



COLORADO

**Division of Reclamation,
Mining and Safety**

Department of Natural Resources

1313 Sherman Street, Room 215
Denver, CO 80203

December 3, 2018

Louis Head
New Elk Coal Company, LLC
12250 Highway 12
Weston, CO 81019

Re: New Elk Mine, Permit C-1981-012, Reclamation Cost Estimate for RN-07

Dear Mr. Head:

As part of the permit renewal (RN-07) process, the Division has updated the Reclamation Cost Estimate (RCE) for the New Elk Mine. The total amount is \$4,166,596.08. This is a significant increase from the current permitted liability for the New Elk permit, which is \$4,044,696.58.

The primary reasons for the overall cost increase are revegetation costs and mine sealing costs. In 2017 and 2018, the Division's RCE software (CIRCES) was updated using sources that include information from seed supply companies and the R.S. Means equipment cost guide. It is not unusual for reclamation costs to vary over time. For example, in 2016 your RCE went down considerably as part of the MT-07 midterm review.

With this letter I am sending you a pdf document with details from CIRCES. Let me know if you would like to see additional details regarding these costs. For example, I can send a spreadsheet that shows a comparison of MT-07 values to RN-07 values for each task; it illustrates which unit costs increased or decreased.

Please review this information and let me know if you see any issues with this updated RCE. Alternatively, please let me know if you think it is accurate. As always, Jason Musick and I are available for a conference call to discuss it. After we complete any discussions on the details of the RCE, we may need to address insufficiencies with your surety, which is currently \$4,133,137.02. Your current surety is approximately \$33,459 below the updated RCE.

Also related to the renewal, please let me know if you want to discuss my adequacy letter from November 7, 2018. The decision due date for RN-07 is January 5, 2019.



Please contact me at Rob.Zuber@state.co.us or 303.866.3567 (x8113).

Sincerely,



Robert D. Zuber, P.E.
Environmental Protection Specialist II

Enclosure



COST SUMMARY WORKTask description: **Summary of Reclamation and maintenance tasks**Site: **New Elk Mine**Permit Action: **Permit Renewal 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **000**State: **Colorado**Abbreviation: **None**Date: **11/30/2018**County: **Las Animas**Filename: **C012-000**User: **JHB**Agency or organization name: **DRMS****TASK LIST (DIRECT COSTS)**

| Task | Description | Form Used | Fleet Size | Task Hours | Cost |
|------|--|-----------|------------|------------|--------------|
| 601 | Backfill and Regrade East Portal Area | DOZER | 3 | 83.38 | \$67,020.00 |
| 603 | Backfill and Regrade Transformer and Rock Dust Cut Slope | TRUCK1 | 1 | 48.56 | \$46,416.00 |
| 606 | Push Temporary Coal Stockpiles to Conveyor | DOZER | 3 | 10.19 | \$7,574.00 |
| 608 | Haul Raw Coal Stockpile to Development Waste Pile | SCRAPER1 | 1 | 12.59 | \$11,400.00 |
| 609 | Haul Clean Coal Stockpile to Development Waste Pile | SCRAPER1 | 1 | 20.43 | \$18,312.00 |
| 614 | Haul and Spread Cover on RDA | SCRAPER1 | 1 | 248.08 | \$237,315.00 |
| 615 | Compact Final RDA Surface | COMPACT | 1 | 32.46 | \$4,807.00 |
| 623 | Rip Mine Entry Area Prior to Regrading | RIPPER | 3 | 8.56 | \$6,883.00 |
| 624 | Rip Wedge Area Prior to Regrading | RIPPER | 3 | 0.76 | \$617.00 |
| 625 | Rip Prep Plant Area Prior to Regrading | RIPPER | 3 | 2.57 | \$2,070.00 |
| 627 | Rip West Portal DNR Areas | RIPPER | 3 | 11.94 | \$9,604.00 |
| 628 | Rip East Portal - Only DNR Area | RIPPER | 3 | 16.78 | \$13,489.00 |
| 639 | Finish Grade Refuse Disposal Area | GRADER | 1 | 5.31 | \$743.00 |
| 643 | Regrade Pond 004 | DOZER | 1 | 7.81 | \$2,093.00 |
| 645 | Regrade Pond 006 | DOZER | 1 | 8.73 | \$2,271.00 |
| 646 | Regrade Pond 007 | DOZER | 1 | 17.92 | \$4,660.00 |
| 647 | Regrade Pond 008; Rip and Regrade Spillway | DOZER | 1 | 66.13 | \$17,457.00 |
| 648 | Regrade West Portal Containment Area 1 | DOZER | 1 | 5.21 | \$1,354.00 |
| 651 | Regrade temporary Ditches at West Portal | DOZER | 1 | 0.31 | \$76.00 |
| 661 | Replace Cover material on DWDA #2 | SCRAPER1 | 1 | 2.29 | \$2,191.00 |
| 662 | Replace Topsoil to DWDA #2 | SCRAPER1 | 1 | 5.40 | \$5,167.00 |
| 663 | Replace Topsoil to Area East of Pond 5 | SCRAPER1 | 1 | 0.42 | \$403.00 |
| 664 | Replace Topsoil to Pond 005 | SCRAPER1 | 1 | 0.30 | \$281.00 |
| 668 | Replace Topsoil to Area Under Conveyor | SCRAPER1 | 1 | 0.90 | \$862.00 |
| 669 | Replace Topsoil to Raw Coal Storage Stockpile | SCRAPER1 | 1 | 1.37 | \$1,307.00 |
| 670 | Replace Topsoil to Small DR Area in Large DNR Area | SCRAPER1 | 1 | 0.10 | \$97.00 |
| 672 | Replace Topsoil to Clean Coal Stockpile | SCRAPER1 | 1 | 0.93 | \$890.00 |
| 673 | Replace Topsoil to East Extension of River Pumphouse | SCRAPER1 | 1 | 0.22 | \$210.00 |
| 674 | Replace Topsoil to Embedded Waste Area | SCRAPER1 | 1 | 2.01 | \$1,928.00 |
| 676 | Replace Topsoil to RDA | SCRAPER1 | 1 | 122.41 | \$117,101.00 |
| 677 | Replace Topsoil to Four Bench Slopes | SCRAPER1 | 1 | 15.69 | \$15,136.00 |
| 678 | Replace Topsoil to RDA Pond | SCRAPER1 | 1 | 5.17 | \$4,877.00 |
| 680 | Replace Topsoil to Transformer and Rock Dust Cut Slope | TRUCK1 | 1 | 1.40 | \$1,321.00 |

| | | | | | |
|--------------------------|---|---------------------|---|----------------|--------------------|
| 681 | Replace Topsoil to Bates Portal Face-Up | SCRAPER1 | 1 | 3.01 | \$2,877.00 |
| 685 | Reseed Facilities Area with Rangeland Mix | REVEGE | 1 | 178.00 | \$122,437.00 |
| 686 | Reseed Disturbed Areas with Riparian Habitat | REVEGE | 1 | 21.14 | \$15,100.00 |
| 687 | Reseed RDA | REVEGE | 1 | 95.25 | \$38,498.00 |
| 688 | Reseed DWP with Rangeland Mix | REVEGE | 1 | 11.24 | \$7,107.00 |
| 689 | Plant 6 Shrub Clumps | REVEGE | 1 | 5.60 | \$2,353.00 |
| 690 | Weed Control - Assume 1/4 of Area Three Times | REVEGE | 1 | 102.71 | \$19,369.00 |
| 695 | Demolish and Remove All Structures | DEMOLISH | 1 | 1,009.00 | \$1,722,075.46 |
| 700 | Seal Portals and Vent Shafts | MINESEAL | 1 | 270.00 | \$183,255.76 |
| 701 | Backfill East Portal Face | DOZER | 2 | 1.39 | \$744.00 |
| 702 | Backfill West Portal Face | DOZER | 2 | 1.39 | \$722.00 |
| 703 | Backfill Bates Portal Face | DOZER | 2 | 38.69 | \$20,122.00 |
| 704 | Plug and Seal All Boreholes and Monitoring Wells | BOREHOLE | 1 | 73.00 | \$76,205.10 |
| 706 | Clean Ponds 004, 007, and 008 Twice During Liability Period | TRUCK1 | 1 | 121.05 | \$87,955.00 |
| 733 | Regrade Areas from MR-99, MR-107, MR-111, MR-114 | DOZER | 3 | 1.43 | \$1,065.00 |
| 734 | Seed Rangeland Seed Mix on MR Areas | REVEGE | 1 | 2.22 | \$4,274.00 |
| 738 | Replace Topsoil on D26 Extension | DOZER | 1 | 0.24 | \$58.00 |
| 741 | Backfill and Regrade DWDA Expansion | DOZER | 2 | 2.68 | \$1,437.00 |
| 747 | Replace Topsoil on Six Drill Pads and Mud Pits | DOZER | 1 | 3.88 | \$962.00 |
| 750 | Demolish and Remove Structures @ C&W area | DEMOLISH | 1 | 24.00 | \$67,500.24 |
| 751 | Rip and Regrade C&W Train Shop Area | DOZER | 2 | 12.74 | \$6,825.00 |
| 753 | Reseed C&W Facilities Area with Rangeland Mix | REVEGE | 1 | 12.00 | \$7,553.00 |
| 759 | Replace Topsoil to Zig Zag Road | EXCAVATE | 1 | 0.47 | \$51.00 |
| 760 | Rip Zig Zag Road and Slurry Line Road | RIPPER | 3 | 0.44 | \$359.00 |
| 761 | Reseed Zig Zag with Rangeland Mix | REVEGE | 1 | 1.60 | \$2,049.00 |
| 762 | Replace Topsoil to West DWDA | SCRAPER1 | 1 | 67.00 | \$64,558.00 |
| 764 | Finish Grade West DWDA Area | GRADER | 1 | 8.35 | \$1,167.00 |
| 765 | Reseed West DWDA Expansion Area with Rangeland Mix | REVEGE | 1 | 20.40 | \$12,840.00 |
| 766 | Replace Topsoil on NW vent Fan Area (TR72) | TRUCK1 | 1 | 5.95 | \$2,000.00 |
| 767 | Regrade Access Road to NW Vent Shaft (TR72) | DOZER | 1 | 2.33 | \$510.00 |
| 768 | Seed NW Vent Fan and Access Road (TR72) | REVEGE | 1 | 1.55 | \$2,127.00 |
| 772 | Seal Additional Wells | BOREHOLE | 1 | 36.00 | \$22,805.23 |
| 773 | Site Maintenance during the 10 year liability period | SITEMAINT ENANCE | 1 | 400.00 | \$34,540.00 |
| 774 | Import Topsoil for RDA | TRUCK1 | 1 | 18.47 | \$155,997.00 |
| 790 | Mobilize/Demobilize Equipment for Initial Reclamation | MOBILIZE | 1 | 5.00 | \$12,233.00 |
| 791 | Mobilize/Demobilize Equipment for Pond Cleaning | MOBILIZE | 1 | 5.00 | \$1,755.00 |
| 792 | Mobilize/Demobilize Equipment for Pond Removal | MOBILIZE | 1 | 5.00 | \$1,550.00 |
| 793 | Mobilize/Demobilize Equipment for Site Maintenance | MOBILIZE | 1 | 3.90 | \$4,027.00 |
| <u>SUBTOTALS:</u> | | | | 3338.45 | \$3,312,994 |

