditions: 542.62 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 542.62 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 542.62 LCY/HourUnadjusted unit production/hour: 653.76 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 83.69 HoursUnit cost: \$1.956 /LCYTotal job cost: \$88,833

SCRAPER TEAM WORKTask description: **Replace Topsoil from Stockpile D to Gob Pile #4**Site: **Bowie No. 2 Mine**Permit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 124State: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-124User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 627G w/push-pull
-Dozer:	NA
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

Cost Breakdown:**Scraper Work Team****Support Equipment****Maintenance Equipment**

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	NA	NA	NA
Ownership cost/hour:	\$234.09	NA	NA	NA	NA	NA
Operating cost/hour:	\$265.71	NA	NA	NA	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$530.70	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$1,061.40		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$1,061.40****MATERIAL QUANTITIES**Initial volume: 4,524

CCY

Swell factor: 1.000Loose volume: **4,524**

LCY

Source of estimated volume: Volume IX, Appendix ASource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>2,550 lbs/LCY</u>	Struck Volume:	<u>15.70</u>	LCY
Material description:	<u>Earth - Dry packed</u>	Heaped Volume:	<u>22.00</u>	LCY
Rated Payload:	<u>52,800 pounds</u>	Average Volume:	<u>18.85</u>	LCY
Payload Capacity:	<u>20.71 LCY</u>	Adjusted Capacity:	<u>18.85</u>	LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 6750 feet

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

Travel Time:Road Condition: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	5.00	5.00	10.00	1068	0.97

Haul Time: 0.97 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	-5.00	5.00	0.00	2921	0.44

Return Time: 0.44 minutesTotal Scraper team cycle time: 2.91 minutesAdjusted for job conditions: 645.18 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 645.18 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 645.18 LCY/HourUnadjusted unit production/hour: 777.32 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 7.01 HoursUnit cost: \$1.645 /LCYTotal job cost: \$7,443

SCRAPER TEAM WORKTask description: **Replace topsoil from stockpile to Gob Pile #3**Site: **Bowie No. 2 Mine**Permit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 125State: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-125User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 627G w/push-pull
-Dozer:	NA
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

Cost Breakdown:

Scraper Work Team

Support Equipment

Maintenance Equipment

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	NA	NA	NA
Ownership cost/hour:	\$234.09	NA	NA	NA	NA	NA
Operating cost/hour:	\$265.71	NA	NA	NA	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$530.70	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$1,061.40		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$1,061.40****MATERIAL QUANTITIES**Initial volume: 46,708

CCY

Swell factor: 1.000Loose volume: **46,708**

LCY

Source of estimated volume: Operator EstimateSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>2,550 lbs/LCY</u>	Struck Volume:	<u>15.70</u>	LCY
Material description:	<u>Earth - Dry packed</u>	Heaped Volume:	<u>22.00</u>	LCY
Rated Payload:	<u>52,800 pounds</u>	Average Volume:	<u>18.85</u>	LCY
Payload Capacity:	<u>20.71 LCY</u>	Adjusted Capacity:	<u>18.85</u>	LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 6750 feet

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

Travel Time:Road Condition: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2000.00	0.00	5.00	5.00	2218	1.07

Haul Time: 1.07 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2000.00	0.00	5.00	5.00	2814	0.86

Return Time: 0.86 minutesTotal Scraper team cycle time: 3.43 minutesAdjusted for job conditions: 547.36 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 547.36 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 547.36 LCY/HourUnadjusted unit production/hour: 659.48 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 85.33 HoursUnit cost: \$1.939 /LCYTotal job cost: \$90,572

BULLDOZER WORKTask description: **Replace topsoil from stockpile to Haul Road**Site: **Bowie No. 2 Mine**Permit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 126State: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-126User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D10T - 10SUHorsepower: 574Blade Type: Semi-UniversalAttachment: 3-shank ripperShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$257.39</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$196.93</u>	<u>100</u>
Ripper own. Cost/Hour:	<u>\$25.02</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$11.73</u>	<u>100</u>
Operator Cost/Hour:	<u>\$38.59</u>	<u>NA</u>

Total unit Cost/Hour: \$529.66Total Fleet Cost/Hour: **\$2,118.62****MATERIAL QUANTITIES**Initial Volume: 300Swell factor: 1.125Loose volume: **338 LCY**Source of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 150 feetUnadjusted hourly production: 1,243.2 LCY/hrMaterials consistency description: Consolidated stockpile 1.0Average push gradient: 5 %Average site altitude: 6,100 feetMaterial weight: 2,550 lbs/LCYWeight description: Earth - Dry packed**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	<u>0.750</u>	<u>(AVG.)</u>
Material consistency:	<u>1.000</u>	<u>(CAT HB)</u>
Dozing method:	<u>1.000</u>	<u>(GEN.)</u>
Visibility:	<u>1.000</u>	<u>(AVG.)</u>

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4056

Adjusted unit production: 504.24 LCY/hr

Adjusted fleet production: **2016.96** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$1.050/LCY

Total job time: **0.17** Hours

Total job cost: **\$355**

SCRAPER TEAM WORKTask description: **Replace topsoil from stockpile to Water Tank Bench**Site: **Bowie No. 2 Mine**Permit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 127State: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-127User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 627G w/push-pull
-Dozer:	NA
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

Cost Breakdown:**Scraper Work Team****Support Equipment****Maintenance Equipment**

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	NA	NA	NA
Ownership cost/hour:	\$234.09	NA	NA	NA	NA	NA
Operating cost/hour:	\$265.71	NA	NA	NA	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$530.70	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$1,061.40		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$1,061.40****MATERIAL QUANTITIES**Initial volume: 850

CCY

Swell factor: 1.125Loose volume: **956**

LCY

Source of estimated volume: Operator EstimateSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>2,550 lbs/LCY</u>	Struck Volume:	<u>15.70</u>	LCY
Material description:	<u>Earth - Dry packed</u>	Heaped Volume:	<u>22.00</u>	LCY
Rated Payload:	<u>52,800 pounds</u>	Average Volume:	<u>18.85</u>	LCY
Payload Capacity:	<u>20.71 LCY</u>	Adjusted Capacity:	<u>18.85</u>	LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 6750 feet

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

Travel Time:Road Condition: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	-15.00	5.00	-10.00	1749	0.69

Haul Time: 0.69 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	15.00	5.00	20.00	868	1.17

Return Time: 1.17 minutesTotal Scraper team cycle time: 3.36 minutesAdjusted for job conditions: 558.77 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 558.77 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 558.77 LCY/HourUnadjusted unit production/hour: 673.21 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 1.71 HoursUnit cost: \$1.900 /LCYTotal job cost: \$1,816

SCRAPER TEAM WORKTask description: **Replace topsoil from Stockpile G to TR35 road/pad**Site: **Bowie No. 2 Mine**Permit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 128State: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-128User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 627G w/push-pull
-Dozer:	NA
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

Cost Breakdown:

Scraper Work Team

Support Equipment

Maintenance Equipment

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	NA	NA	NA
Ownership cost/hour:	\$234.09	NA	NA	NA	NA	NA
Operating cost/hour:	\$265.71	NA	NA	NA	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$530.70	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$1,061.40		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$1,061.40****MATERIAL QUANTITIES**Initial volume: 1,000

CCY

Swell factor: 1.250Loose volume: **1,250**

LCY

Source of estimated volume: Operator EstimateSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Scraper Bowl (volume) Basis:

Material weight: 2,550 lbs/LCY
 Material description: Earth - Dry packed
 Rated Payload: 52,800 pounds
 Payload Capacity: 20.71 LCY

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

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 6750 feet

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

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	4500.00	8.00	3.00	11.00	1018	4.45

Haul Time: 4.45 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	4500.00	-8.00	3.00	-5.00	2938	1.58

Return Time: 1.58 minutesTotal Scraper team cycle time: 7.53 minutesAdjusted for job conditions: 249.33 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 249.33 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 249.33 LCY/HourUnadjusted unit production/hour: 300.40 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 5.01 HoursUnit cost: \$4.257 /LCYTotal job cost: \$5,321

BULLDOZER WORKTask description: Replace topsoil from stockpile to Borrow AreaSite: Bowie No. 2 MinePermit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 129State: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-129User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D10T - 10SUHorsepower: 574Blade Type: Semi-UniversalAttachment: 3-shank ripperShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$257.39	NA
Operating Cost/Hour:	\$196.93	100
Ripper own. Cost/Hour:	\$25.02	NA
Ripper op. Cost/Hour:	\$11.73	100
Operator Cost/Hour:	\$38.59	NA

Total unit Cost/Hour: \$529.66Total Fleet Cost/Hour: \$2,118.62**MATERIAL QUANTITIES**Initial Volume: 7,400Swell factor: 1.250Loose volume: 9,250 LCYSource of estimated volume: Operator EstimateSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 200 feetUnadjusted hourly production: 946.0 LCY/hrMaterials consistency description: Consolidated stockpile 1.0Average push gradient: 0 %Average site altitude: 6,200 feetMaterial weight: 2,550 lbs/LCYWeight description: Earth - Dry packed**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	1.000	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4492

Adjusted unit production: 424.94 LCY/hr

Adjusted fleet production: **1699.76** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$1.246/LCY

Total job time: **5.44** Hours

Total job cost: **\$11,529**

BULLDOZER WORKTask description: Replace topsoil fm stockpile to Upper Parking Lot ExpansionSite: Bowie No. 2 MinePermit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 130State: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-130User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D10T - 10SUHorsepower: 574Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$257.39</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$196.93</u>	<u>100</u>
Ripper own. Cost/Hour:	<u>\$0.00</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$38.59</u>	<u>NA</u>

Total unit Cost/Hour: \$492.91Total Fleet Cost/Hour: **\$492.91****MATERIAL QUANTITIES**Initial Volume: 250Swell factor: 1.125Loose volume: **281** LCYSource of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 100 feetUnadjusted hourly production: 1,718.9 LCY/hrMaterials consistency description: Consolidated stockpile 1.0Average push gradient: 10 %Average site altitude: 6,900 feetMaterial weight: 2,550 lbs/LCYWeight description: Earth - Dry packed**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	<u>0.750</u>	<u>(AVG.)</u>
Material consistency:	<u>1.000</u>	<u>(CAT HB)</u>
Dozing method:	<u>1.000</u>	<u>(GEN.)</u>
Visibility:	<u>1.000</u>	<u>(AVG.)</u>

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3531

Adjusted unit production: 606.94 LCY/hr

Adjusted fleet production: **606.94** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.812/LCY

Total job time: **0.46** Hours

Total job cost: **\$228**

SAFEGUARDING UNDERGROUND OPENINGS

Task description: **Seal Portals and Shafts - Bulkhead Removed from Costs**

Site: **Bowie No. 2 Mine** Permit Action: MT6 Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 140 State: Colorado Abbreviation: None
Date: 9/25/2024 County: Delta Filename: C083-140
User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Opening Description	Dimensions	Closure Method	Quantity	Unit	Unit Cost	Total Cost
D Portals - Backfill (intake, beltline, and return)	185 CY x 3	Adit closure - backfilling (per opening)	3.00	EA	\$3,649.41	\$10,948.23
- drainpipe	165 LF x 3	PVC drain pipe, 6 in. diameter (per ln. ft. incl. mat. & labor)	495.00	LF	\$33.64	\$16,651.80
B Portals - Backfill (intake, beltline, and return)	185 CY x 3	Adit closure - backfilling (per opening)	3.00	EA	\$3,649.41	\$10,948.23
- drainpipe	165 LF x 3	PVC drain pipe, 6 in. diameter (per ln. ft. incl. mat. & labor)	495.00	LF	\$33.64	\$16,651.80