INDIRECT COSTS**OVERHEAD AND PROFIT:**

Liability insurance: 2.02
Performance bond: 1.05

Total = \$66,922.48
Total = \$34,786.44

| | | | |
|---------------------|----------|------------------------------------|-----------------------|
| Job superintendent: | 1,615.87 | Total = | <u>\$118,039.30</u> |
| Profit: | 10.00 | Total = | <u>\$331,299.40</u> |
| | | TOTAL O & P = | <u>\$551,047.62</u> |
| | | CONTRACT AMOUNT (direct + O & P) = | <u>\$3,864,041.62</u> |

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

| | | | |
|--|-------------|---------|---------------------|
| Financial warranty processing (legal/related costs): | <u>0.00</u> | Total = | <u>0.00</u> |
| Engineering work and/or contract/bid preparation: | <u>4.25</u> | Total = | <u>\$164,221.77</u> |
| Reclamation management and/or administration: | <u>3.58</u> | | <u>\$138,332.69</u> |

| | | | |
|--------------|------|---------|---------------|
| CONTINGENCY: | 0.00 | Total = | <u>\$0.00</u> |
|--------------|------|---------|---------------|

| | |
|-----------------------|---------------------|
| TOTAL INDIRECT COST = | <u>\$853,602.08</u> |
|-----------------------|---------------------|

| | |
|--|------------------------------|
| TOTAL BOND AMOUNT (direct + indirect) = | <u>\$4,166,596.08</u> |
|--|------------------------------|

BULLDOZER WORKTask description: **Backfill and Regrade East Portal Area**Site: **New Elk Mine**Permit Action: Permit Renewal 07Permit/Job#: C1981012**PROJECT IDENTIFICATION**Task #: 601State: ColoradoAbbreviation: NoneDate: 11/14/2018County: Las AnimasFilename: C07-601User: JHBAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D9T - 9SUHorsepower: 405Blade Type: Semi-UniversalAttachment: 3-shank ripperShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

| | | <u>Utilization %</u> |
|------------------------|-----------------|----------------------|
| Ownership Cost/Hour: | \$110.70 | NA |
| Operating Cost/Hour: | \$95.46 | 100 |
| Ripper own. Cost/Hour: | \$12.36 | NA |
| Ripper op. Cost/Hour: | \$7.88 | 100 |
| Operator Cost/Hour: | \$41.52 | NA |
| Total unit Cost/Hour: | \$267.92 | |
| Total Fleet Cost/Hour: | \$803.77 | |

MATERIAL QUANTITIESInitial Volume: 144,850Swell factor: 1.125Loose volume: **162,956 LCY**Source of estimated volume: PAP Exhibit 28Source of estimated swell factor: Operator Estimate**HOURLY PRODUCTION**Average push distance: 100 feetUnadjusted hourly production: 1,243.2 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: 5 %Average site altitude: 7,500 feetMaterial weight: 2,132 lbs/LCYWeight description: User Provided**Job Condition Correction Factor**

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

| | | |
|------------------|-------|---------------|
| Visibility: | 1.000 | (AVG.) |
| Job efficiency: | 0.830 | (1 SHIFT/DAY) |
| Spoil pile: | 0.800 | (FND-RF) |
| Push gradient: | 0.903 | (CAT HB) |
| Altitude: | 1.000 | (CAT HB) |
| Material Weight: | 1.079 | (CAT HB) |
| Blade type: | 1.000 | (PAT) |

Net correction: 0.5240

Adjusted unit production: 651.44 LCY/hr

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

JOB TIME AND COST

Fleet size: 3 Dozer(s)
Unit cost: \$0.411/LCY

Total job time: **83.38 Hours**
Total job cost: **\$67,020**

TRUCK/LOADER TEAM WORKTask description: **Backfill and Regrade Transformer and Rock Dust Cut Slope**Site: **New Elk Mine**Permit Action: **Permit Renewal 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **603**State: **Colorado**Abbreviation: **None**Date: **11/19/2018**County: **Las Animas**Filename: **C012-603**User: **JHB**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Shift basis: **1 per day**

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

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

| | Truck | Loader | Load Area | Dump Area | Motor Grader | Water Truck |
|------------------------|----------------|---------|-------------------|-----------|-----------------|-------------|
| % Utilization-machine: | 100 | 100 | 100 | 100 | 50 | 50 |
| Ownership cost/hour: | \$18.75 | \$26.14 | \$110.70 | \$110.70 | \$60.13 | \$25.30 |
| Operating cost/hour: | \$42.43 | \$30.84 | \$95.46 | \$95.46 | \$25.43 | \$18.30 |
| % Utilization-ripper: | NA | 0 | NA | NA | NA | NA |
| Ripper own. cost/hour: | NA | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| Ripper op. cost/hour: | NA | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| Operator cost/hour: | \$0.00 | \$40.90 | \$41.52 | \$41.52 | \$28.69 | \$21.23 |
| Unit Subtotals: | \$61.17 | \$97.89 | \$247.68 | \$247.68 | \$114.26 | \$64.83 |
| Number of Units: | 3 | 1 | 1 | 1 | 1 | 1 |
| Group Subtotals: | Work: \$281.40 | | Support: \$495.36 | | Maint: \$179.09 | |

Total work team cost/hour: **\$955.85****MATERIAL QUANTITIES**Initial volume: **17,500**

CCY

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

LCY

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

Pounds/LCY

Description: **User Provided**Rated Payload: **35,400**

Pounds

Payload Capacity: **35,400.00**

LCY

Truck Bed (volume) Basis:

| | | |
|------------------|-------|-----|
| Struck Volume: | 10.00 | LCY |
| Heaped Volume: | 12.00 | LCY |
| Average Volume: | 11.00 | LCY |
| Adjusted Volume: | 12.00 | LCY |

Final Truck Volume Based on Number of Loader Passes: 9.46 LCY

Loading Tool Capacity

Bucket Size Class: NA

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

Job Condition Corrections:

Site Altitude (ft.): 7500 feet

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

Loading Tool Cycle Time:

Number of Loading Tool Passes Required to Fill Truck: 2 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: | | 0.530 | minutes |

Truck Cycle Time:

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

Truck Travel (Haul & Return) Time:
maintained 3.0

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

Haul Route:

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

Haul Time: **0.989** minutes

Return Route:

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

Return Time: **0.567** minutesTotal Truck Cycle Time: **3.486** minutes

Loading Tool unit
 Production 551.07 LCY/Hour
 Truck Unit Production
162.82 LCY/Hour
 Optimal No. of Trucks: 3 Truck(s)

Adjusted for job efficiency: 457.39 LCY/Hour
 Adjusted for job efficiency: 135.14 LCY/Hour
 Selected Number of Trucks: 3 Truck(s)

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

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: **48.56** HoursUnit cost: \$2.358 /LCY Total job cost: **\$46,416**

BULLDOZER WORKTask description: **Push Temporary Coal Stockpiles to Conveyor**Site: **New Elk Mine**Permit Action: **Permit Renewal 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **606**State: **Colorado**Abbreviation: **None**Date: **11/14/2018**County: **Las Animas**Filename: **C012-606**User: **JHB**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: | <u>\$110.70</u> | <u>NA</u> |
| Operating Cost/Hour: | <u>\$95.46</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>\$41.52</u> | <u>NA</u> |

Total unit Cost/Hour: **\$247.68**Total Fleet Cost/Hour: **\$743.05****MATERIAL QUANTITIES**Initial Volume: **13,250**Swell factor: **1.000**Loose volume: **13,250 LCY**Source of estimated volume: **PAP 2.05-4a Table 18a. Push to conveyor**Source of estimated swell
factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **400 feet**Unadjusted hourly
production: **305.6 LCY/hr**Materials consistency description: **Partly consolidated stockpile 1.1**Average push gradient: **0 %**Average site altitude: **7,000 feet**Material weight: **1,600 lbs/LCY**Weight description: **Coal - Bituminous, Raw****Job Condition Correction Factor**

| | | <u>Source</u> |
|-----------------------|---------------------|-------------------------|
| Operator Skill: | <u>0.900</u> | <u>(AB.AVG.)</u> |
| Material consistency: | <u>1.100</u> | <u>(CAT HB)</u> |
| Dozing method: | <u>1.200</u> | <u>(S-BY-S)</u> |

| | | |
|------------------|-------|---------------|
| Visibility: | 1.000 | (AVG.) |
| Job efficiency: | 0.830 | (1 SHIFT/DAY) |
| Spoil pile: | 1.000 | (DOZ-OC) |
| Push gradient: | 1.000 | (CAT HB) |
| Altitude: | 1.000 | (CAT HB) |
| Material Weight: | 1.438 | (CAT HB) |
| Blade type: | 1.000 | (PAT) |