Job Hours: **0.00**

Total Cost: **\$55,200.06**

REVEGETATION WORKTask description: **Drill Seed Mix 3 on Disturbed Area**Site: **Bowie No. 2 Mine**Permit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 150State: ColoradoAbbreviation: NoneDate: 9/25/2024County: DeltaFilename: C083-150User: RDZAgency 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
Beardless Wheatgrass - Whitmar	1.30	4.24	\$17.99
Bitterbrush, Antelope	8.30	2.55	\$469.06
Aster, Smooth	0.30	5.22	\$93.13
Great Basin Wildrye - Magnar	1.20	4.88	\$14.03
Kentucky Bluegrass - Ginger	0.10	4.94	\$0.41
Ryegrass, Perennial - Belramo	0.70	3.97	\$1.80
Intermediate Wheatgrass - Oahe	1.80	3.84	\$8.36
Smooth Brome - Manchar	1.20	3.99	\$6.26
Alfalfa - Ranger (inoculated)	0.70	3.37	\$2.71

Burnett, Small (or Little) - Delar	2.80	3.54	\$12.48
Sheep Fescue - Covar	0.20	3.12	\$1.23
Milk Vetch, Cicer - Lutana	1.10	3.66	\$10.77
Tall Wheatgrass - Jose	2.00	3.63	\$11.50
Western Wheatgrass - Arriba	1.40	3.54	\$12.65
Rose, Wood's	2.70	0.00	\$144.11
Flax, Lewis Blue	0.50	3.32	\$21.15
Sagebrush, Silver	0.10	1.94	\$6.81
Saltbush, Four Wing	2.40	3.31	\$47.69
Serviceberry	4.80	8.82	\$523.41
Siberian Wheatgrass	0.90	2.27	\$5.96
Totals Seed Mix	34.50	74.14	\$1,411.53

Application

Description	Cost /Acre
Drill Seeding (DRMS Survey Cost)	\$236.64
Total Seed Application Cost/Acre	\$236.64

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$492.78	\$985.56
Total Mulch Materials Cost/Acre				\$985.56

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$85.37
Power mulcher (MEANS 32 91 13.16 0350)	\$157.25
Total Mulch Application Cost/Acre	\$242.63

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: 225.02 Cost /Acre: \$2,876.36
 Estimated Failure Rate: 50% Cost /Acre*: \$2,876.36
 *Selected Replanting Work Items: SEEDING,MULCHING

Initial Job Cost: \$647,238.53
 Reseeding Job Cost: \$323,619.26
 Total Job Cost: \$970,858

Job Hours: 225.02

REVEGETATION WORKTask description: **Drill Seed Drill Pads**Site: **Bowie No. 2 Mine**Permit Action: **MT6**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **151**State: **Colorado**Abbreviation: **None**Date: **9/25/2024**County: **Delta**Filename: **C083-151**User: **RDZ**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
Indian Ricegrass - Nespar	3.00	9.71	\$51.66
Bluebunch Wheatgrass - Secar	3.00	9.64	\$31.54
Mountain Brome - Bromar	3.00	4.82	\$18.05
Sandberg Bluegrass - VNS	3.00	63.71	\$43.34
Coreopsis, Lance Leafed	1.00	25.58	\$31.69
Western Wheatgrass - Arriba	4.00	10.10	\$36.13
Daisy, Englemann's	1.00	4.94	\$148.99
Prairie Junegrass	2.00	106.31	\$97.48
Golden Banner	1.00	2.00	\$97.07

Totals Seed Mix	21.00	236.80	\$555.97
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Application

Description	Cost /Acre
Drill Seeding (DRMS Survey Cost)	\$236.64
Total Seed Application Cost/Acre	\$236.64

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$492.78	\$985.56
Total Mulch Materials Cost/Acre				\$985.56

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$85.37
Power mulcher (MEANS 32 91 13.16 0350)	\$157.25
Total Mulch Application Cost/Acre	\$242.63

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:	82.97	Cost /Acre:	\$2,020.80
Estimated Failure Rate:	50%	Cost /Acre*:	\$792.61
*Selected Replanting Work Items:	SEEDING		
Initial Job Cost:	\$167,665.78		
Reseeding Job Cost:	\$32,881.43		
Total Job Cost:	\$200,547		
Job Hours:	82.97		

REVEGETATION WORKTask description: **Drill Seed Lt-Use Roads to Drill Pads and Terror Creek**Site: **Bowie No. 2 Mine**Permit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 152State: ColoradoAbbreviation: NoneDate: 9/25/2024County: DeltaFilename: C083-152User: RDZAgency or organization name: DRMS**FERTILIZING****Materials**

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

Application

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

TILLING

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

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Indian Ricegrass - Nespar	3.00	9.71	\$51.66
Bluebunch Wheatgrass - Secar	3.00	9.64	\$31.54
Mountain Brome - Bromar	3.00	4.82	\$18.05
Sandberg Bluegrass - VNS	3.00	63.71	\$43.34
Coreopsis, Lance Leafed	1.00	25.58	\$31.69
Western Wheatgrass - Arriba	4.00	10.10	\$36.13
Daisy, Englemann's	1.00	4.94	\$148.99
Prairie Junegrass	2.00	106.31	\$97.48
Golden Banner	1.00	2.00	\$97.07

Totals Seed Mix	21.00	236.80	\$555.97
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Application

Description	Cost /Acre
Drill Seeding (DRMS Survey Cost)	\$236.64
Total Seed Application Cost/Acre	\$236.64

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$492.78	\$985.56
Total Mulch Materials Cost/Acre				\$985.56

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$85.37
Power mulcher (MEANS 32 91 13.16 0350)	\$157.25
Total Mulch Application Cost/Acre	\$242.63

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: 62.01 Cost /Acre: \$2,020.80
 Estimated Failure Rate: 50% Cost /Acre*: \$792.61
 *Selected Replanting Work Items: SEEDING

Initial Job Cost: **\$125,309.81**
 Reseeding Job Cost: **\$24,574.87**
 Total Job Cost: **\$149,885**
 Job Hours: **62.01**

REVEGETATION WORKTask description: Broadcast Seed Mix 3 on Gob Pile #3Site: Bowie No. 2 MinePermit Action: MT6Permit/Job#: C1996083PROJECT IDENTIFICATIONTask #: 154State: ColoradoAbbreviation: NoneDate: 9/26/2024County: DeltaFilename: C083-154User: RDZAgency or organization name: DRMSFERTILIZING**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
Beardless Wheatgrass - Whitmar	2.60	8.48	\$35.99
Bitterbrush, Antelope	16.60	5.11	\$938.13
Aster, Smooth	0.60	10.44	\$186.27
Great Basin Wildrye - Magnar	2.40	9.75	\$28.05
			\$
Totals Seed Mix			\$

Application

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

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$492.78	\$985.56
Total Mulch Materials Cost/Acre				\$985.56

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$85.37
Power mulcher (MEANS 32 91 13.16 0350)	\$157.25
Total Mulch Application Cost/Acre	\$242.63

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: 30.63 Cost /Acre: \$4,323.82
 Estimated Failure Rate: 50% Cost /Acre*: \$4,323.82
 *Selected Replanting Work Items: SEEDING,MULCHING

Initial Job Cost: \$132,438.61
 Reseeding Job Cost: \$66,219.30
 Total Job Cost: \$198,658
 Job Hours: 60.63

REVEGETATION WORKTask description: **Drill seed Hubbard Creek Vent Shaft Pad**Site: **Bowie No. 2 Mine**Permit Action: **MT6**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **155**State: **Colorado**Abbreviation: **None**Date: **9/26/2024**County: **Delta**Filename: **C083-155**User: **RDZ**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
Indian Ricegrass - Nespar	3.00	9.71	\$51.66
Bluebunch Wheatgrass - Secar	3.00	9.64	\$31.54
Mountain Brome - Bromar	3.00	4.82	\$18.05
Sandberg Bluegrass - VNS	3.00	63.71	\$43.34
Coreopsis, Lance Leafed	1.00	25.58	\$31.69
Western Wheatgrass - Arriba	4.00	10.10	\$36.13
Daisy, Englemann's	1.00	4.94	\$148.99
Prairie Junegrass	2.00	106.31	\$97.48
Golden Banner	1.00	2.00	\$97.07

Totals Seed Mix	21.00	236.80	\$555.97
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Application

Description	Cost / Acre
Drill Seeding (DRMS Survey Cost)	\$236.64
Total Seed Application Cost/Acre	\$236.64

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost / Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$492.78	\$985.56
Total Mulch Materials Cost/Acre				\$985.56

Application

Description	Cost / Acre
Crimping, with tractor {DMG survey data}	\$85.37
Power mulcher (MEANS 32 91 13.16 0350)	\$157.25
Total Mulch Application Cost/Acre	\$242.63

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:	1.2	Cost /Acre:	\$2,020.80
Estimated Failure Rate:	50%	Cost /Acre*:	\$792.61
*Selected Replanting Work Items:	SEEDING		
Initial Job Cost:	\$2,424.96		
Reseeding Job Cost:	\$475.57		
Total Job Cost:	\$2,901		
Job Hours:	1.20		

REVEGETATION WORKTask description: Drill Seed Rock Laydown AreaSite: Bowie No. 2 MinePermit Action: MT6Permit/Job#: C1996083PROJECT IDENTIFICATIONTask #: 156State: ColoradoAbbreviation: NoneDate: 9/26/2024County: DeltaFilename: C083-156User: RDZAgency or organization name: DRMSFERTILIZING**Materials**

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

Application

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

TILLING

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

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Indian Ricegrass - Nespar	3.00	9.71	\$51.66
Bluebunch Wheatgrass - Secar	3.00	9.64	\$31.54
Mountain Brome - Bromar	3.00	4.82	\$18.05
Sandberg Bluegrass - VNS	3.00	63.71	\$43.34
Coreopsis, Lance Leafed	1.00	25.58	\$31.69
Western Wheatgrass - Arriba	4.00	10.10	\$36.13
Daisy, Englemann's	1.00	4.94	\$148.99
Prairie Junegrass	2.00	106.31	\$97.48
Golden Banner	1.00	2.00	\$97.07

Totals Seed Mix	21.00	236.80	\$555.97
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Application

Description	Cost /Acre
Drill Seeding (DRMS Survey Cost)	\$236.64
Total Seed Application Cost/Acre	\$236.64

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$492.78	\$985.56
Total Mulch Materials Cost/Acre				\$985.56

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$85.37
Power mulcher (MEANS 32 91 13.16 0350)	\$157.25
Total Mulch Application Cost/Acre	\$242.63

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: 0.2 Cost /Acre: \$2,020.80
 Estimated Failure Rate: 50% Cost /Acre*: \$792.61
 *Selected Replanting Work Items: SEEDING

Initial Job Cost: **\$404.16**
 Reseeding Job Cost: **\$79.26**
 Total Job Cost: **\$483**
 Job Hours: **0.50**

REVEGETATION WORKTask description: **Weed Control Over 10-Year Liability Period**Site: **Bowie No. 2 Mine**Permit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 157State: ColoradoAbbreviation: NoneDate: 9/26/2024County: DeltaFilename: C083-157User: RDZAgency 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
	\$

Total Seed Application Cost/Acre	\$0.00
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MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
	1.00		\$0.00	\$0.00
	1.00		\$0.00	\$0.00
Total Mulch Materials Cost/Acre				\$0.00

Application

Description	Cost /Acre
Weed spray, truck, aquatic area, nox. [DMG]	\$79.77
Total Mulch Application Cost/Acre	\$79.77

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: 838
 Estimated Failure Rate: 0%
 *Selected Replanting Work Items: NONE

Cost /Acre: \$79.77
 Cost /Acre*: \$0.00

Initial Job Cost: **\$66,847.26**
 Reseeding Job Cost: **\$0.00**
 Total Job Cost: **\$66,847**
 Job Hours: **400.00**