Net correction: 1.4179

Adjusted unit production: 433.31 LCY/hr

Adjusted fleet production: **1299.93** LCY/hr

JOB TIME AND COST

Fleet size: 3 Dozer(s)

Unit cost: \$0.572/LCY

Total job time: **10.19** Hours

Total job cost: **\$7,574**

SCRAPER TEAM WORKTask description: **Haul Raw Coal Stockpile to Development Waste Pile**Site: **New Elk Mine**Permit Action: **Permit Revision 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **608**State: **Colorado**Abbreviation: **None**Date: **11/15/2018**County: **Las Animas**Filename: **C012-608**User: **JHB**Agency or organization name: **DRMS****HOURLY EQUIPMENT**COSTShift basis: **1 per day**

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

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

| | Scraper | Dozer | Load Area | Dump Area | Motor Grader | Water Truck |
|------------------------|----------|----------|-----------|-----------|--------------|-------------|
| %Utilization-machine: | 100 | 45 | NA | NA | 50 | 50 |
| Ownership cost/hour: | \$102.39 | \$110.70 | NA | NA | \$60.13 | \$25.30 |
| Operating cost/hour: | \$125.30 | \$42.96 | NA | NA | \$25.43 | \$18.30 |
| %Utilization-ripper: | NA | 20 | NA | NA | NA | NA |
| Ripper own. cost/hour: | NA | \$12.36 | NA | NA | \$0.00 | \$0.00 |
| Ripper op. cost/hour: | NA | \$1.58 | NA | NA | \$0.00 | \$0.00 |
| Operator cost/hour: | \$31.05 | \$41.52 | NA | NA | \$28.69 | \$21.23 |
| Unit Subtotals: | \$258.73 | \$209.12 | NA | NA | \$114.26 | \$64.83 |
| Number of Units: | 2 | 1 | 0 | 0 | 1 | 1 |
| Group Subtotals: | Work: | \$726.58 | Support: | \$0.00 | Maint: | \$179.09 |

Total work team cost/hour: **\$905.67****MATERIAL QUANTITIES**Initial volume: **5,900**

CCY

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

LCY

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

| | | | | |
|-----------------------|-------------------------------|--------------------|--------------|-----|
| Material weight: | 1,600 lbs/LCY | Struck Volume: | 15.70 | LCY |
| Material description: | Coal - Bituminous, Raw | Heaped Volume: | 22.00 | LCY |
| Rated Payload: | 52,800 pounds | Average Volume: | 18.85 | LCY |
| Payload Capacity: | 33.00 LCY | Adjusted Capacity: | 18.85 | LCY |

Cycle Time:Scraper Loading Time: 0.40 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 7500 feet

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

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

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

Haul Time: 1.43 minutesReturn Route:

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

Return Time: 0.95 minutesTotal Scraper team cycle time: 3.38 minutesAdjusted for job conditions: 277.73 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 555.46 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 555.46 LCY/HourUnadjusted unit production/hour: 334.62 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 12.59 HoursUnit cost: \$1.630 /LCYTotal job cost: \$11,400

SCRAPER TEAM WORKTask description: **Haul Clean Coal Stockpile to Development Waste Pile**Site: **New Elk Mine**Permit Action: **Permit Revision 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **609**State: **Colorado**Abbreviation: **None**Date: **11/15/2018**County: **Las Animas**Filename: **C012-609**User: **JHB**Agency or organization name: **DRMS****HOURLY EQUIPMENT**COSTShift basis: **1 per day**

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

Cost Breakdown:

| | Scraper Work Team | | Support Equipment | | Maintenance Equipment | |
|------------------------|-------------------|----------|-------------------|-----------|-----------------------|-------------|
| | Scraper | Dozer | Load Area | Dump Area | Motor Grader | Water Truck |
| %Utilization-machine: | 100 | 35 | NA | NA | 50 | 50 |
| Ownership cost/hour: | \$102.39 | \$110.70 | NA | NA | \$60.13 | \$25.30 |
| Operating cost/hour: | \$125.30 | \$33.41 | NA | NA | \$25.43 | \$18.30 |
| %Utilization-ripper: | NA | 20 | NA | NA | NA | NA |
| Ripper own. cost/hour: | NA | \$12.36 | NA | NA | \$0.00 | \$0.00 |
| Ripper op. cost/hour: | NA | \$1.58 | NA | NA | \$0.00 | \$0.00 |
| Operator cost/hour: | \$31.05 | \$41.52 | NA | NA | \$28.69 | \$21.23 |
| Unit Subtotals: | \$258.73 | \$199.57 | NA | NA | \$114.26 | \$64.83 |
| Number of Units: | 2 | 1 | 0 | 0 | 1 | 1 |
| Group Subtotals: | Work: | \$717.03 | Support: | \$0.00 | Maint: | \$179.09 |

Total work team cost/hour: **\$896.12****MATERIAL QUANTITIES**Initial volume: **7,600**

CCY

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

LCY

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

| | | | | |
|-----------------------|-------------------------------|--------------------|--------------|-----|
| Material weight: | 1,600 lbs/LCY | Struck Volume: | 15.70 | LCY |
| Material description: | Coal - Bituminous, Raw | Heaped Volume: | 22.00 | LCY |
| Rated Payload: | 52,800 pounds | Average Volume: | 18.85 | LCY |
| Payload Capacity: | 33.00 LCY | Adjusted Capacity: | 18.85 | LCY |

Cycle Time:Scraper Loading Time: 0.40 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 7500 feet

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

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

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

Haul Time: 1.97 minutesReturn Route:

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

Return Time: 1.29 minutesTotal Scraper team cycle time: 4.26 minutesAdjusted for job conditions: 220.36 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 440.72 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 440.72 LCY/HourUnadjusted unit production/hour: 265.49 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 20.43 HoursUnit cost: \$2.033 /LCYTotal job cost: \$18,312

SCRAPER TEAM WORKTask description: **Haul and Spread Cover on RDA**Site: **New Elk Mine**Permit Action: **Permit Revision 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **614**State: **Colorado**Abbreviation: **None**Date: **11/16/2018**County: **Las Animas**Filename: **C012-614**User: **JHB**Agency or organization name: **DRMS****HOURLY EQUIPMENT**COSTShift basis: **1 per day**

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

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

| | Scraper | Dozer | Load Area | Dump Area | Motor Grader | Water Truck |
|------------------------|----------|----------|-----------|-----------|--------------|-------------|
| %Utilization-machine: | 100 | 100 | NA | NA | 50 | 50 |
| Ownership cost/hour: | \$102.39 | \$110.70 | NA | NA | \$60.13 | \$25.30 |
| Operating cost/hour: | \$125.30 | \$95.46 | NA | NA | \$25.43 | \$18.30 |
| %Utilization-ripper: | NA | 0 | NA | NA | NA | NA |
| Ripper own. cost/hour: | NA | \$12.36 | NA | NA | \$0.00 | \$0.00 |
| Ripper op. cost/hour: | NA | \$0.00 | NA | NA | \$0.00 | \$0.00 |
| Operator cost/hour: | \$31.05 | \$41.52 | NA | NA | \$28.69 | \$21.23 |
| Unit Subtotals: | \$258.73 | \$260.05 | NA | NA | \$114.26 | \$64.83 |
| Number of Units: | 2 | 1 | 0 | 0 | 1 | 1 |
| Group Subtotals: | Work: | \$777.51 | Support: | \$0.00 | Maint: | \$179.09 |

Total work team cost/hour: **\$956.60****MATERIAL QUANTITIES**Initial volume: **146,813**

CCY

Swell factor: **1.125**Loose volume: **165,165**

LCY

Source of estimated volume: **Map 11, page 2.05-21, Exhibit 28**Source of estimated swell factor: **Operator Estimate****HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

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

Cycle Time:Scraper Loading Time: 0.40 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 7500 feet

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

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

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

Haul Time: 1.31 minutesReturn Route:

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

Return Time: 0.51 minutesTotal Scraper team cycle time: 2.82 minutesAdjusted for job conditions: 332.88 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 665.77 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 665.77 LCY/HourUnadjusted unit production/hour: 401.06 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 248.08 HoursUnit cost: \$1.437 /LCYTotal job cost: \$237,315

COMPACTION WORKTask description: **Compact Final RDA Surface**Site: **New Elk Mine** Permit Action: **Permit Renewal 07** Permit/Job#: **C1981012****PROJECT IDENTIFICATION**

Task #: **615** State: **Colorado** Abbreviation: **None**
 Date: **11/19/2018** County: **Las Animas** Filename: **C012-615**
 User: **JHB**

Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**

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

Cost Breakdown:

| | | Utilization % |
|------------------------|-----------------|---------------|
| Ownership Cost/Hour: | \$56.28 | NA |
| Operating Cost/Hour: | \$65.66 | 100 |
| Operator Cost/Hour: | \$26.14 | NA |
| Total Unit Cost/Hour: | \$148.08 | |
| Total Fleet Cost/Hour: | \$148.08 | |

MATERIAL QUANTITIES

Loose volume: **26,250** LCY Shrinkage factor: **0.870**
 Compacted volume: **22,838** CCY
 Source of estimated volume: **8.13 acre RDA surface X 2 ft. lift**
 Source of estimated shrinkage factor: **Cat Handbook**