DEMOLITION WORK

Task description: Demolish and Remove all Structures

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 165

State: Colorado

Abbreviation: None

Date: 9/26/2024

County: Delta

Filename: C083-165

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Location adjustment: 102.20 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Office and Bath House Superstructure	120'x50'x24'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	144,000.00	CF	\$0.35	\$50,054.40
floor	120'x50'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	6,000.00	SF	\$1.24	\$7,438.20
footing	1.5'x2'	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	340.00	LF	\$7.44	\$2,529.09
Shop Superstructure	100'x60'x24'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	144,000.00	CF	\$0.35	\$50,054.40
floor	100'x50'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	5,000.00	SF	\$1.24	\$6,198.50
footing	1.5'x2'	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	300.00	LF	\$7.44	\$2,231.55
Warehouse Superstructure	50'x60'x24'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	72,000.00	CF	\$0.35	\$25,027.20
floor	50'x60'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	3,000.00	SF	\$1.24	\$3,719.10
footing	1.5'x2'	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	220.00	LF	\$7.44	\$1,636.47
Wash Bay Superstructure	50'x25'x24'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	30,000.00	CF	\$0.35	\$10,428.00
floor	50'x25'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	1,250.00	SF	\$1.24	\$1,549.63

footing	1.5'x2'	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	150.00	LF	\$7.44	\$1,115.78
MCC Building Superstructure D-Seam Portal	18'x42'x11'	Bldg. (SC) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	8,316.00	CF	\$0.31	\$2,550.52
floor	18'x42'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	756.00	SF	\$1.24	\$937.21
footing	1.5'x2'	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	120.00	LF	\$7.44	\$892.62
MCC Building Superstructure Hubbard Creek	15'x25'x12'	Bldg. (SC) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	4,500.00	CF	\$0.31	\$1,380.15
floor	15'x25'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	375.00	SF	\$1.24	\$464.89
footing	1.5'x2'	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	80.00	LF	\$7.44	\$595.08
Covered Storage Superstructure - D Seam Portal	30'x80'x20'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	48,000.00	CF	\$0.35	\$16,684.80
floor	30'x80'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	2,400.00	SF	\$1.24	\$2,975.28
footing	1.5'x2'	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	220.00	LF	\$7.44	\$1,636.47
Covered Storage Superstructure B Seam	27'x55'x15'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	22,275.00	CF	\$0.35	\$7,742.79
floor	40'x15'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	600.00	SF	\$1.24	\$743.82
footing	1.5'x2'	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	110.00	LF	\$7.44	\$818.24
Covered Storage Superstructure B Seam	50'x25'x20'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	25,000.00	CF	\$0.35	\$8,690.00
floor	50'x25'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max.	1,250.00	SF	\$1.24	\$1,549.63

		200 ft. push				
footing	1.5'x2'	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	150.00	LF	\$7.44	\$1,115.78
Covered Storage Superstructure Stockpile Level	30'x110'x15'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	49,500.00	CF	\$0.35	\$17,206.20
floor	30'x110'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	3,300.00	SF	\$1.24	\$4,091.01
footing	1.5'x2'	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	280.00	LF	\$7.44	\$2,082.78
Covered Storage Superstructure Stockpile Level	40'x15'x15'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	9,000.00	CF	\$0.35	\$3,128.40
floor	40'x15'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	600.00	SF	\$1.24	\$743.82
footing	1.5'x2'	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	110.00	LF	\$7.44	\$818.24
Water Treatment Building Superstructure	40'x21'x12'	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	10,080.00	CF	\$0.24	\$2,453.47
floor	14'x20'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	840.00	SF	\$1.24	\$1,041.35
footing	1.5'x2'	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	122.00	LF	\$7.44	\$907.50
Fueling Station Superstructure	20'x30'x20'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	12,000.00	CF	\$0.35	\$4,171.20
Fueling Station Containment Structure	20'x30'x4'	Demo. and on-site disposal in excavated pit, 8 in. thick - Max. 200 ft. push	280.00	SF	\$1.73	\$483.00
-floor	20'x30'x8"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	600.00	SF	\$1.24	\$743.82
10k gal diesel tank remove/haul	NA	Haul tank to certified salvage dump - 9,000 to 12,000 gal. tank	1.00	EA	\$1,050.00	\$1,050.00
sludge removal	NA	Remove sludge, water, and rem. product from tank - 9,000 to 12,000	1.00	EA	\$432.00	\$432.00

		gal.				
sludge disposal	NA	Dispose of tank sludge off-site - Average	150.00	GAL	\$6.80	\$1,020.00
insert CO2	NA	Insert dry ice (CO2) into tank to produce inert gas - 1.5 lbs./100 gal.	150.00	LB	\$2.11	\$316.50
500 gal DOTdiesel tank remove/haul	NA	Haul tank to certified salvage dump - 3,000 to 5,000 gal. tank	1.00	EA	\$760.00	\$760.00
sludge removal	NA	Remove sludge, water, and rem. product from tank - 3,000 to 5,000 gal.	1.00	EA	\$259.50	\$259.50
sludge disposal	NA	Dispose of tank sludge off-site - Average	50.00	GAL	\$6.80	\$340.00
insert CO2	NA	Insert dry ice (CO2) into tank to produce inert gas - 1.5 lbs./100 gal.	7.50	LB	\$2.11	\$15.83
2k gal oil tank remove/haul	NA	Haul tank to certified salvage dump - 3,000 to 5,000 gal. tank	1.00	EA	\$760.00	\$760.00
sludge removal	NA	Remove sludge, water, and rem. product from tank - 3,000 to 5,000 gal.	1.00	EA	\$259.50	\$259.50
sludge disposal	NA	Dispose of tank sludge off-site - Average	200.00	GAL	\$6.80	\$1,360.00
insert CO2	NA	Insert dry ice (CO2) into tank to produce inert gas - 1.5 lbs./100 gal.	30.00	LB	\$2.11	\$63.30
2.5k gal gas tank remove/haul	NA	Haul tank to certified salvage dump - 3,000 to 5,000 gal. tank	1.00	EA	\$760.00	\$760.00
sludge removal	NA	Remove sludge, water, and rem. product from tank - 3,000 to 5,000 gal.	1.00	EA	\$259.50	\$259.50
sludge disposal	NA	Dispose of tank sludge off-site - Average	250.00	GAL	\$6.80	\$1,700.00
insert CO2	NA	Insert dry ice (CO2) into tank to produce inert gas - 1.5 lbs./100 gal.	37.00	LB	\$2.11	\$78.07
1k gal motor oil tank remove/haul	NA	Haul tank to certified salvage dump - 3,000 to 5,000 gal. tank	1.00	EA	\$760.00	\$760.00
sludge removal	NA	Remove sludge, water, and rem. product from tank - 3,000 to 5,000 gal.	1.00	EA	\$259.50	\$259.50
sludge disposal	NA	Dispose of tank sludge off-site - Average	100.00	GAL	\$6.80	\$680.00
insert CO2	NA	Insert dry ice (CO2) into tank to produce inert gas - 1.5 lbs./100 gal.	15.00	LB	\$2.11	\$31.65

Sewage Treatment Plant Superstructure	20'x30'x10'	Bldg. (SC) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	6,000.00	CF	\$0.31	\$1,840.20
floor	20'x30'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	600.00	SF	\$1.24	\$743.82
footing	1.5'x2'	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	100.00	LF	\$7.44	\$743.85
Substation Superstructure	50'x100'x20'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	50,000.00	CF	\$0.35	\$17,380.00
floor	50'x100'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	5,000.00	SF	\$1.24	\$6,198.50
transformers	3 each	NON-PCB Transformer Removal	3.00	EA	\$2,397.20	\$7,191.60
Mine Ventilation Fan Superstructure	20'x20'x8'	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	3,200.00	CF	\$0.24	\$778.88
floor	20'x20'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	400.00	SF	\$1.24	\$495.88
footing	1.5'x2'	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	80.00	LF	\$7.44	\$595.08
Non-Coal Waste Storage Structures (3)	20'x30'x6'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	10,800.00	CF	\$0.36	\$3,881.52
Rock Dust Storage Area Superstructure	30'x20'x8'	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	4,800.00	CF	\$0.24	\$1,168.32
floor	30'x20'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	600.00	SF	\$1.24	\$743.82
footing	1.5'x2'	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	100.00	LF	\$7.44	\$743.85
silo	50'x8'd	Bldg. (MC) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	2,513.00	CF	\$0.45	\$1,140.65
silo pad	25'x20'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	100.00	SF	\$1.24	\$123.97
Pump House	18'x12'x8'	Bldg. (SN) demo./on-	1,728.00	CF	\$0.24	\$420.60

Superstructure		site disposal in excavated pit - Max. 10,000 ft. haul				
floor	18'x12'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	216.00	SF	\$1.24	\$267.78
footing	1.5'x2'	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	60.00	LF	\$7.44	\$446.31
Portal Conveyor Transfer Building Superstructure	20'x24'x45'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	21,600.00	CF	\$0.35	\$7,508.16
floor	20'x24'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	480.00	SF	\$1.24	\$595.06
footing	1.5'x2'	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	88.00	LF	\$7.44	\$654.59
Screening and Crushing Building	40'x21'x52'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	43,680.00	CF	\$0.35	\$15,183.17
floor	40'x21'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	840.00	SF	\$1.24	\$1,041.35
footing	1.5'x2'	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	122.00	LF	\$7.44	\$907.50
Clean Gob Pile Material Storage Area	NA	Loading and 5 mile haul, salvage allowed - Wood frame structures	968.00	CY	\$23.95	\$23,183.60
Clean Haul Road Storage Piles (2)	NA	Loading and 5 mile haul, salvage allowed - Wood frame structures	484.00	CY	\$23.95	\$11,591.80
Clean Topsoil Stockpile A Storage Pile	NA	Loading and 5 mile haul, salvage allowed - Wood frame structures	1,839.00	CY	\$23.95	\$44,044.05
Clean Portal Bench/Light Use Rd Piles (2)	NA	Loading and 5 mile haul, salvage allowed - Wood frame structures	1,670.00	CY	\$23.95	\$39,996.50
Portal Conveyor (D and B Seams)	140'x72"	OBSOLETE-Conveyor, elevated, including supports - 8 ft. W x 10 ft. H housing	140.00	LF	\$53.42	\$7,478.80
footing	2'x3'	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	5.00	LF	\$14.88	\$74.38
Gob Belt Conveyor	81'x48"	OBSOLETE-Conveyor, elevated, including supports - 5 ft. W x 6 ft. H housing	81.00	LF	\$44.51	\$3,605.23

footing	2'x3'	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	2.00	LF	\$14.88	\$29.75
Stockpile Conveyor	393'x72"	OBSOLETE-Conveyor, elevated, including supports - 8 ft. W x 10 ft. H housing	393.00	LF	\$53.42	\$20,994.06
footing	2'x3'	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	16.00	LF	\$14.88	\$238.03
Reclaim Conveyor	402'x48"	OBSOLETE-Conveyor, elevated, including supports - 5 ft. W x 6 ft. H housing	402.00	LF	\$44.51	\$17,892.62
footing	2'x3'	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	18.00	LF	\$14.88	\$267.78
Off-Spec Coal Conveyor	111'x72"	OBSOLETE-Conveyor, elevated, including supports - 8 ft. W x 10 ft. H housing	111.00	LF	\$53.42	\$5,929.62
footing	2'x3'	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	4.00	LF	\$14.88	\$59.51
Radial Stacker #1 Conveyor	150'x36"	OBSOLETE-Conveyor, elevated, including supports - 5 ft. W x 6 ft. H housing	150.00	LF	\$44.51	\$6,676.35
footing	2'x3'	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	6.00	LF	\$14.88	\$89.26
Radial Stacker #2 Conveyor	80' x 36"	OBSOLETE-Conveyor, elevated, including supports - 5 ft. W x 6 ft. H housing	80.00	LF	\$44.51	\$3,560.72
footing	2'x3'	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	1.00	LF	\$14.88	\$14.88
Stoker Collecting Conveyor	29' x 36"	OBSOLETE-Conveyor, elevated, including supports - 5 ft. W x 6 ft. H housing	29.00	LF	\$44.51	\$1,290.76
concrete runway	29' x 48"	Demo. and on-site disposal in excavated pit, 4 in. thick - Max. 200 ft. push	116.00	SF	\$0.83	\$95.87
Stacking Tube	12' diam x 100'	Demo. and on-site disposal in excavated pit, 12 in. thick - Max. 200 ft. push	3,770.00	SF	\$2.59	\$9,754.88
foundation	2'x3'	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max.	38.00	LF	\$14.88	\$565.32