HOURLY PRODUCTION

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

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

Job Condition Correction FactorsSite Altitude: **7,500** feet

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

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

JOB TIME AND COST

Fleet size: **1** Compactor(s) Total job time: **32.46** Hours
 Unit cost: **\$0.210** per CCY Total job cost: **\$4,807**

BULLDOZER RIPPING WORKTask description: **Rip Mine Entry Area Prior to Regrading**Site: New Elk Mine Permit Action: Permit Renewal 07 Permit/Job#: C1981012**PROJECT IDENTIFICATION**

Task #: 623 State: Colorado Abbreviation: None
 Date: 11/19/2018 County: Las Animas Filename: C012-623
 User: JHB

Agency or organization name: DRMS**HOURLY EQUIPMENT COST**

Basic Machine: Cat D9T - 9SU Horsepower: 405
 Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day
 Data Source: (CRG)

Cost Breakdown:

| | | Utilization % |
|-----------------------------|-----------------|---------------|
| Ownership Cost/Hour: | \$110.70 | NA |
| Operating Cost/Hour: | \$95.46 | 100 |
| Ripper Ownership Cost/Hour: | \$12.36 | NA |
| Ripper Operating Cost/Hour: | \$7.88 | 100 |
| Operator Cost/Hour: | \$41.52 | NA |
| Total Unit Cost/Hour: | \$267.92 | |
| Total Fleet Cost/Hour: | \$803.77 | |

MATERIAL QUANTITIESSelected estimating method: Area**Alternate Methods:**

Seismic: NA Bank Volume: NA BCY NA
 Area: 17.86 acres Rip Depth (ft): 2.00 Volume: 57,628 BCY or CCY

Source of estimated quantity: Map 11**HOURLY PRODUCTION****Seismic:**Seismic Velocity: NA feet/second**Area:**

Average Ripping Depth: 4.05 mph
 Average Ripping Width: 7.67 degrees
 Average Ripping Length: 200.00 feet
 Average Dozer Speed: 88.00 feet
 Average Maneuver Time: 0.25 feet
 Production per unit area: 0.838 acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.838 Acres/hr
 Site Altitude: 7,500 feet
 Altitude Adj: 1.00 (CAT HB)
 Job Efficiency: 0.83 (1 shift/day)
 Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.70 Acres/hr
 Adjusted Hourly Fleet Production: **2.09** Acres/hr

JOB TIME AND COST

Fleet size: 3 Grader(s) Total job time: **8.56** Hours

Unit cost: \$385.397 Per acre

Total job cost: \$6,883

BULLDOZER RIPPING WORKTask description: **Rip Wedge Area Prior to Regrading**Site: **New Elk Mine** Permit Action: **Permit Renewal 07** Permit/Job#: **C1981012****PROJECT IDENTIFICATION**

Task #: 624 State: Colorado Abbreviation: None
 Date: 11/19/2018 County: Las Animas Filename: C012-624
 User: JHB

Agency or organization name: DRMS**HOURLY EQUIPMENT COST**

Basic Machine: Cat D9T - 9SU Horsepower: 405
 Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day
 Data Source: (CRG)

Cost Breakdown:

| | | Utilization % |
|-----------------------------|------------------------|---------------|
| Ownership Cost/Hour: | <u>\$110.70</u> | <u>NA</u> |
| Operating Cost/Hour: | <u>\$95.46</u> | <u>100</u> |
| Ripper Ownership Cost/Hour: | <u>\$12.36</u> | <u>NA</u> |
| Ripper Operating Cost/Hour: | <u>\$7.88</u> | <u>100</u> |
| Operator Cost/Hour: | <u>\$41.52</u> | <u>NA</u> |
| Total Unit Cost/Hour: | <u>\$267.92</u> | |
| Total Fleet Cost/Hour: | <u>\$803.77</u> | |

MATERIAL QUANTITIESSelected estimating method: Area**Alternate Methods:**

Seismic: NA Bank Volume: NA BCY NA
 Area: 1.60 acres Rip Depth (ft): 2.00 Volume: 5,163 BCY or CCY

Source of estimated quantity: Map 11**HOURLY PRODUCTION****Seismic:**Seismic Velocity: NA feet/second**Area:**

Average Ripping Depth: 4.05 mph
 Average Ripping Width: 7.67 degrees
 Average Ripping Length: 200.00 feet
 Average Dozer Speed: 88.00 feet
 Average Maneuver Time: 0.25 feet
 Production per unit area: 0.838 acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.838 Acres/hr
 Site Altitude: 7,500 feet
 Altitude Adj: 1.00 (CAT HB)
 Job Efficiency: 0.83 (1 shift/day)
 Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.70 Acres/hr
 Adjusted Hourly Fleet Production: **2.09** Acres/hr

JOB TIME AND COST

Fleet size: 3 Grader(s) Total job time: **0.77** Hours

Unit cost: \$385.397 Per acre

Total job cost: **\$617**

BULLDOZER RIPPING WORKTask description: **Rip Prep Plant Area Prior to Regrading**Site: New Elk Mine Permit Action: Permit Renewal 07 Permit/Job#: C1981012**PROJECT IDENTIFICATION**

Task #: 625 State: Colorado Abbreviation: None
 Date: 11/19/2018 County: Las Animas Filename: C012-625
 User: JHB

Agency or organization name: DRMS**HOURLY EQUIPMENT COST**

Basic Machine: Cat D9T - 9SU Horsepower: 405
 Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day
 Data Source: (CRG)

Cost Breakdown:

| | | Utilization % |
|-----------------------------|------------------------|---------------|
| Ownership Cost/Hour: | <u>\$110.70</u> | <u>NA</u> |
| Operating Cost/Hour: | <u>\$95.46</u> | <u>100</u> |
| Ripper Ownership Cost/Hour: | <u>\$12.36</u> | <u>NA</u> |
| Ripper Operating Cost/Hour: | <u>\$7.88</u> | <u>100</u> |
| Operator Cost/Hour: | <u>\$41.52</u> | <u>NA</u> |
| Total Unit Cost/Hour: | <u>\$267.92</u> | |
| Total Fleet Cost/Hour: | <u>\$803.77</u> | |

MATERIAL QUANTITIESSelected estimating method: Area**Alternate Methods:**

Seismic: NA Bank Volume: NA BCY NA
 Area: 5.37 acres Rip Depth (ft): 2.00 Volume: 17,327 BCY or CCY

Source of estimated quantity: Map 11**HOURLY PRODUCTION****Seismic:**Seismic Velocity: NA feet/second**Area:**

Average Ripping Depth: 4.05 mph
 Average Ripping Width: 7.67 degrees
 Average Ripping Length: 200.00 feet
 Average Dozer Speed: 88.00 feet
 Average Maneuver Time: 0.25 feet
 Production per unit area: 0.838 acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.838 Acres/hr
 Site Altitude: 7,500 feet
 Altitude Adj: 1.00 (CAT HB)
 Job Efficiency: 0.83 (1 shift/day)
 Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.70 Acres/hr
 Adjusted Hourly Fleet Production: **2.09** Acres/hr

JOB TIME AND COST

Fleet size: 3 Grader(s) Total job time: **2.57** Hours

Unit cost: \$385.397 Per acre

Total job cost: **\$2,070**

BULLDOZER RIPPING WORKTask description: **Rip West Portal DNR Areas**Site: **New Elk Mine** Permit Action: **Permit Renewal 07** Permit/Job#: **C1981012****PROJECT IDENTIFICATION**

Task #: **627** State: **Colorado** Abbreviation: **None**
 Date: **11/19/2018** County: **Las Animas** Filename: **C012-627**
 User: **JHB**

Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**

Basic Machine: **Cat D9T - 9SU** Horsepower: **405**
 Ripper Attachment: **3-Shank Ripper** Shift Basis: **1 per day**
 Data Source: **(CRG)**

Cost Breakdown:

| | | Utilization % |
|-----------------------------|-----------------|---------------|
| Ownership Cost/Hour: | \$110.70 | NA |
| Operating Cost/Hour: | \$95.46 | 100 |
| Ripper Ownership Cost/Hour: | \$12.36 | NA |
| Ripper Operating Cost/Hour: | \$7.88 | 100 |
| Operator Cost/Hour: | \$41.52 | NA |
| Total Unit Cost/Hour: | \$267.92 | |
| Total Fleet Cost/Hour: | \$803.77 | |

MATERIAL QUANTITIESSelected estimating method: **Area****Alternate Methods:**

Seismic: **NA** Bank Volume: **NA** BCY **NA**
 Area: **24.92** acres Rip Depth (ft): **1.50** Volume: **60,306** BCY or CCY

Source of estimated quantity: **Map 16 (substract out DWDA#3 area Map12)****HOURLY PRODUCTION****Seismic:**Seismic Velocity: **NA** feet/second**Area:**

Average Ripping Depth: **4.05** mph
 Average Ripping Width: **7.67** degrees
 Average Ripping Length: **200.00** feet
 Average Dozer Speed: **88.00** feet
 Average Maneuver Time: **0.25** feet
 Production per unit area: **0.838** acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: **0.838** Acres/hr
 Site Altitude: **7,500** feet
 Altitude Adj: **1.00** (CAT HB)
 Job Efficiency: **0.83** (1 shift/day)
 Net Correction: **0.83** multiplier

Adjusted Hourly Unit Production: **0.70** Acres/hr
 Adjusted Hourly Fleet Production: **2.09** Acres/hr

JOB TIME AND COST

Fleet size: **3** Grader(s) Total job time: **11.95** Hours

Unit cost: \$385.397 Per acre

Total job cost: **\$9,604**

BULLDOZER RIPPING WORKTask description: **Rip East Portal - Only DNR Area**Site: **New Elk Mine** Permit Action: **Permit Renewal 07** Permit/Job#: **C1981012****PROJECT IDENTIFICATION**