		200 ft. push				
Stacking Tube	12' diam x 120'	Demo. and on-site disposal in excavated pit, 12 in. thick - Max. 200 ft. push	4,524.00	SF	\$2.59	\$11,705.85
foundation	2'x3'	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	38.00	LF	\$14.88	\$565.32
Stacking Tube	12' diam x 130'	Demo. and on-site disposal in excavated pit, 12 in. thick - Max. 200 ft. push	4,901.00	SF	\$2.59	\$12,681.34
Reclaim Tunnel Part 1	13' diam x 350'	USER PROVIDED ITEM	9,065.00	SF	\$7.77	\$70,435.05
Reclaim Tunnel Part 2	13' diam x 200'	USER PROVIDED ITEM	1,481.00	SF	\$7.77	\$11,507.37
Escape Tube	42" x 160'&150'	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	3,797.00	CF	\$0.24	\$924.19
Concrete Fan Housing	6'x6'x8'	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	288.00	CF	\$0.24	\$70.10
10k gal hydraulic oil tank	NA	Haul tank to certified salvage dump - 9,000 to 12,000 gal. tank	1.00	EA	\$1,050.00	\$1,050.00
remove sludge	NA	Remove sludge, water, and rem. product from tank - 9,000 to 12,000 gal.	1.00	EA	\$432.00	\$432.00
sludge disposal	NA	Dispose of tank sludge off-site - Average	1,000.00	GAL	\$6.80	\$6,800.00
insert CO2	NA	Insert dry ice (CO2) into tank to produce inert gas - 1.5 lbs./100 gal.	150.00	LB	\$2.11	\$316.50
500 gal antifreeze tank	NA	Haul tank to certified salvage dump - 3,000 to 5,000 gal. tank	1.00	EA	\$760.00	\$760.00
sludge removal	NA	Remove sludge, water, and rem. product from tank - 3,000 to 5,000 gal.	1.00	EA	\$259.50	\$259.50
sludge disposal	NA	Dispose of tank sludge off-site - Average	50.00	GAL	\$6.80	\$340.00
insert CO2	NA	Insert dry ice (CO2) into tank to produce inert gas - 1.5 lbs./100 gal.	7.50	LB	\$2.11	\$15.83
Power line removal	6350' lin.ft.	Disposal of utility pole and hardware surplus material	6,350.00	LF	\$0.02	\$127.00
Portal Bench to Transfer Tower on grade conveyor	36" x 800'	OBSOLETE-Conveyor, overland, including supports - 5 ft. W x 6 ft. H housing	800.00	LF	\$17.60	\$14,080.00
Portal Bench to	36" x 120'	OBSOLETE-Conveyor,	120.00	LF	\$44.51	\$5,341.08

Transfer Tower elevated conveyor		elevated, including supports - 5 ft. W x 6 ft. H housing				
footing	2'x3'	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	38.00	LF	\$14.88	\$565.32
tunnel structure	100 lin.ft.	USER PROVIDED ITEM	100.00	LF	\$58.19	\$5,819.00
Transfer Tower to Stockpile overland	36" x 2280'	OBSOLETE-Conveyor, overland, including supports - 5 ft. W x 6 ft. H housing	2,280.00	LF	\$17.60	\$40,128.00
Transfer Tower to Stockpile elevated	36" x 475'	OBSOLETE-Conveyor, elevated, including supports - 5 ft. W x 6 ft. H housing	475.00	LF	\$44.51	\$21,141.78
footing	2'x3'	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	112.00	LF	\$14.88	\$1,666.21
tunnel	80 lin.ft.	USER PROVIDED ITEM	80.00	LF	\$58.19	\$4,655.20
Downhill Conveyor Transfer Tower Structure	16'x16'x25'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	6,400.00	CF	\$0.36	\$2,300.16
concrete pad	16'x16'	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	256.00	SF	\$1.24	\$317.36
footing	2'x3'	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	65.00	LF	\$14.88	\$967.00
Wildlife Structures	300 lin.ft.	USER PROVIDED ITEM	300.00	LF	\$58.19	\$17,457.00
Reclaim Conveyor overland	36" x 395'	OBSOLETE-Conveyor, overland, including supports - 5 ft. W x 6 ft. H housing	395.00	LF	\$17.60	\$6,952.00
Reclaim Conveyor elevated	36" x 180'	OBSOLETE-Conveyor, elevated, including supports - 5 ft. W x 6 ft. H housing	180.00	LF	\$44.51	\$8,011.62
Coal Loadout Bin	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	46,875.00	CF	\$0.36	\$16,846.88
footing	2'x3'	Demo. and on-site disposal in existing pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	100.00	LF	\$14.26	\$1,426.04
Coal Reclaim Tunnel	42" x 160'	USER PROVIDED ITEM	160.00	LF	\$58.19	\$9,310.40
escapeway	42" x 160'	USER PROVIDED ITEM	160.00	LF	\$17.70	\$2,832.00
fan housing building	NA	Bldg. (MN) demo./on-site disposal in	288.00	CF	\$0.36	\$103.51

		excavated pit - Max. 200 ft. push				
Loadout Substation	20'x20'x10'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	4,000.00	CF	\$0.36	\$1,437.60
floor	20'x20'	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	400.00	SF	\$1.24	\$495.88
transformer	NA	NON-PCB Transformer Removal	1.00	EA	\$2,397.20	\$2,397.20
fencing	100 lin.ft.	Fencing, chain link, including posts and fabric - 8 ft. to 10 ft. high	100.00	LF	\$3.53	\$353.00
Structure at Vent Shaft - Lap Slab	576 sq.ft.	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	576.00	SF	\$1.24	\$714.07
wing and stem walls	1408 sq.ft.	Demo. and on-site disposal in existing pit, 6 in. thick - Max. 200 ft. push	1,408.00	SF	\$1.24	\$1,749.30
wing wall footing	100 lin. ft.	Demo. and on-site disposal in excavated pit, 1.5 ft. x 3 ft. - Max. 200 ft. push	100.00	LF	\$11.16	\$1,115.77
fan and evase	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	22,032.00	CF	\$0.36	\$7,918.30
shaft house	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	10,788.00	CF	\$0.36	\$3,877.21
Haul road pavement removal	NA	Pavement, bituminous, demolition only - 3 in. thick	33,367.00	SY	\$5.28	\$176,177.76
disposal	NA	Loading and 2 mile haul, no salvage - Machine loading	5,578.00	CY	\$21.15	\$117,974.70
guardrail removal	NA	Railing, roadside guiderail and posts (posts on 20 ft. centers)	7,545.00	LF	\$18.79	\$141,770.55
Storage Shed at Topsoil Stockpile	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	76,500.00	CF	\$0.36	\$27,494.10
floor	NA	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	5,100.00	SF	\$1.24	\$6,322.47
Wood fencing from TR-11	NA	Fencing, wood, all types - 4 ft. to 6 ft. high	140.00	LF	\$1.81	\$253.40
12" PVC Pipe from TR-11	NA	Pipe, corrugated metal (CMP) - 8 in. diameter pipe	42.00	LF	\$4.51	\$189.29
Misc Steel Pipe from	NA	Pipe, steel, welded	18.00	LF	\$2.03	\$36.54

TR-11		connections - 4 in. diameter pipe				
Reclaim Conveyor Transfer Building	20'x20'x45'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	18,000.00	CF	\$0.36	\$6,469.20
floor	20'x20'	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	400.00	SF	\$1.24	\$495.88
footing	2'x3'	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	80.00	LF	\$7.44	\$595.08
Railroad Track	NA	Railroad track - Ties and track	7,630.00	LF	\$16.15	\$123,224.50
Storage Track	NA	Railroad track - Ties and track	3,880.00	LF	\$16.15	\$62,662.00
Bypass Track	NA	Railroad track - Ties and track	615.00	LF	\$16.15	\$9,932.25
ballast	NA	Railroad track - Ballast	1,347.00	CY	\$5.52	\$7,435.44
Reclaim Conveyor Transfer Building	NA	OBSOLETE-Conveyor, overland, including supports - 5 ft. W x 6 ft. H housing	340.00	LF	\$17.60	\$5,984.00
elevated portion	NA	OBSOLETE-Conveyor, elevated, including supports - 5 ft. W x 6 ft. H housing	265.00	LF	\$44.51	\$11,794.89
elevated to batch weigh	NA	OBSOLETE-Conveyor, elevated, including supports - 5 ft. W x 6 ft. H housing	1,200.00	LF	\$44.51	\$53,410.80
footing	NA	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	7.00	LF	\$14.88	\$104.14
Hazardous Waste Removal	NA	Hazardous waste removal - Drum solids/liquids, per drum, (7+ drum job)	20.00	DRUM	\$360.98	\$7,219.57
test	NA	Hazardous waste sampling and analysis, per sample	20.00	EA	\$224.65	\$4,493.00
transport to dump	NA	Solid transport, large truck (max. 80 drums, 25 cy, or 18 tons) - Maximum	150.00	MI	\$7.25	\$1,087.50
dump charges	NA	Dumpsite disposal charge - Average	6.00	TON	\$277.50	\$1,665.00
TR24 Fan Structure	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	12,923.00	CF	\$0.36	\$4,644.53
floor	NA	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	20.00	SF	\$1.24	\$24.79
footing	NA	Demo. and on-site	12.00	LF	\$7.44	\$89.26

		disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push				
Conveyor Overpass Retaining Wall	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	3,400.00	CF	\$0.36	\$1,221.96
concrete halfwall	NA	Demo. and on-site disposal in existing pit, 8 in. thick - Max. 200 ft. push	480.00	SF	\$1.66	\$795.12
floor	NA	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	120.00	SF	\$1.24	\$148.76
footing	NA	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	360.00	LF	\$7.44	\$2,677.86
multiplate structure	5.5' dia x 4'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 200 ft. push	64.00	CF	\$0.24	\$15.12
140k gal water tank	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	64,700.00	CF	\$0.36	\$23,253.18
Transfer Building	20'x24'x45'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	21,600.00	CF	\$0.36	\$7,763.04
floor	20'x35'	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	700.00	SF	\$1.24	\$867.79
footing	2'x3'	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	106.00	LF	\$7.44	\$788.48
MCC Building	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	1,000.00	CF	\$0.36	\$359.40
floor	NA	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	100.00	SF	\$1.24	\$123.97
Substation	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	25,000.00	CF	\$0.36	\$8,985.00
transformer	NA	NON-PCB Transformer Removal	2.00	EA	\$2,397.20	\$4,794.40
Water tank 50k gal	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	6,720.00	CF	\$0.36	\$2,415.17
Mine vent fan	NA	Bldg. (MN) demo./on-site disposal in	67,500.00	CF	\$0.36	\$24,259.50