Task #: **628** State: **Colorado** Abbreviation: **None**
 Date: **11/19/2018** County: **Las Animas** Filename: **C012-628**
 User: **JHB**

Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**

Basic Machine: **Cat D9T - 9SU** Horsepower: **405**
 Ripper Attachment: **3-Shank Ripper** Shift Basis: **1 per day**
 Data Source: **(CRG)**

Cost Breakdown:

| | | Utilization % |
|-----------------------------|-----------------|---------------|
| Ownership Cost/Hour: | \$110.70 | NA |
| Operating Cost/Hour: | \$95.46 | 100 |
| Ripper Ownership Cost/Hour: | \$12.36 | NA |
| Ripper Operating Cost/Hour: | \$7.88 | 100 |
| Operator Cost/Hour: | \$41.52 | NA |
| Total Unit Cost/Hour: | \$267.92 | |
| Total Fleet Cost/Hour: | \$803.77 | |

MATERIAL QUANTITIESSelected estimating method: **Area****Alternate Methods:**

Seismic: **NA** Bank Volume: **NA** BCY **NA**
 Area: **35.00** acres Rip Depth (ft): **2.00** Volume: **112,933** BCY or CCY

Source of estimated quantity: **Map 11****HOURLY PRODUCTION****Seismic:**Seismic Velocity: **NA** feet/second**Area:**

Average Ripping Depth: **4.05** mph
 Average Ripping Width: **7.67** degrees
 Average Ripping Length: **200.00** feet
 Average Dozer Speed: **88.00** feet
 Average Maneuver Time: **0.25** feet
 Production per unit area: **0.838** acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: **0.838** Acres/hr
 Site Altitude: **7,500** feet
 Altitude Adj: **1.00** (CAT HB)
 Job Efficiency: **0.83** (1 shift/day)
 Net Correction: **0.83** multiplier

Adjusted Hourly Unit Production: **0.70** Acres/hr
 Adjusted Hourly Fleet Production: **2.09** Acres/hr

JOB TIME AND COST

Fleet size: **3** Grader(s) Total job time: **16.78** Hours

Unit cost: \$385.397 Per acre

Total job cost: \$13,489

MOTOR GRADER WORKTask description: **Finish Grade Refuse Disposal Area**Site: **New Elk Mine**Permit Action: **Permit Renewal 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**

Task #: 639 State: Colorado Abbreviation: None
 Date: 11/20/2018 County: Las Animas Filename: C012-639
 User: JHB

Agency or organization name: DRMS**HOURLY EQUIPMENT COST**

Basic Machine: CAT 14M Horsepower: 259
 Ripper Attachment: Shift Basis: 1 per day
 Data Source: (CRG)

Cost Breakdown:

| | | Utilization % |
|-----------------------------|-----------------|---------------|
| Ownership Cost/Hour: | \$60.13 | NA |
| Operating Cost/Hour: | \$50.87 | 100 |
| Ripper Ownership Cost/Hour: | \$0.00 | NA |
| Ripper Operating Cost/Hour: | \$0.00 | |
| Operator Cost/Hour: | \$28.69 | NA |
| Total Unit Cost/Hour: | \$139.69 | |
| Total Fleet Cost/Hour: | \$139.69 | |

MATERIAL QUANTITIESTotal Area to be graded or ripped: 8.30 acresSource of estimated acreage: Map 11**HOURLY PRODUCTION**

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

Job Condition Correction FactorsSite Altitude: 7500 feet

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

Adjusted Hourly Unit Production: 1.5609 acres/Hour
 Adjusted Hourly Fleet Production: **1.5609** acres/Hour

JOB TIME AND COSTFleet size: 1 Grader(s) Total job time: **5.32** HoursUnit cost: \$89.49 per acre Total job cost: **\$743**

BULLDOZER WORKTask description: **Regrade Pond 004**Site: **New Elk Mine**Permit Action: **Permit Renewal 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **643**State: **Colorado**Abbreviation: **None**Date: **11/15/2018**County: **Las Animas**Filename: **C012-643**User: **JHB**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**

Basic Machine: **Cat D9T - 9SU**
 Horsepower: **405**
 Blade Type: **Semi-Universal**
 Attachment: **3-shank ripper**
 Shift Basis: **1 per day**
 Data Source: **(CRG)**

Cost Breakdown:

| | | <u>Utilization %</u> |
|---------------------------|----------|----------------------|
| Ownership Cost/Hour: | \$110.70 | NA |
| Operating Cost/Hour: | \$95.46 | 100 |
| Ripper own. Cost/Hour: | \$12.36 | NA |
| Ripper op. Cost/Hour: | \$7.88 | 100 |
| Operator Cost/Hour: | \$41.52 | NA |

Total unit Cost/Hour: **\$267.92**Total Fleet Cost/Hour: **\$267.92****MATERIAL QUANTITIES**

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

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

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

Materials consistency description: **Compacted fill or embankment 0.9**

Average push gradient: **5 %**
 Average site altitude: **7,500 feet**

Material weight: **2,132 lbs/LCY**Weight description: **User Provided**

| <u>Job Condition Correction Factor</u> | | <u>Source</u> |
|--|-------|---------------|
| Operator Skill: | 0.900 | (AB.AVG.) |
| Material consistency: | 0.900 | (CAT HB)) |
| Dozing method: | 1.000 | (GEN.) |
| Visibility: | 1.000 | (AVG.) |
| Job efficiency: | 0.830 | (1 SHIFT/DAY) |
| Spoil pile: | 0.800 | (FND-RF) |
| Push gradient: | 0.903 | (CAT HB) |
| Altitude: | 1.000 | (CAT HB) |
| Material Weight: | 1.079 | (CAT HB) |
| Blade type: | 1.000 | (PAT) |
| Net correction: | | 0.5240 |

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

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: \$0.484/LCY

Total job time: **7.81** Hours
Total job cost: **\$2,093**

BULLDOZER WORKTask description: **Regrade Pond 006**Site: **New Elk Mine**Permit Action: Permit Renewal 07Permit/Job#: C1981012**PROJECT IDENTIFICATION**Task #: 645State: ColoradoAbbreviation: NoneDate: 11/15/2018County: Las AnimasFilename: C012-645User: JHBAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D9T - 9SUHorsepower: 405Blade Type: Semi-UniversalAttachment: 3-shank ripperShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

| | | <u>Utilization %</u> |
|---------------------------|----------|----------------------|
| Ownership Cost/Hour: | \$110.70 | NA |
| Operating Cost/Hour: | \$95.46 | 100 |
| Ripper own. Cost/Hour: | \$12.36 | NA |
| Ripper op. Cost/Hour: | \$0.00 | 0 |
| Operator Cost/Hour: | \$41.52 | NA |

Total unit Cost/Hour: \$260.05Total Fleet Cost/Hour: **\$260.05****MATERIAL QUANTITIES**Initial Volume: 6,160Swell factor: 1.125Loose volume: **6,930 LCY**Source of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell
factor: Operator Estimate**HOURLY PRODUCTION**Average push distance: 75 feetUnadjusted hourly
production: 1,514.3 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: 5 %Average site altitude: 7,500 feetMaterial weight: 2,132 lbs/LCYWeight description: User ProvidedJob Condition Correction FactorSource

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

Net correction: 0.5240

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

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: \$0.328/LCY

Total job time: **8.73** Hours
Total job cost: **\$2,271**

BULLDOZER WORKTask description: **Regrade Pond 007**Site: **New Elk Mine**Permit Action: Permit Renewal 07Permit/Job#: C1981012**PROJECT IDENTIFICATION**Task #: 646State: ColoradoAbbreviation: NoneDate: 11/15/2018County: Las AnimasFilename: C012-646User: JHBAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D9T - 9SUHorsepower: 405Blade Type: Semi-UniversalAttachment: 3-shank ripperShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

| | | <u>Utilization %</u> |
|---------------------------|----------|----------------------|
| Ownership Cost/Hour: | \$110.70 | NA |
| Operating Cost/Hour: | \$95.46 | 100 |
| Ripper own. Cost/Hour: | \$12.36 | NA |
| Ripper op. Cost/Hour: | \$0.00 | 0 |
| Operator Cost/Hour: | \$41.52 | NA |

Total unit Cost/Hour: \$260.05Total Fleet Cost/Hour: **\$260.05****MATERIAL QUANTITIES**Initial Volume: 9,120Swell factor: 1.125Loose volume: **10,260 LCY**Source of estimated volume: Division of Reclamation, Mining & Safety

Source of estimated swell

factor:

Cat Handbook**HOURLY PRODUCTION**Average push distance: 150 feet

Unadjusted hourly

production:

910.5 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: 5 %Average site altitude: 7,500 feetMaterial weight: 2,132 lbs/LCYWeight description: User Provided

| <u>Job Condition Correction Factor</u> | | <u>Source</u> |
|--|-------|---------------|
| Operator Skill: | 0.900 | (AB.AVG.) |
| Material consistency: | 0.900 | (CAT HB)) |
| Dozing method: | 1.200 | (S-BY-S) |
| Visibility: | 1.000 | (AVG.) |
| Job efficiency: | 0.830 | (1 SHIFT/DAY) |
| Spoil pile: | 0.800 | (FND-RF) |
| Push gradient: | 0.903 | (CAT HB) |
| Altitude: | 1.000 | (CAT HB) |
| Material Weight: | 1.079 | (CAT HB) |
| Blade type: | 1.000 | (PAT) |
| Net correction: | | 0.6288 |

Adjusted unit production: 572.52 LCY/hr
Adjusted fleet production: **572.52** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: \$0.454/LCY