		excavated pit - Max. 200 ft. push				
floor	NA	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	40.00	SF	\$1.24	\$49.59
footing	NA	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	116.00	LF	\$7.44	\$862.87
Powerlines	NA	Disposal of utility pole and hardware surplus material	200.00	LF	\$0.02	\$4.00
Rock Dust Tank	NA	Bldg. (MN) demo./on- site disposal in excavated pit - Max. 200 ft. push	2,513.00	CF	\$0.36	\$903.17
compressor house	NA	Bldg. (MN) demo./on- site disposal in excavated pit - Max. 200 ft. push	4,800.00	CF	\$0.36	\$1,725.12
Portal Conveyor	NA	OBSOLETE-Conveyor, overland, including supports - 5 ft. W x 6 ft. H housing	148.00	LF	\$17.60	\$2,604.80
Gob Conveyor	NA	OBSOLETE-Conveyor, overland, including supports - 5 ft. W x 6 ft. H housing	100.00	LF	\$17.60	\$1,760.00
Radial Stacker Conveyor	NA	OBSOLETE-Conveyor, overland, including supports - 5 ft. W x 6 ft. H housing	42.00	LF	\$17.60	\$739.20
Wash Plant	55'x70'x80'	Bldg. (MN) demo./on- site disposal in excavated pit - Max. 200 ft. push	308,000.00	CF	\$0.36	\$110,695.20
floor	55'x70'	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	3,850.00	SF	\$1.24	\$4,772.85
footing	55'x70'	Demo. and on-site disposal in existing pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	250.00	LF	\$7.13	\$1,782.55
MCC Room	NA	Bldg. (MN) demo./on- site disposal in excavated pit - Max. 200 ft. push	5,760.00	CF	\$0.36	\$2,070.14
floor	NA	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	480.00	SF	\$1.24	\$595.06
Transfer Bldg - Reclaim to Plant	NA	Bldg. (MN) demo./on- site disposal in excavated pit - Max. 200 ft. push	10,240.00	CF	\$0.36	\$3,680.26
Reclaim Tunnel Multiplate	5.5' dia x 4'	Bldg. (SN) demo./on- site disposal in existing	64.00	CF	\$0.24	\$15.12

		pit or cut - Max. 200 ft. push				
Stacking Tube	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	4,900.00	CF	\$0.36	\$1,761.06
structure	NA	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	8,000.00	SF	\$1.29	\$10,349.60
footing	NA	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	38.00	LF	\$7.44	\$282.66
Clarifier Tank/Thickener	70'd x 10'h x 10" th	Demo. and on-site disposal in excavated pit, 10 in. thick - Max. 200 ft. push	2,199.00	SF	\$2.07	\$4,543.57
base	NA	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	3,848.00	SF	\$1.24	\$4,770.37
sludge removal	NA	Remove sludge, water, and rem. product from tank - 9,000 to 12,000 gal.	10.00	EA	\$432.00	\$4,320.00
Transfer Building - Plant Feed	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	8,192.00	CF	\$0.36	\$2,944.20
Transfer Building - Clean Coal	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	4,096.00	CF	\$0.36	\$1,472.10
Reclaim Conveyor	NA	OBSOLETE-Conveyor, overland, including supports - 8 ft. W x 10 ft. H housing	250.00	LF	\$26.71	\$6,677.50
Plant Feed Conveyor	NA	OBSOLETE-Conveyor, overland, including supports - 8 ft. W x 10 ft. H housing	300.00	LF	\$26.71	\$8,013.00
Stoker Stockpile Conveyor	NA	OBSOLETE-Conveyor, overland, including supports - 8 ft. W x 10 ft. H housing	125.00	LF	\$26.71	\$3,338.75
Clean Coal Transfer Conveyor	NA	OBSOLETE-Conveyor, overland, including supports - 8 ft. W x 10 ft. H housing	25.00	LF	\$26.71	\$667.75
Clean Coal Stockpile Conveyor	NA	OBSOLETE-Conveyor, overland, including supports - 8 ft. W x 10 ft. H housing	550.00	LF	\$26.71	\$14,690.50
Synfuel Plant	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	84,000.00	CF	\$0.36	\$30,189.60
floor	NA	Demo. and on-site	28,000.00	SF	\$1.24	\$34,711.60

		disposal in excavated pit, 6 in. thick - Max. 200 ft. push				
footing	NA	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	220.00	LF	\$7.44	\$1,636.47
Feed Belt Conveyor	NA	OBSOLETE-Conveyor, overland, including supports - 5 ft. W x 6 ft. H housing	50.00	LF	\$17.60	\$880.00
Product Belt Conveyor	NA	OBSOLETE-Conveyor, overland, including supports - 5 ft. W x 6 ft. H housing	85.00	LF	\$17.60	\$1,496.00
Return Belt Conveyor	NA	OBSOLETE-Conveyor, overland, including supports - 5 ft. W x 6 ft. H housing	80.00	LF	\$17.60	\$1,408.00
Fan and Duct Work TR62	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	31,752.00	CF	\$0.36	\$11,411.67
footings	NA	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	108.00	LF	\$7.44	\$803.36
MCC Building TR62	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	4,500.00	CF	\$0.36	\$1,617.30
motor foundation	NA	Demo. and on-site disposal in existing pit, 6 in. thick - Max. 200 ft. push	100.00	SF	\$1.19	\$118.84
floor	NA	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	375.00	SF	\$1.24	\$464.89
footing	NA	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	80.00	LF	\$7.44	\$595.08
Water Line TR53	NA	Pipe, sewer/water - 12 in. diameter pipe	400.00	LF	\$5.24	\$2,096.00
Upper Parking Area Retaining Wall TR50	NA	Demo. and on-site disposal in excavated pit, 12 in. thick - Max. 200 ft. push	1,305.00	SF	\$2.59	\$3,376.69
footing	NA	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	150.00	LF	\$7.44	\$1,115.78
10k gal fuel tank TR47	NA	Excavate and load tank onto trailer, non-leaking - 9,000 gal. to 12,000 gal.	1.00	EA	\$1,645.00	\$1,645.00
remove sludge	NA	Remove sludge, water, and rem. product from	1.00	EA	\$432.00	\$432.00

		tank - 9,000 to 12,000 gal.				
dispose of sludge	NA	Dispose of tank sludge off-site - Average	1,000.00	GAL	\$6.80	\$6,800.00
insert CO2	NA	Insert dry ice (CO2) into tank to produce inert gas - 1.5 lbs./100 gal.	150.00	LB	\$2.11	\$316.50
haul tank to certified dump	NA	Haul tank to certified salvage dump - 9,000 to 12,000 gal. tank	1.00	EA	\$1,050.00	\$1,050.00
Trailers (3)	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	3,000.00	CF	\$0.36	\$1,078.20
Quonset Hut MR108	25'x60'x12.5'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	18,750.00	CF	\$0.36	\$6,738.75
floor	25'x60'	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	1,500.00	SF	\$1.24	\$1,859.55
Hoist Structure MR97	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	1,440.00	CF	\$0.36	\$517.54
footing	NA	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	9.00	LF	\$7.44	\$66.95
piers	NA	USER PROVIDED ITEM	2.00	CY	\$89.00	\$178.00
head frame	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	5,886.00	CF	\$0.36	\$2,115.43
Collecting Conveyor	NA	OBSOLETE-Conveyor, elevated, including supports - 5 ft. W x 6 ft. H housing	76.00	LF	\$44.51	\$3,382.68
footing	NA	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	2.00	LF	\$14.88	\$29.75
Batch Weigh @ Loadout	30' x 40' x 120'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	144,000.00	CF	\$0.36	\$51,753.60
Fuel Station floor	20' x 30'	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	600.00	SF	\$1.24	\$743.82
footing	2'x3'	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	100.00	LF	\$7.44	\$743.85
Loadout Storage Stacker	NA	Bldg. (MN) demo./on-site disposal in	8,000.00	CF	\$0.36	\$2,875.20

		excavated pit - Max. 200 ft. push				
tube	NA	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	3,678.00	SF	\$1.24	\$4,559.62
footing	NA	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	44.00	LF	\$7.44	\$327.29
Filter Building MR 125	40'x16'x8'	Bldg. (SC) demo./on- site disposal in excavated pit - Max. 200 ft. push	5,120.00	CF	\$0.32	\$1,630.72
floor	40'x16'x4"	Demo. and on-site disposal in excavated pit, 4 in. thick - Max. 200 ft. push	640.00	SF	\$0.83	\$528.96
footing	112 LF	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	112.00	LF	\$7.44	\$833.11
Shower Facility Expansion MR 126	16' x 50' x 12'	Bldg. (MN) demo./on- site disposal in excavated pit - Max. 200 ft. push	9,600.00	CF	\$0.36	\$3,450.24
floor	16'x50'x4"	Demo. and on-site disposal in excavated pit, 4 in. thick - Max. 200 ft. push	800.00	SF	\$0.83	\$661.20
footing	82 LF	Demo. and on-site disposal in excavated pit, 1.0 ft. x 2 ft. - Max. 200 ft. push	82.00	LF	\$4.96	\$406.64
Terror Creek Vent Shaft Collar	30'x30'x12"	Demo. and on-site disposal in excavated pit, 12 in. thick - Max. 200 ft. push	900.00	SF	\$2.48	\$2,231.55
Terror Creek Vent Shaft Quonset Hut	NA	Bldg. (SN) demo./on- site disposal in excavated pit - Max. 10,000 ft. haul	14,720.00	CF	\$0.24	\$3,582.85
pad	NA	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	1,500.00	SF	\$1.24	\$1,859.55
Temporary Culvert T-F1	24" x 300'	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	300.00	LF	\$10.60	\$3,178.53
Temporary Culvert T-F2	12" x 20'	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	20.00	LF	\$5.91	\$118.17
Half Culvert C-J11	30" x 500'	USER PROVIDED ITEM	500.00	LF	\$3.42	\$1,710.00
Culvert C-G5	36" x 95'	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	95.00	LF	\$16.96	\$1,611.23
Culvert C-G6	12" x 87'	Pipe, corrugated metal (CMP) - 12 in.	87.00	LF	\$5.91	\$514.05

		diameter pipe				
Culvert C-G2	12" x 40'	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	40.00	LF	\$5.91	\$236.34
Concrete Box Structure at Pond D	4' x 4'	Wall, concrete, demolition only, average reinforcing - 4 in. thick	80.00	SF	\$0.95	\$76.33
Temporary Culvert T-F3	24" x 20'	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	20.00	LF	\$10.60	\$211.90
Temporary Culvert T-F4	30" x 40'	Pipe, corrugated metal (CMP) - 30 in. diameter pipe	40.00	LF	\$13.98	\$559.19
Temporary Culvert T-F5	30" x 80'	Pipe, corrugated metal (CMP) - 30 in. diameter pipe	80.00	LF	\$13.98	\$1,118.38
Temporary Culvert C-J10	24" x 30'	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	30.00	LF	\$10.60	\$317.85
Culvert C22 drop inlet structure	44 - 16" x 8" x 6" blocks	Wall, block, demolition only, 6 in. thick - Vertical reinforcing	39.06	SF	\$0.79	\$30.94
Trailer Mounted Filter Press	8' x 8' x 40'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 200 ft. push	2,560.00	CF	\$0.24	\$604.67
West Terror Creek Flume Anchors	1' x 1.5' x 4'	Footing, concrete, 1.0 ft. x 2 ft. - Average reinforcing	8.00	LF	\$4.03	\$32.21
W Ter Crk Flume walls - 2 walls/2 flumes	2' x 4' x 4" (2)	Footing, concrete, 1.5 ft. x 2 ft. - Average reinforcing	16.00	LF	\$4.83	\$77.26
Flume rubble disposal	NA	Loading and 5 mile haul, salvage allowed - Concrete frame structures	2.80	CY	\$16.20	\$45.36
Rock Bin on D Portal Bench - side walls	7' x 15' (2)	Wall, concrete, demolition only, average reinforcing - 12 in. thick	210.00	SF	\$1.75	\$367.29
Rock Bin on D Portal Bench - back wall	8' x 23'	Wall, concrete, demolition only, average reinforcing - 18 in. thick	184.00	SF	\$3.50	\$643.63
Rock Bin on D Portal Bench - floor	16.5' x 23' x 12"	Floor, concrete, demolition only, average reinforcing - 12 in. thick	379.50	SF	\$2.21	\$836.87
Rock Bin on D Bench rubble disposal	NA	Push demolished materials/rubble/debris into pit - Max. 200 ft. push	32.00	CY	\$3.32	\$106.30
Concrete patch @haul road intersection	50' x 18' x 8"	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	7.40	CY	\$151.50	\$1,121.10
Culverts B1(50), B3(100), B7(220)	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	370.00	LF	\$5.91	\$2,186.18