Total job time: **17.92** Hours
Total job cost: **\$4,660**

BULLDOZER WORKTask description: **Regrade Pond 008; Rip and Regrade Spillway**Site: **New Elk Mine**Permit Action: Permit Renewal 07Permit/Job#: C1981012**PROJECT IDENTIFICATION**Task #: 647State: ColoradoAbbreviation: NoneDate: 11/15/2018County: Las AnimasFilename: C012-647User: JHBAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D9T - 9SUHorsepower: 405Blade Type: Semi-UniversalAttachment: 3-shank ripperShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

| | | <u>Utilization %</u> |
|---------------------------|----------|----------------------|
| Ownership Cost/Hour: | \$110.70 | NA |
| Operating Cost/Hour: | \$95.46 | 100 |
| Ripper own. Cost/Hour: | \$12.36 | NA |
| Ripper op. Cost/Hour: | \$3.94 | 50 |
| Operator Cost/Hour: | \$41.52 | NA |

Total unit Cost/Hour: \$263.98Total Fleet Cost/Hour: **\$263.98****MATERIAL QUANTITIES**Initial Volume: 28,300Swell factor: 1.125Loose volume: **31,838 LCY**Source of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell Operator Estimate

factor: _____

HOURLY PRODUCTIONAverage push distance: 125 feetUnadjusted hourly 1,055.6 LCY/hr

production: _____

Materials consistency description: Compacted fill or embankment 0.9Average push gradient: 10 %Average site altitude: 7,500 feetMaterial weight: 2,132 lbs/LCYWeight description: User ProvidedJob Condition Correction FactorSource

| | | |
|-----------------------|-------|---------------|
| Operator Skill: | 0.900 | (AB.AVG.) |
| Material consistency: | 0.900 | (CAT HB)) |
| Dozing method: | 1.000 | (GEN.) |
| Visibility: | 1.000 | (AVG.) |
| Job efficiency: | 0.830 | (1 SHIFT/DAY) |
| Spoil pile: | 0.800 | (FND-RF) |
| Push gradient: | 0.786 | (CAT HB) |
| Altitude: | 1.000 | (CAT HB) |
| Material Weight: | 1.079 | (CAT HB) |
| Blade type: | 1.000 | (PAT) |

Net correction: 0.4561

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

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: \$0.548/LCY

Total job time: **66.13** Hours
Total job cost: **\$17,457**

BULLDOZER WORKTask description: **Regrade West Portal Containment Area 1**Site: **New Elk Mine**Permit Action: Permit Renewal 07Permit/Job#: C1981012**PROJECT IDENTIFICATION**Task #: 648State: ColoradoAbbreviation: NoneDate: 11/15/2018County: Las AnimasFilename: C012-648User: JHBAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D9T - 9SUHorsepower: 405Blade Type: Semi-UniversalAttachment: 3-shank ripperShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

| | | <u>Utilization %</u> |
|---------------------------|----------|----------------------|
| Ownership Cost/Hour: | \$110.70 | NA |
| Operating Cost/Hour: | \$95.46 | 100 |
| Ripper own. Cost/Hour: | \$12.36 | NA |
| Ripper op. Cost/Hour: | \$0.00 | 0 |
| Operator Cost/Hour: | \$41.52 | NA |

Total unit Cost/Hour: \$260.05Total Fleet Cost/Hour: **\$260.05****MATERIAL QUANTITIES**Initial Volume: 3,340Swell factor: 1.125Loose volume: **3,758 LCY**Source of estimated volume: Division of Reclamation, Mining & Safety

Source of estimated swell

factor: Operator Estimate**HOURLY PRODUCTION**Average push distance: 100 feet

Unadjusted hourly

production: 1,243.2 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: 0 %Average site altitude: 7,500 feetMaterial weight: 2,132 lbs/LCYWeight description: User ProvidedJob Condition Correction FactorSource

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

Net correction: 0.5803

Adjusted unit production: 721.43 LCY/hr
Adjusted fleet production: **721.43** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: \$0.360/LCY

Total job time: **5.21** Hours
Total job cost: **\$1,354**

BULLDOZER WORKTask description: **Regrade temporary Ditches at West Portal**Site: **New Elk Mine**Permit Action: Permit Renewal 07Permit/Job#: C1981012**PROJECT IDENTIFICATION**Task #: 651State: ColoradoAbbreviation: NoneDate: 11/15/2018County: Las AnimasFilename: C012-651User: JHBAgency 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: | \$110.70 | NA |
| Operating Cost/Hour: | \$95.46 | 100 |
| Ripper own. Cost/Hour: | \$0.00 | NA |
| Ripper op. Cost/Hour: | \$0.00 | 0 |
| Operator Cost/Hour: | \$41.52 | NA |

Total unit Cost/Hour: \$247.68Total Fleet Cost/Hour: **\$247.68****MATERIAL QUANTITIES**Initial Volume: 217Swell factor: 1.125Loose volume: **244 LCY**Source of estimated volume: 1300 ft. D29 & D29BSource of estimated swell
factor: Operator Estimate**HOURLY PRODUCTION**Average push distance: 75 feetUnadjusted hourly
production: 1,514.3 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: 5 %Average site altitude: 7,500 feetMaterial weight: 2,132 lbs/LCYWeight description: User ProvidedJob Condition Correction FactorSource

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

Net correction: 0.5240

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

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: \$0.312/LCY

Total job time: **0.31** Hours
Total job cost: **\$76**

SCRAPER TEAM WORKTask description: **Replace Cover material on DWDA #2**Site: **New Elk Mine**Permit Action: **Permit Renewal 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **661**State: **Colorado**Abbreviation: **None**Date: **11/20/2018**County: **Las Animas**Filename: **C012-661**User: **JHB**Agency or organization name: **DRMS****HOURLY EQUIPMENT**COSTShift basis: **1 per day**

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

Cost Breakdown:

| | Scraper Work Team | | Support Equipment | | Maintenance Equipment | |
|------------------------|-------------------|----------|-------------------|-----------|-----------------------|-------------|
| | Scraper | Dozer | Load Area | Dump Area | Motor Grader | Water Truck |
| %Utilization-machine: | 100 | 100 | NA | NA | 50 | 50 |
| Ownership cost/hour: | \$102.39 | \$110.70 | NA | NA | \$60.13 | \$25.30 |
| Operating cost/hour: | \$125.30 | \$95.46 | NA | NA | \$25.43 | \$18.30 |
| %Utilization-ripper: | NA | 0 | NA | NA | NA | NA |
| Ripper own. cost/hour: | NA | \$12.36 | NA | NA | \$0.00 | \$0.00 |
| Ripper op. cost/hour: | NA | \$0.00 | NA | NA | \$0.00 | \$0.00 |
| Operator cost/hour: | \$31.05 | \$41.52 | NA | NA | \$28.69 | \$21.23 |
| Unit Subtotals: | \$258.73 | \$260.05 | NA | NA | \$114.26 | \$64.83 |
| Number of Units: | 2 | 1 | 0 | 0 | 1 | 1 |
| Group Subtotals: | Work: | \$777.51 | Support: | \$0.00 | Maint: | \$179.09 |

Total work team cost/hour: **\$956.60****MATERIAL QUANTITIES**Initial volume: **1,613**

CCY

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

LCY

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

| | | | | |
|-----------------------|-----------------------------|--------------------|---------------------|-----|
| Material weight: | <u>2,132 lbs/LCY</u> | Struck Volume: | <u>15.70</u> | LCY |
| Material description: | <u>User Provided</u> | Heaped Volume: | <u>22.00</u> | LCY |
| Rated Payload: | <u>52,800 pounds</u> | Average Volume: | <u>18.85</u> | LCY |
| Payload Capacity: | <u>24.77 LCY</u> | Adjusted Capacity: | <u>18.85</u> | LCY |

Cycle Time:Scraper Loading Time: 0.40 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 7500 feet

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

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

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

Haul Time: 0.96 minutesReturn Route:

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

Return Time: 0.41 minutesTotal Scraper team cycle time: 2.37 minutesAdjusted for job conditions: 396.09 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 792.18 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 792.18 LCY/HourUnadjusted unit production/hour: 477.22 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 2.29 HoursUnit cost: \$1.208 /LCYTotal job cost: \$2,191

SCRAPER TEAM WORKTask description: **Replace Topsoil to DWDA #2**Site: **New Elk Mine**Permit Action: **Permit Renewal 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **662**State: **Colorado**Abbreviation: **None**Date: **11/20/2018**County: **Las Animas**Filename: **C012-662**User: **JHB**Agency or organization name: **DRMS****HOURLY EQUIPMENT**COSTShift basis: **1 per day**

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

Cost Breakdown:

| | Scraper Work Team | | Support Equipment | | Maintenance Equipment | |
|------------------------|-------------------|----------|-------------------|-----------|-----------------------|-------------|
| | Scraper | Dozer | Load Area | Dump Area | Motor Grader | Water Truck |
| %Utilization-machine: | 100 | 100 | NA | NA | 50 | 50 |
| Ownership cost/hour: | \$102.39 | \$110.70 | NA | NA | \$60.13 | \$25.30 |
| Operating cost/hour: | \$125.30 | \$95.46 | NA | NA | \$25.43 | \$18.30 |
| %Utilization-ripper: | NA | 0 | NA | NA | NA | NA |
| Ripper own. cost/hour: | NA | \$12.36 | NA | NA | \$0.00 | \$0.00 |
| Ripper op. cost/hour: | NA | \$0.00 | NA | NA | \$0.00 | \$0.00 |
| Operator cost/hour: | \$31.05 | \$41.52 | NA | NA | \$28.69 | \$21.23 |
| Unit Subtotals: | \$258.73 | \$260.05 | NA | NA | \$114.26 | \$64.83 |
| Number of Units: | 2 | 1 | 0 | 0 | 1 | 1 |
| Group Subtotals: | Work: | \$777.51 | Support: | \$0.00 | Maint: | \$179.09 |