Culverts B8(110), B9(140)	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	250.00	LF	\$5.91	\$1,477.15
Culverts B13(110), B18(110), B24(60)	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	280.00	LF	\$5.91	\$1,654.41
Culverts B25(160), B26(70)	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	230.00	LF	\$5.91	\$1,358.98
Culvert B11(60) and B29 (40)	18"	Pipe, corrugated metal (CMP) - 18 in. diameter pipe	100.00	LF	\$8.10	\$809.72
Culverts B12(170), B14(70), B22(40)	18"	Pipe, corrugated metal (CMP) - 18 in. diameter pipe	280.00	LF	\$8.10	\$2,267.22
Culvert B23(40)	18"	Pipe, corrugated metal (CMP) - 18 in. diameter pipe	40.00	LF	\$8.10	\$323.89
Culverts B15(80), B16(60), B17(90)	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	230.00	LF	\$10.60	\$2,436.87
Culverts B19(60), B27(100)	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	160.00	LF	\$10.60	\$1,695.22
Culvert B28(120)	30"	Pipe, corrugated metal (CMP) - 30 in. diameter pipe	120.00	LF	\$13.98	\$1,677.56
Culvert B21(40)	36"	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	40.00	LF	\$16.96	\$678.41
Culverts C1(110), C2(30), C3(40), C8(30)	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	210.00	LF	\$5.91	\$1,240.81
Culverts C10(100) and C17(100)	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	200.00	LF	\$5.91	\$1,181.72
Culverts C19(60), C21(170), C22(150)	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	380.00	LF	\$5.91	\$2,245.27
Culverts C23(30), C24(30), C25(30)	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	90.00	LF	\$5.91	\$531.77
Culverts C4(300) and C11(90)	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	390.00	LF	\$10.60	\$4,132.09
Culverts C12(65), C13(120), C14(170)	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	355.00	LF	\$10.60	\$3,761.26
Culverts C15(25), C16(90), C18(30)	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	145.00	LF	\$10.60	\$1,536.29
Culvert C5(260)	30"	Pipe, corrugated metal (CMP) - 30 in. diameter pipe	260.00	LF	\$13.98	\$3,634.72
Culverts C7(400), C20(25), C26(40)	36"	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	465.00	LF	\$16.96	\$7,886.54
Culverts D1(40), D2(30)	24"	Pipe, corrugated metal (CMP) - 24 in.	70.00	LF	\$10.60	\$741.66

		diameter pipe				
Culvert E1(40)	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	40.00	LF	\$5.91	\$236.34
Culvert F2(40) and F4(60)	30"	Pipe, corrugated metal (CMP) - 30 in. diameter pipe	100.00	LF	\$13.98	\$1,397.97
Culverts G2(40) and G4(25)	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	65.00	LF	\$5.91	\$384.06
Culvert G3(50)	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	50.00	LF	\$10.60	\$529.76
Culvert H1(175)	36"	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	175.00	LF	\$16.96	\$2,968.05
Culverts J3(60), J5(50), J6(60)	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	170.00	LF	\$5.91	\$1,004.46
Culverts J7(60), J12(50), J13(50)	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	160.00	LF	\$5.91	\$945.38
Culvert J14(175)	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	175.00	LF	\$5.91	\$1,034.01
Culverts J1(65), J2(100), J4(50)	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	215.00	LF	\$10.60	\$2,277.95
Culverts J8(50), J9(90-2), J10(40)	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	270.00	LF	\$10.60	\$2,860.68
Culverts K1(40), K2(130)	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	170.00	LF	\$5.91	\$1,004.46
Culvert K3(75)	24	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	75.00	LF	\$10.60	\$794.63
Refuse Bin	20' x 20' x 60'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	24,000.00	CF	\$0.36	\$8,625.60
- slab	20' x 20'	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	400.00	SF	\$1.24	\$495.88
- footing	20' x 20'	Demo. and on-site disposal in existing pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	80.00	LF	\$7.13	\$570.42
Refuse Bin Fender Walls	4' x 40' x 12" (2)	Wall, concrete, demolition only, average reinforcing - 12 in. thick	320.00	SF	\$1.75	\$559.68
- footing (10' either side of bin)	20' (2)	Demo. and on-site disposal in existing pit, 1.5 ft. x 3 ft. - Max. 10,000 ft. haul	40.00	LF	\$10.41	\$416.35
Refuse Bin Bollards (2)	12"diam	USER PROVIDED ITEM	2.00	EA	\$23.50	\$47.00

- footing	1' x 2'	Demo. and on-site disposal in existing pit, 1.0 ft. x 2 ft. - Max. 10,000 ft. haul	2.00	LF	\$4.63	\$9.25
Mine Entrance Security Gate	6' x 40'	USER PROVIDED ITEM	40.00	LF	\$16.62	\$664.80
- motor assembly	NA	USER PROVIDED ITEM	1.00	EA	\$755.00	\$755.00
- actuator	NA	USER PROVIDED ITEM	1.00	EA	\$50.50	\$50.50
Culvert G5	36" x 150'	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	150.00	LF	\$16.96	\$2,544.05
Culvert G6	12" x 100'	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	100.00	LF	\$5.91	\$590.86
Fire Mountain Canal Storage Bldg	100' x 20' x 20'	Bldg. (MN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	40,000.00	CF	\$0.33	\$13,144.00
- slab	100' x 20'	Demo. and on-site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul	2,000.00	SF	\$1.16	\$2,313.00
- footing	100' x 20'	Demo. and on-site disposal in existing pit, 1.0 ft. x 2 ft. - Max. 10,000 ft. haul	240.00	LF	\$4.63	\$1,110.26
Culvert C9 (replaced by Ditch D-C14)	36" x 500'	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	500.00	LF	\$16.96	\$8,480.15
Smart Ditch T-F6	24"X 50'	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	50.00	LF	\$10.60	\$529.76
Bowie Rd Intersection Asphalt Removal	620 SY	Pavement, bituminous, demolition only - 3 in. thick	620.00	SY	\$5.28	\$3,273.60
Temporary Culvert T6	36"X40'	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	40.00	LF	\$16.96	\$678.41
Methane Flare Stack (MR200)	6' dia x 50'	USER PROVIDED ITEM	1,414.00	CF	\$0.22	\$311.08
- Skid	17' x 10' x 6'	USER PROVIDED ITEM	1,020.00	CF	\$0.22	\$224.40
- Interconnecting Piping	40'	USER PROVIDED ITEM	40.00	LF	\$2.30	\$92.00
- Remove Fence	350'	Fencing, chain link, including posts and fabric - to 6 ft. high	350.00	LF	\$3.02	\$1,057.00
- Concrete Foundation for Oxidizer	8' dia	Demo. and on-site disposal in existing pit, 6 in. thick - Max. 200 ft. push	50.00	SF	\$1.19	\$59.42
- Footing	25'	Demo. and on-site disposal in existing pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	25.00	LF	\$14.26	\$356.51

Job Hours: 160.00Subtotal \$2,185,795.19Total Cost \$2,233,882.68

(unadjusted):

(adjusted for location):

DEMOLITION WORK

Task description: Additional demolition added with MT-06

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 165A

State: Colorado

Abbreviation: None

Date: 9/26/2024

County: Delta

Filename: C083-165A

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Location adjustment: 89.80 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Upland Conveyor	1,300' long. 8'x10'.	Conveyor, demolition, off-site disposal in approved landfill, 30 mile haul	104,000.00	CF	\$0.96	\$99,840.00
East Bent Protector at Coal Stockpile	42' high. 15'x50'.	Bldg. (SC) demo./on-site disposal in existing pit or cut - Max. 50 ft. push	31,500.00	CF	\$0.28	\$8,785.35
footing	130 LF. 2'x3'.	Footing, concrete, average reinforcing - 2.0 ft. x 3 ft.	130.00	LF	\$13.23	\$1,720.06
West bent protector at Coal Storage	20' high. 15'x40'.	Bldg. (SC) demo./on-site disposal in existing pit or cut - Max. 50 ft. push	12,000.00	CF	\$0.28	\$3,346.80
footing	110 LF. 2'x3'.	Footing, concrete, average reinforcing - 2.0 ft. x 3 ft.	110.00	LF	\$13.23	\$1,455.43

Job Hours: 160.00

Subtotal
(unadjusted): \$115,147.64

Total Cost
(adjusted for
location): \$103,402.58

SITE MAINTENANCE

Task description: Proctor Testing of Backfill (5 tests)

Site: Bowie No. 2 Mine Permit Action: MT6 Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 170 State: Colorado Abbreviation: None
Date: 9/26/2024 County: Delta Filename: C083-170
User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Maintenance Item	Hours per Year	Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Supervision/Quality Control	0.00	USER PROVIDED ITEM	5.00	1	\$140.45	\$702.25

Job Hours: 0.00

Total Cost: \$702.25

SITE MAINTENANCE

Task description: Nuclear Density Testing of Backfill

Site: Bowie No. 2 Mine Permit Action: MT6 Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 171 State: Colorado Abbreviation: None
Date: 9/26/2024 County: Delta Filename: C083-171
User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Maintenance Item	Hours per Year	Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Testing of Backfill	0.00	USER PROVIDED ITEM	1,760.00	EA	\$76.08	\$133,900.80

Job Hours: 0.00

Total Cost: \$133,900.80

MISCELLANEOUS TRUCK WORK

Task description: Water Truck for Moisture Augmentation of Backfill Material

Site: Bowie No. 2 Mine Permit Action: MT6 Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 172 State: Colorado Abbreviation: None
Date: 9/26/2024 County: Delta Filename: C083-172
User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Make and Model: Water Tanker, 5,000 Gal. Horsepower: 175
Attachment 1: _____ Shift Basis: 1 per day
Attachment 2: _____ Weight: 15.00
Labor Unit 1: Tanker Driver - 1 rear axle (US Tons)
Labor Unit 2: _____

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	<u>\$51.70</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$50.22</u>	<u>100</u>
Operator Cost/Hour:	<u>\$21.12</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$123.04</u>	
Total Fleet Cost/Hour:	<u>\$123.04</u>	

JOB TIME AND COST

Fleet size: 1 Truck(s) Total job time: 1,437.02 Hours
Unit cost: \$123.04 /Hour Total job cost: \$176,811

SITE MAINTENANCE

Task description: Site Maintenance - Ten Years

Site: Bowie No. 2 Mine Permit Action: MT6 Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 173 State: Colorado Abbreviation: None
Date: 9/26/2024 County: Delta Filename: C083-173
User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Maintenance Item	Hours per Year	Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Dozer for Rills and Gullies	24.00	Cat D3K LGP - 3P	240.00	EA	\$102.27	\$24,544.80
Grader for Roads and Ditches	4.00	CAT 12M	40.00	EA	\$151.66	\$6,066.40
Pond Dredging	12.00	USER PROVIDED ITEM	12.00	EA	\$18,727.00	\$224,724.00

Job Hours: 292.00

Total Cost: \$255,335.20

SITE MAINTENANCE

Task description: Support Equipment for Scraper Hauling

Site: Bowie No. 2 Mine Permit Action: MT6 Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 174 State: Colorado Abbreviation: None
Date: 9/26/2024 County: Delta Filename: C083-174
User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Maintenance Item	Hours per Year	Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Water Truck	458.57	Water Tanker, 5,000 Gal.	458.57	EA	\$123.04	\$56,422.45
Grader	458.57	CAT 14M	458.57	EA	\$246.70	\$113,129.22

Job Hours: 449.16

Total Cost: \$169,551.67

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Mobilize/Demobilize Equipment for First Construction Season**Site: **Bowie No. 2 Mine**Permit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 180State: ColoradoAbbreviation: NoneDate: 9/26/2024County: DeltaFilename: C083-180User: RDZAgency or organization name: DRMS**EQUIPMENT TRANSPORT RIG COST**Shift basis: 1 per dayCost Data Source: CRG DataTruck Tractor Description: GENERIC ON-HIGHWAY TRUCK TRACTOR, 6X4, DIESEL POWERED,
400 HP (2ND HALF, 2006)Truck Trailer Description: GENERIC FOLDING GOOSENECK, DROP DECK EQUIPMENT
TRAILER (25T, 50T, AND 100T)**Cost Breakdown:**

Available Rig Capacities	0-25 Tons	26-50 Tons	51+ Tons
Ownership Cost/Hour:	\$10.44	\$22.18	\$23.94
Operating Cost/Hour:	\$26.48	\$54.55	\$55.65
Operator Cost/Hour:	\$22.52	\$22.52	\$22.52
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53
Total Unit Cost/Hour:	\$59.44	\$122.78	\$125.64

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 D10T - 10SU	84.53	\$257.39	\$125.64	4	\$1,532.12	\$502.56	\$1,000.00
Cat 365C L 13'-7" Stick	77.56	\$244.29	\$125.64	2	\$739.86	\$251.28	\$500.00
CAT 815F	22.88	\$107.16	\$59.44	1	\$166.60	\$59.44	\$250.00
CAT 14M	23.57	\$129.81	\$59.44	1	\$189.25	\$59.44	\$250.00
CAT 988H	54.46	\$131.26	\$125.64	1	\$256.90	\$125.64	\$250.00
Cat 773F	49.74	\$128.28	\$122.78	3	\$753.18	\$368.34	\$750.00
Cat 627G w/push-pull	43.48	\$234.09	\$122.78	4	\$1,427.48	\$491.12	\$1,000.00
Water Tanker, 5,000 Gal.	15.00	\$51.70	\$59.44	1	\$111.14	\$59.44	\$250.00
ATLAS COPCO ROC D7-11,4.0 in.	1.25	\$204.01	\$59.44	1	\$263.45	\$59.44	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$41.02	\$59.44	1	\$100.46	\$59.44	\$250.00
Fuel Tanker, 6x4, 210 HP	6.00	\$17.11	\$59.44	1	\$76.55	\$59.44	\$250.00

Subtotals: **\$5,616.99** **\$2,095.58** **\$5,000.00****ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Fuel Tanker, 6x4, 210 HP	\$75.02	1	\$75.02	\$75.02
Lube Truck, 6x4, 250 HP	\$75.02	1	\$75.02	\$75.02
Flatbed Truck, 6x4, 45K GVW	\$110.06	1	\$110.06	\$110.06
Light Duty Pickup, 4x4, 1 T. Crew	\$46.67	1	\$46.67	\$46.67

Subtotals:	\$306.77	\$306.77
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EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	<u>GRAND JUNCTION</u>	
Total one-way travel distance:	<u>100.00</u>	miles
Average Travel Speed:	<u>40.00</u>	mph

Total Non-Roadable Mob/Demob Cost *	<u>\$59,796.83</u>
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 ** two round trips with haul rig:

Total Roadable Mob/Demob Cost **	<u>\$1,533.85</u>
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 ** one round trip, no haul rig:

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>2.50</u>	<u>2.50</u>
Return Time (Hours):	<u>2.50</u>	<u>2.50</u>
Loading Time (Hours):	<u>0.50</u>	<u>NA</u>
Unloading Time (Hours):	<u>0.50</u>	<u>NA</u>
Subtotals:	<u>6.00</u>	<u>5.00</u>

JOB TIME AND COST

Total job time:	<u>12.00</u>	Hours
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Total job cost:	<u>\$61,331</u>
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EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Mobilize/Demobilize Equipment for Second Construction Season**Site: **Bowie No. 2 Mine**Permit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 181State: ColoradoAbbreviation: NoneDate: 9/26/2024County: DeltaFilename: C083-181User: RDZAgency or organization name: DRMS**EQUIPMENT TRANSPORT RIG COST**Shift basis: 1 per dayCost Data Source: CRG DataTruck Tractor Description: GENERIC ON-HIGHWAY TRUCK TRACTOR, 6X4, DIESEL POWERED,
400 HP (2ND HALF, 2006)Truck Trailer Description: GENERIC FOLDING GOOSENECK, DROP DECK EQUIPMENT
TRAILER (25T, 50T, AND 100T)**Cost Breakdown:**

Available Rig Capacities	0-25 Tons	26-50 Tons	51+ Tons
Ownership Cost/Hour:	\$10.44	\$22.18	\$23.94
Operating Cost/Hour:	\$26.48	\$54.55	\$55.65
Operator Cost/Hour:	\$22.52	\$22.52	\$22.52
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53
Total Unit Cost/Hour:	\$59.44	\$122.78	\$125.64

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 D10T - 10SU	84.53	\$257.39	\$125.64	4	\$1,532.12	\$502.56	\$1,000.00
Cat 365C L 13'-7" Stick	77.56	\$244.29	\$125.64	2	\$739.86	\$251.28	\$500.00
CAT 815F	22.88	\$107.16	\$59.44	1	\$166.60	\$59.44	\$250.00
CAT 14M	23.57	\$129.81	\$59.44	1	\$189.25	\$59.44	\$250.00
CAT 988H	54.46	\$131.26	\$125.64	1	\$256.90	\$125.64	\$250.00
Cat 773F	49.74	\$128.28	\$122.78	3	\$753.18	\$368.34	\$750.00
Cat 627G w/push- pull	43.48	\$234.09	\$122.78	4	\$1,427.48	\$491.12	\$1,000.00
Water Tanker, 5,000 Gal.	15.00	\$51.70	\$59.44	1	\$111.14	\$59.44	\$250.00
ATLAS COPCO ROC D7-11,4.0 in.	1.25	\$204.01	\$59.44	1	\$263.45	\$59.44	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$41.02	\$59.44	1	\$100.46	\$59.44	\$250.00
Fuel Tanker, 6x4, 210 HP	6.00	\$17.11	\$59.44	1	\$76.55	\$59.44	\$250.00

Subtotals: **\$5,616.99** **\$2,095.58** **\$5,000.00****ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Fuel Tanker, 6x4, 210 HP	\$75.02	1	\$75.02	\$75.02
Lube Truck, 6x4, 250 HP	\$75.02	1	\$75.02	\$75.02
Flatbed Truck, 6x4, 45K GVW	\$110.06	1	\$110.06	\$110.06
Light Duty Pickup, 4x4, 1 T. Crew	\$46.67	1	\$46.67	\$46.67

Subtotals:	\$306.77	\$306.77
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EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	<u>GRAND JUNCTION</u>	
Total one-way travel distance:	<u>100.00</u>	miles
Average Travel Speed:	<u>40.00</u>	mph

Total Non-Roadable Mob/Demob Cost *	<u>\$59,796.83</u>
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 ** two round trips with haul rig:

Total Roadable Mob/Demob Cost **	<u>\$1,533.85</u>
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 ** one round trip, no haul rig:

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>2.50</u>	<u>2.50</u>
Return Time (Hours):	<u>2.50</u>	<u>2.50</u>
Loading Time (Hours):	<u>0.50</u>	<u>NA</u>
Unloading Time (Hours):	<u>0.50</u>	<u>NA</u>
Subtotals:	<u>6.00</u>	<u>5.00</u>

JOB TIME AND COST

Total job time:	<u>12.00</u>	Hours
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Total job cost:	<u>\$61,331</u>
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EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Mobilize/Demoblize Equipment for Pond Removal**Site: **Bowie No. 2 Mine**Permit Action: **MT6**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **182**State: **Colorado**Abbreviation: **None**Date: **9/26/2024**County: **Delta**Filename: **C083-182**User: **RDZ**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:	\$10.44	\$22.18	\$23.94
Operating Cost/Hour:	\$26.48	\$54.55	\$55.65
Operator Cost/Hour:	\$22.52	\$22.52	\$22.52
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53
Total Unit Cost/Hour:	\$59.44	\$122.78	\$125.64

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	\$253.16	\$125.64	1	\$378.80	\$125.64	\$250.00
Cat 627G w/push-pull	43.48	\$234.09	\$122.78	1	\$356.87	\$122.78	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$41.02	\$59.44	1	\$100.46	\$59.44	\$250.00

Subtotals: **\$836.13** **\$307.86** **\$750.00****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	\$103.84	1	\$103.84	\$103.84

Subtotals: **\$103.84** **\$103.84**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region: DELTA
 Total one-way travel distance: 45.00 miles
 Average Travel Speed: 40.00 mph

Total Non-Roadable Mob/Demob Cost * \$5,746.24
 ** two round trips with haul rig:
 Total Roadable Mob/Demob Cost ** \$233.64
 ** one round trip, no haul rig:

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	1.13	1.13
Return Time (Hours):	1.13	1.13
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	3.25	2.25

JOB TIME AND COST

Total job time: 6.50 Hours

Total job cost: \$5,980

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Mobilize/Demobilize Equipment for Yearly Site Maintenance**Site: **Bowie No. 2 Mine**Permit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 183State: ColoradoAbbreviation: NoneDate: 9/26/2024County: DeltaFilename: C083-183User: RDZAgency or organization name: DRMS**EQUIPMENT TRANSPORT RIG COST**Shift basis: 1 per dayCost Data Source: CRG DataTruck Tractor Description: GENERIC ON-HIGHWAY TRUCK TRACTOR, 6X4, DIESEL POWERED,
400 HP (2ND HALF, 2006)Truck Trailer Description: GENERIC FOLDING GOOSENECK, DROP DECK EQUIPMENT
TRAILER (25T, 50T, AND 100T)**Cost Breakdown:**

Available Rig Capacities	0-25 Tons	26-50 Tons	51+ Tons
Ownership Cost/Hour:	\$10.44	\$22.18	\$23.94
Operating Cost/Hour:	\$26.48	\$54.55	\$55.65
Operator Cost/Hour:	\$22.52	\$22.52	\$22.52
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53
Total Unit Cost/Hour:	\$59.44	\$122.78	\$125.64

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	\$31.95	\$59.44	10	\$913.90	\$594.40	\$2,500.00
CAT 14M	23.57	\$129.81	\$59.44	5	\$946.25	\$297.20	\$1,250.00
Subtotals:					\$1,860.15	\$891.60	\$3,750.00

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Subtotals:			\$0.00	\$0.00

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region: DELTA
 Total one-way travel distance: 45.00 miles
 Average Travel Speed: 45.00 mph

Total Non-Roadable Mob/Demob Cost * \$31,605.00
 ** 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):	1.00	1.00
Return Time (Hours):	1.00	1.00
Loading Time (Hours):	2.50	NA
Unloading Time (Hours):	2.50	NA
Subtotals:	7.00	2.00

JOB TIME AND COST

Total job time: 14.00 Hours

Total job cost: \$31,605

BULLDOZER WORKTask description: **Regrade Terror Creek Light-Use Road**Site: **Bowie No. 2 Mine**Permit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 241State: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-241User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D9T - 9SUHorsepower: 405Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$253.16	NA
Operating Cost/Hour:	\$164.35	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.59	NA

Total unit Cost/Hour: \$456.10Total Fleet Cost/Hour: **\$456.10****MATERIAL QUANTITIES**Initial Volume: 9,800Swell factor: 1.125Loose volume: **11,025 LCY**Source of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 125 feetUnadjusted hourly production: 1,055.6 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: 5 %Average site altitude: 7,800 feetMaterial weight: 2,650 lbs/LCYWeight description: Decomposed rock - 25% Rock, 75% Earth**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3513

Adjusted unit production: 370.83 LCY/hr

Adjusted fleet production: **370.83** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$1.230/LCY

Total job time: **29.73** Hours

Total job cost: **\$13,560**

BULLDOZER WORKTask description: Replace Topsoil from Stockpile to Terror Creek Lt-Use RoadSite: Bowie No. 2 MinePermit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 242State: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-242User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D9T - 9SUHorsepower: 405Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$253.16	NA
Operating Cost/Hour:	\$164.35	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.59	NA