Total work team cost/hour: **\$956.60****MATERIAL QUANTITIES**Initial volume: **3,900**

CCY

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

LCY

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

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

Cycle Time:Scraper Loading Time: 0.40 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 7500 feet

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

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

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

Haul Time: 0.96 minutesReturn Route:

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

Return Time: 0.64 minutesTotal Scraper team cycle time: 2.60 minutesAdjusted for job conditions: 361.05 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 722.10 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 722.10 LCY/HourUnadjusted unit production/hour: 435.00 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 5.40 HoursUnit cost: \$1.325 /LCYTotal job cost: \$5,167

SCRAPER TEAM WORKTask description: **Replace Topsoil to Area East of Pond 5**Site: **New Elk Mine**Permit Action: **Permit Revision 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **663**State: **Colorado**Abbreviation: **None**Date: **11/16/2018**County: **Las Animas**Filename: **C012-663**User: **JHB**Agency or organization name: **DRMS****HOURLY EQUIPMENT**COSTShift basis: **1 per day**

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

Cost Breakdown:

| | Scraper Work Team | | Support Equipment | | Maintenance Equipment | |
|------------------------|-------------------|----------|-------------------|-----------|-----------------------|-------------|
| | Scraper | Dozer | Load Area | Dump Area | Motor Grader | Water Truck |
| %Utilization-machine: | 100 | 100 | NA | NA | 50 | 50 |
| Ownership cost/hour: | \$102.39 | \$110.70 | NA | NA | \$60.13 | \$25.30 |
| Operating cost/hour: | \$125.30 | \$95.46 | NA | NA | \$25.43 | \$18.30 |
| %Utilization-ripper: | NA | 0 | NA | NA | NA | NA |
| Ripper own. cost/hour: | NA | \$12.36 | NA | NA | \$0.00 | \$0.00 |
| Ripper op. cost/hour: | NA | \$0.00 | NA | NA | \$0.00 | \$0.00 |
| Operator cost/hour: | \$31.05 | \$41.52 | NA | NA | \$28.69 | \$21.23 |
| Unit Subtotals: | \$258.73 | \$260.05 | NA | NA | \$114.26 | \$64.83 |
| Number of Units: | 2 | 1 | 0 | 0 | 1 | 1 |
| Group Subtotals: | Work: | \$777.51 | Support: | \$0.00 | Maint: | \$179.09 |

Total work team cost/hour: **\$956.60****MATERIAL QUANTITIES**Initial volume: **425**

CCY

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

LCY

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

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

Cycle Time:Scraper Loading Time: 0.40 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 7500 feet

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

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

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

Haul Time: 0.56 minutesReturn Route:

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

Return Time: 0.30 minutesTotal Scraper team cycle time: 1.86 minutesAdjusted for job conditions: 504.69 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 1,009.39 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 1,009.39 LCY/HourUnadjusted unit production/hour: 608.06 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 0.42 HoursUnit cost: \$0.948 /LCYTotal job cost: \$403

SCRAPER TEAM WORKTask description: **Replace Topsoil to Pond 005**Site: **New Elk Mine**Permit Action: **Permit Revision 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **664**State: **Colorado**Abbreviation: **None**Date: **11/16/2018**County: **Las Animas**Filename: **C012-664**User: **JHB**Agency or organization name: **DRMS****HOURLY EQUIPMENT**COSTShift basis: **1 per day**

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

Cost Breakdown:

| | Scraper Work Team | | Support Equipment | | Maintenance Equipment | |
|------------------------|-------------------|----------|-------------------|-----------|-----------------------|-------------|
| | Scraper | Dozer | Load Area | Dump Area | Motor Grader | Water Truck |
| %Utilization-machine: | 100 | 100 | NA | NA | 50 | 50 |
| Ownership cost/hour: | \$102.39 | \$110.70 | NA | NA | \$60.13 | \$25.30 |
| Operating cost/hour: | \$125.30 | \$95.46 | NA | NA | \$25.43 | \$18.30 |
| %Utilization-ripper: | NA | NA | NA | NA | NA | NA |
| Ripper own. cost/hour: | NA | \$0.00 | NA | NA | \$0.00 | \$0.00 |
| Ripper op. cost/hour: | NA | \$0.00 | NA | NA | \$0.00 | \$0.00 |
| Operator cost/hour: | \$31.05 | \$41.52 | NA | NA | \$28.69 | \$21.23 |
| Unit Subtotals: | \$258.73 | \$247.68 | NA | NA | \$114.26 | \$64.83 |
| Number of Units: | 2 | 1 | 0 | 0 | 1 | 1 |
| Group Subtotals: | Work: | \$765.14 | Support: | \$0.00 | Maint: | \$179.09 |

Total work team cost/hour: **\$944.23****MATERIAL QUANTITIES**Initial volume: **300**

CCY

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

LCY

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

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

Cycle Time:

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

Job Condition Correction:

Site Altitude: 7500 feet

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

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

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

Haul Time: 0.56 minutesReturn Route:

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

Return Time: 0.30 minutes

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

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

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: 0.30 HoursUnit cost: \$0.935 /LCY Total job cost: \$281

SCRAPER TEAM WORKTask description: **Replace Topsoil to Area Under Conveyor**Site: **New Elk Mine**Permit Action: **Permit Revision 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **668**State: **Colorado**Abbreviation: **None**Date: **11/16/2018**County: **Las Animas**Filename: **C012-668**User: **JHB**Agency or organization name: **DRMS****HOURLY EQUIPMENT**COSTShift basis: **1 per day**

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

Cost Breakdown:

| | Scraper Work Team | | Support Equipment | | Maintenance Equipment | |
|------------------------|-------------------|----------|-------------------|-----------|-----------------------|-------------|
| | Scraper | Dozer | Load Area | Dump Area | Motor Grader | Water Truck |
| %Utilization-machine: | 100 | 100 | NA | NA | 50 | 50 |
| Ownership cost/hour: | \$102.39 | \$110.70 | NA | NA | \$60.13 | \$25.30 |
| Operating cost/hour: | \$125.30 | \$95.46 | NA | NA | \$25.43 | \$18.30 |
| %Utilization-ripper: | NA | 20 | NA | NA | NA | NA |
| Ripper own. cost/hour: | NA | \$12.36 | NA | NA | \$0.00 | \$0.00 |
| Ripper op. cost/hour: | NA | \$1.58 | NA | NA | \$0.00 | \$0.00 |
| Operator cost/hour: | \$31.05 | \$41.52 | NA | NA | \$28.69 | \$21.23 |
| Unit Subtotals: | \$258.73 | \$261.62 | NA | NA | \$114.26 | \$64.83 |
| Number of Units: | 2 | 1 | 0 | 0 | 1 | 1 |
| Group Subtotals: | Work: | \$779.08 | Support: | \$0.00 | Maint: | \$179.09 |

Total work team cost/hour: **\$958.17****MATERIAL QUANTITIES**Initial volume: **1,300**

CCY

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

LCY

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

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

Cycle Time:Scraper Loading Time: 0.40 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 7500 feet

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

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

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

Haul Time: 0.20 minutesReturn Route:

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

Return Time: 0.10 minutesTotal Scraper team cycle time: 1.30 minutesAdjusted for job conditions: 722.10 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 1,444.20 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 1,444.20 LCY/HourUnadjusted unit production/hour: 870.00 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 0.90 HoursUnit cost: \$0.663 /LCYTotal job cost: \$862

SCRAPER TEAM WORKTask description: **Replace Topsoil to Raw Coal Storage Stockpile**Site: **New Elk Mine**Permit Action: **Permit Revision 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **669**State: **Colorado**Abbreviation: **None**Date: **11/16/2018**County: **Las Animas**Filename: **C012-669**User: **JHB**Agency or organization name: **DRMS****HOURLY EQUIPMENT**COSTShift basis: **1 per day**

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

Cost Breakdown:

| | Scraper Work Team | | Support Equipment | | Maintenance Equipment | |
|------------------------|-------------------|----------|-------------------|-----------|-----------------------|-------------|
| | Scraper | Dozer | Load Area | Dump Area | Motor Grader | Water Truck |
| %Utilization-machine: | 100 | 100 | NA | NA | 50 | 50 |
| Ownership cost/hour: | \$102.39 | \$110.70 | NA | NA | \$60.13 | \$25.30 |
| Operating cost/hour: | \$125.30 | \$95.46 | NA | NA | \$25.43 | \$18.30 |
| %Utilization-ripper: | NA | 0 | NA | NA | NA | NA |
| Ripper own. cost/hour: | NA | \$12.36 | NA | NA | \$0.00 | \$0.00 |
| Ripper op. cost/hour: | NA | \$0.00 | NA | NA | \$0.00 | \$0.00 |
| Operator cost/hour: | \$31.05 | \$41.52 | NA | NA | \$28.69 | \$21.23 |
| Unit Subtotals: | \$258.73 | \$260.05 | NA | NA | \$114.26 | \$64.83 |
| Number of Units: | 2 | 1 | 0 | 0 | 1 | 1 |
| Group Subtotals: | Work: | \$777.51 | Support: | \$0.00 | Maint: | \$179.09 |

Total work team cost/hour: **\$956.60****MATERIAL QUANTITIES**Initial volume: **1,060**

CCY

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

LCY

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

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

Cycle Time:Scraper Loading Time: 0.40 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 7500 feet

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

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

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

Haul Time: 0.75 minutesReturn Route:

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

Return Time: 0.67 minutesTotal Scraper team cycle time: 2.42 minutesAdjusted for job conditions: 387.90 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 775.81 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 775.81 LCY/HourUnadjusted unit production/hour: 467.36 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 1.37 HoursUnit cost: \$1.233 /LCYTotal job cost: \$1,307