Total unit Cost/Hour: \$456.10Total Fleet Cost/Hour: **\$456.10****MATERIAL QUANTITIES**Initial Volume: 7,400Swell factor: 1.125Loose volume: **8,325** LCYSource of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 125 feetUnadjusted hourly production: 1,055.6 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: 5 %Average site altitude: 7,800 feetMaterial weight: 2,650 lbs/LCYWeight description: Decomposed rock - 25% Rock, 75% Earth**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3513

Adjusted unit production: 370.83 LCY/hr

Adjusted fleet production: **370.83** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$1.230/LCY

Total job time: **22.45** Hours

Total job cost: **\$10,239**

SAFEGUARDING UNDERGROUND OPENINGS

Task description: Concrete Plug and Backfill Terror Creek Vent Shaft

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 261

State: Colorado

Abbreviation: None

Date: 9/25/2024

County: Delta

Filename: C083-261

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Opening Description	Dimensions	Closure Method	Quantity	Unit	Unit Cost	Total Cost
Concrete Cap	269.00 cf	Shaft closure - concrete cap, poured-in-place (per Cubic Feet)	269.00	CF	\$19.53	\$5,253.57
Backfill Shaft	6900 cy	Shaft closure - backfilling, Machine Backfill	6,900.00	CY	\$12.50	\$86,250.00
- Equipment to Backfill	1717 hr/cy	Cat D7R DS XR Series II	4.00	EA	\$207.78	\$831.12

Job Hours: 40.00

Total Cost: \$92,334.69

REVEGETATION WORKTask description: Reseed Add'l Disturbance from Utility Boreholes at Fan BenchSite: Bowie No. 2 MinePermit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 301State: ColoradoAbbreviation: NoneDate: 9/26/2024County: DeltaFilename: C083-301User: RDZAgency or organization name: DRMS**FERTILIZING****Materials**

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

Application

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

TILLING

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

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Indian Ricegrass - Nespar	3.00	9.71	\$51.66
Bluebunch Wheatgrass - Secar	3.00	9.64	\$31.54
Mountain Brome - Bromar	3.00	4.82	\$18.05
Sandberg Bluegrass - VNS	3.00	63.71	\$43.34
Coreopsis, Lance Leafed	1.00	25.58	\$31.69
Western Wheatgrass - Arriba	4.00	10.10	\$36.13
Daisy, Englemann's	1.00	4.94	\$148.99
Prairie Junegrass	2.00	106.31	\$97.48
Golden Banner	1.00	2.00	\$97.07

Totals Seed Mix	21.00	236.80	\$555.97
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Application

Description	Cost /Acre
Drill Seeding (DRMS Survey Cost)	\$236.64
Total Seed Application Cost/Acre	\$236.64

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hay, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$492.78	\$985.56
Total Mulch Materials Cost/Acre				\$985.56

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$85.37
Power mulcher (MEANS 32 91 13.16 0350)	\$157.25
Total Mulch Application Cost/Acre	\$242.63

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:	0.39	Cost /Acre:	\$2,020.80
Estimated Failure Rate:	50%	Cost /Acre*:	\$792.61
*Selected Replanting Work Items:	SEEDING		
Initial Job Cost:	\$788.11		
Reseeding Job Cost:	\$154.56		
Total Job Cost:	\$943		
Job Hours:	1.00		

BULLDOZER WORKTask description: Regrade Fan Bench - Utility Borehole Mudpit Add'l Dist.Site: Bowie No. 2 MinePermit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 302State: ColoradoAbbreviation: NoneDate: 9/24/2024County: DeltaFilename: C083-302User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D9T - 9SUHorsepower: 405Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$253.16	NA
Operating Cost/Hour:	\$164.35	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.59	NA

Total unit Cost/Hour: \$456.10Total Fleet Cost/Hour: **\$456.10****MATERIAL QUANTITIES**Initial Volume: 782Swell factor: 1.165Loose volume: **911 LCY**Source of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 200 feetUnadjusted hourly production: 700.0 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: 5 %Average site altitude: 7,500 feetMaterial weight: 2,900 lbs/LCYWeight description: Decomposed rock - 50% Rock, 50% Earth**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3209

Adjusted unit production: 224.63 LCY/hr

Adjusted fleet production: **224.63** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$2.030/LCY

Total job time: **4.06** Hours

Total job cost: **\$1,850**

BULLDOZER WORKTask description: **Re-topsoil Pitkin Mesa Pipeline corridor**Site: **Bowie No. 2 Mine**Permit Action: **MT6**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **352**State: **Colorado**Abbreviation: **None**Date: **9/24/2024**County: **Delta**Filename: **C083-352**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D9T - 9SU**Horsepower: **405**Blade Type: **Semi-Universal**Attachment: **NA**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$253.16	NA
Operating Cost/Hour:	\$164.35	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.59	NA

Total unit Cost/Hour: **\$456.10**Total Fleet Cost/Hour: **\$456.10****MATERIAL QUANTITIES**Initial Volume: **3,227**Swell factor: **1.000**Loose volume: **3,227 LCY**Source of estimated volume: **BRL - 2 acres @ 12"**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **100 feet**Unadjusted hourly production: **1,243.2 LCY/hr**Materials consistency description: **Consolidated stockpile 1.0**Average push gradient: **20 %**Average site altitude: **7,725 feet**Material weight: **2,550 lbs/LCY**Weight description: **Earth - Dry packed****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	1.000	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.545	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.2448

Adjusted unit production: 304.34 LCY/hr

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

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$1.499/LCY

Total job time: **10.60** Hours

Total job cost: **\$4,836**

REVEGETATION WORKTask description: Reseed Pitkin Mesa Pipeline CorridorSite: Bowie No. 2 MinePermit Action: MT6Permit/Job#: C1996083PROJECT IDENTIFICATIONTask #: 353State: ColoradoAbbreviation: NoneDate: 9/26/2024County: DeltaFilename: C083-353User: RDZAgency or organization name: DRMSFERTILIZING**Materials**

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

Application

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

TILLING

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

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Indian Ricegrass - Nespar	3.00	9.71	\$51.66
Bluebunch Wheatgrass - Secar	3.00	9.64	\$31.54
Mountain Brome - Bromar	3.00	4.82	\$18.05
Sandberg Bluegrass - VNS	3.00	63.71	\$43.34
Coreopsis, Lance Leafed	1.00	25.58	\$31.69
Western Wheatgrass - Arriba	4.00	10.10	\$36.13
Daisy, Englemann's	1.00	4.94	\$148.99
Prairie Junegrass	2.00	106.31	\$97.48
Golden Banner	1.00	2.00	\$97.07

	Totals Seed Mix	21.00	236.80	\$555.97
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Application

Description	Cost /Acre
Drill Seeding (DRMS Survey Cost)	\$236.64
Total Seed Application Cost/Acre	\$236.64

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hay, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$492.78	\$985.56
Total Mulch Materials Cost/Acre				\$985.56

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$85.37
Power mulcher (MEANS 32 91 13.16 0350)	\$157.25
Total Mulch Application Cost/Acre	\$242.63

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	Cost /Acre:	\$2,020.80
Estimated Failure Rate:	50%	Cost /Acre*:	\$792.61
*Selected Replanting Work Items:	SEEDING		
Initial Job Cost:	\$4,041.60		
Reseeding Job Cost:	\$792.61		
Total Job Cost:	\$4,834		
Job Hours:	2.00		

BULLDOZER WORKTask description: **Regrade Section 5 Road**Site: **Bowie No. 2 Mine**Permit Action: **MT6**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **379**State: **Colorado**Abbreviation: **None**Date: **9/24/2024**County: **Delta**Filename: **C083-379**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D9T - 9SU**Horsepower: **405**Blade Type: **Semi-Universal**Attachment: **NA**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$253.16	NA
Operating Cost/Hour:	\$164.35	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.59	NA

Total unit Cost/Hour: **\$456.10**Total Fleet Cost/Hour: **\$456.10****MATERIAL QUANTITIES**Initial Volume: **2,957**Swell factor: **1.165**Loose volume: **3,445 LCY**Source of estimated volume: **DRMS - assume 1.5' material over 1.22 ac**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **100 feet**Unadjusted hourly production: **1,243.2 LCY/hr**Materials consistency description: **Consolidated stockpile 1.0**Average push gradient: **20 %**Average site altitude: **7,725 feet**Material weight: **2,900 lbs/LCY**Weight description: **Decomposed rock - 50% Rock, 50% Earth****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	1.000	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.545	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.2152

Adjusted unit production: 267.54 LCY/hr

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

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$1.705/LCY

Total job time: **12.88** Hours

Total job cost: **\$5,873**

BULLDOZER WORKTask description: **Re-topsoil Section 5 Road**Site: **Bowie No. 2 Mine**Permit Action: **MT6**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **380**State: **Colorado**Abbreviation: **None**Date: **9/24/2024**County: **Delta**Filename: **C083-380**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D9T - 9SU**Horsepower: **405**Blade Type: **Semi-Universal**Attachment: **NA**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$253.16	NA
Operating Cost/Hour:	\$164.35	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.59	NA

Total unit Cost/Hour: **\$456.10**Total Fleet Cost/Hour: **\$456.10****MATERIAL QUANTITIES**Initial Volume: **1,478**Swell factor: **1.125**Loose volume: **1,663 LCY**Source of estimated volume: **DRMS - 0.75' over 1.22 acres**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **100 feet**Unadjusted hourly production: **1,243.2 LCY/hr**Materials consistency description: **Consolidated stockpile 1.0**Average push gradient: **20 %**Average site altitude: **7,725 feet**Material weight: **2,550 lbs/LCY**Weight description: **Earth - Dry packed****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	1.000	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.545	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.2448

Adjusted unit production: 304.34 LCY/hr

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

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$1.499/LCY

Total job time: **5.46** Hours

Total job cost: **\$2,492**

REVEGETATION WORKTask description: Reseed Section 5 roadSite: Bowie No. 2 MinePermit Action: MT6Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 381State: ColoradoAbbreviation: NoneDate: 9/26/2024County: DeltaFilename: C083-381User: RDZAgency or organization name: DRMS**FERTILIZING****Materials**

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

Application

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

TILLING

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

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Indian Ricegrass - Nespar	3.00	9.71	\$51.66
Bluebunch Wheatgrass - Secar	3.00	9.64	\$31.54
Mountain Brome - Bromar	3.00	4.82	\$18.05
Sandberg Bluegrass - VNS	3.00	63.71	\$43.34
Coreopsis, Lance Leafed	1.00	25.58	\$31.69
Western Wheatgrass - Arriba	4.00	10.10	\$36.13
Daisy, Englemann's	1.00	4.94	\$148.99
Prairie Junegrass	2.00	106.31	\$97.48
Golden Banner	1.00	2.00	\$97.07

Totals Seed Mix	21.00	236.80	\$555.97
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Application

Description	Cost /Acre
Drill Seeding (DRMS Survey Cost)	\$236.64
Total Seed Application Cost/Acre	\$236.64

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hay, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$492.78	\$985.56
Total Mulch Materials Cost/Acre				\$985.56

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$85.37
Power mulcher (MEANS 32 91 13.16 0350)	\$157.25
Total Mulch Application Cost/Acre	\$242.63

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: 1.22 Cost /Acre: \$2,020.80
 Estimated Failure Rate: 50% Cost /Acre*: \$792.61
 *Selected Replanting Work Items: SEEDING

Initial Job Cost: **\$2,465.38**
 Reseeding Job Cost: **\$483.49**
 Total Job Cost: **\$2,949**
 Job Hours: **2.00**

DEMOLITION WORK

Task description: Remove Culvert C27 (from TR-119)

Site: Bowie No. 2 Mine

Permit Action: MT6

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 390

State: Colorado

Abbreviation: None

Date: 9/26/2024

County: Delta

Filename: C083-390

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Location adjustment: 92.10 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Culvert C27	12"X80'	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	80.00	LF	\$5.91	\$472.69

Job Hours: 0.25

Subtotal
(unadjusted): \$472.69

Total Cost
(adjusted for location): \$435.35