SCRAPER TEAM WORKTask description: **Replace Topsoil to Small DR Area in Large DNR Area**Site: **New Elk Mine**Permit Action: **Permit Revision 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **670**State: **Colorado**Abbreviation: **None**Date: **11/16/2018**County: **Las Animas**Filename: **C012-670**User: **JHB**Agency or organization name: **DRMS****HOURLY EQUIPMENT**COSTShift basis: **1 per day**

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

Cost Breakdown:

| | Scraper Work Team | | Support Equipment | | Maintenance Equipment | |
|------------------------|-------------------|----------|-------------------|-----------|-----------------------|-------------|
| | Scraper | Dozer | Load Area | Dump Area | Motor Grader | Water Truck |
| %Utilization-machine: | 100 | 100 | NA | NA | 50 | 50 |
| Ownership cost/hour: | \$102.39 | \$110.70 | NA | NA | \$60.13 | \$25.30 |
| Operating cost/hour: | \$125.30 | \$95.46 | NA | NA | \$25.43 | \$18.30 |
| %Utilization-ripper: | NA | 0 | NA | NA | NA | NA |
| Ripper own. cost/hour: | NA | \$12.36 | NA | NA | \$0.00 | \$0.00 |
| Ripper op. cost/hour: | NA | \$0.00 | NA | NA | \$0.00 | \$0.00 |
| Operator cost/hour: | \$31.05 | \$41.52 | NA | NA | \$28.69 | \$21.23 |
| Unit Subtotals: | \$258.73 | \$260.05 | NA | NA | \$114.26 | \$64.83 |
| Number of Units: | 2 | 1 | 0 | 0 | 1 | 1 |
| Group Subtotals: | Work: | \$777.51 | Support: | \$0.00 | Maint: | \$179.09 |

Total work team cost/hour: **\$956.60****MATERIAL QUANTITIES**Initial volume: **70**

CCY

Swell factor: **1.000**Loose volume: **70**

LCY

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

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

Cycle Time:Scraper Loading Time: 0.40 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 7500 feet

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

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

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

Haul Time: 0.90 minutesReturn Route:

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

Return Time: 0.81 minutesTotal Scraper team cycle time: 2.71 minutesAdjusted for job conditions: 346.39 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 692.79 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 692.79 LCY/HourUnadjusted unit production/hour: 417.34 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 0.10 HoursUnit cost: \$1.381 /LCYTotal job cost: \$97

SCRAPER TEAM WORKTask description: **Replace Topsoil to Clean Coal Stockpile**Site: **New Elk Mine**Permit Action: **Permit Renewal 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **672**State: **Colorado**Abbreviation: **None**Date: **11/16/2018**County: **Las Animas**Filename: **C012-672**User: **JHB**Agency or organization name: **DRMS****HOURLY EQUIPMENT**COSTShift basis: **1 per day**

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

Cost Breakdown:

| | Scraper Work Team | | Support Equipment | | Maintenance Equipment | |
|------------------------|-------------------|----------|-------------------|-----------|-----------------------|-------------|
| | Scraper | Dozer | Load Area | Dump Area | Motor Grader | Water Truck |
| %Utilization-machine: | 100 | 100 | NA | NA | 50 | 50 |
| Ownership cost/hour: | \$102.39 | \$110.70 | NA | NA | \$60.13 | \$25.30 |
| Operating cost/hour: | \$125.30 | \$95.46 | NA | NA | \$25.43 | \$18.30 |
| %Utilization-ripper: | NA | 0 | NA | NA | NA | NA |
| Ripper own. cost/hour: | NA | \$12.36 | NA | NA | \$0.00 | \$0.00 |
| Ripper op. cost/hour: | NA | \$0.00 | NA | NA | \$0.00 | \$0.00 |
| Operator cost/hour: | \$31.05 | \$41.52 | NA | NA | \$28.69 | \$21.23 |
| Unit Subtotals: | \$258.73 | \$260.05 | NA | NA | \$114.26 | \$64.83 |
| Number of Units: | 2 | 1 | 0 | 0 | 1 | 1 |
| Group Subtotals: | Work: | \$777.51 | Support: | \$0.00 | Maint: | \$179.09 |

Total work team cost/hour: **\$956.60****MATERIAL QUANTITIES**Initial volume: **600**

CCY

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

LCY

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

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

Cycle Time:Scraper Loading Time: 0.40 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 7500 feet

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

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

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

Haul Time: 1.00 minutesReturn Route:

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

Return Time: 0.91 minutesTotal Scraper team cycle time: 2.91 minutesAdjusted for job conditions: 322.59 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: 388.66 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 0.93 HoursUnit cost: \$1.483 /LCYTotal job cost: \$890

SCRAPER TEAM WORKTask description: **Replace Topsoil to East Extension of River Pumphouse**Site: **New Elk Mine**Permit Action: **Permit Renewal 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **673**State: **Colorado**Abbreviation: **None**Date: **11/16/2018**County: **Las Animas**Filename: **C012-673**User: **JHB**Agency or organization name: **DRMS****HOURLY EQUIPMENT**COSTShift basis: **1 per day**

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

Cost Breakdown:

| | Scraper Work Team | | Support Equipment | | Maintenance Equipment | |
|------------------------|-------------------|----------|-------------------|-----------|-----------------------|-------------|
| | Scraper | Dozer | Load Area | Dump Area | Motor Grader | Water Truck |
| %Utilization-machine: | 100 | 100 | NA | NA | 50 | 50 |
| Ownership cost/hour: | \$102.39 | \$110.70 | NA | NA | \$60.13 | \$25.30 |
| Operating cost/hour: | \$125.30 | \$95.46 | NA | NA | \$25.43 | \$18.30 |
| %Utilization-ripper: | NA | 0 | NA | NA | NA | NA |
| Ripper own. cost/hour: | NA | \$12.36 | NA | NA | \$0.00 | \$0.00 |
| Ripper op. cost/hour: | NA | \$0.00 | NA | NA | \$0.00 | \$0.00 |
| Operator cost/hour: | \$31.05 | \$41.52 | NA | NA | \$28.69 | \$21.23 |
| Unit Subtotals: | \$258.73 | \$260.05 | NA | NA | \$114.26 | \$64.83 |
| Number of Units: | 2 | 1 | 0 | 0 | 1 | 1 |
| Group Subtotals: | Work: | \$777.51 | Support: | \$0.00 | Maint: | \$179.09 |

Total work team cost/hour: **\$956.60****MATERIAL QUANTITIES**Initial volume: **180**

CCY

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

LCY

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

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

Cycle Time:

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

Job Condition Correction:

Site Altitude: 7500 feet

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

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

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

Haul Time: 0.85 minutesReturn Route:

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

Return Time: 0.44 minutes

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

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

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: 0.22 HoursUnit cost: \$1.167 /LCY Total job cost: \$210

SCRAPER TEAM WORKTask description: **Replace Topsoil to Embedded Waste Area**Site: **New Elk Mine**Permit Action: **Permit Renewal 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **674**State: **Colorado**Abbreviation: **None**Date: **11/16/2018**County: **Las Animas**Filename: **C012-674**User: **JHB**Agency or organization name: **DRMS****HOURLY EQUIPMENT**COSTShift basis: **1 per day**

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

Cost Breakdown:

| | Scraper Work Team | | Support Equipment | | Maintenance Equipment | |
|------------------------|-------------------|----------|-------------------|-----------|-----------------------|-------------|
| | Scraper | Dozer | Load Area | Dump Area | Motor Grader | Water Truck |
| %Utilization-machine: | 100 | 100 | NA | NA | 50 | 50 |
| Ownership cost/hour: | \$102.39 | \$110.70 | NA | NA | \$60.13 | \$25.30 |
| Operating cost/hour: | \$125.30 | \$95.46 | NA | NA | \$25.43 | \$18.30 |
| %Utilization-ripper: | NA | 0 | NA | NA | NA | NA |
| Ripper own. cost/hour: | NA | \$12.36 | NA | NA | \$0.00 | \$0.00 |
| Ripper op. cost/hour: | NA | \$0.00 | NA | NA | \$0.00 | \$0.00 |
| Operator cost/hour: | \$31.05 | \$41.52 | NA | NA | \$28.69 | \$21.23 |
| Unit Subtotals: | \$258.73 | \$260.05 | NA | NA | \$114.26 | \$64.83 |
| Number of Units: | 2 | 1 | 0 | 0 | 1 | 1 |
| Group Subtotals: | Work: | \$777.51 | Support: | \$0.00 | Maint: | \$179.09 |

Total work team cost/hour: **\$956.60****MATERIAL QUANTITIES**Initial volume: **1,950**

CCY

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

LCY

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

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

Cycle Time:

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

Job Condition Correction:

Site Altitude: 7500 feet

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

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

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

Haul Time: 0.51 minutesReturn Route:

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

Return Time: 0.43 minutes

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

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

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: 2.01 HoursUnit cost: \$0.988 /LCY Total job cost: \$1,928

SCRAPER TEAM WORKTask description: **Replace Topsoil to RDA**Site: **New Elk Mine**Permit Action: **Permit Renewal 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **676**State: **Colorado**Abbreviation: **None**Date: **11/16/2018**County: **Las Animas**Filename: **C012-676**User: **JHB**Agency or organization name: **DRMS****HOURLY EQUIPMENT**COSTShift basis: **1 per day**

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

Cost Breakdown:

| | Scraper Work Team | | Support Equipment | | Maintenance Equipment | |
|------------------------|-------------------|----------|-------------------|-----------|-----------------------|-------------|
| | Scraper | Dozer | Load Area | Dump Area | Motor Grader | Water Truck |
| %Utilization-machine: | 100 | 100 | NA | NA | 50 | 50 |
| Ownership cost/hour: | \$102.39 | \$110.70 | NA | NA | \$60.13 | \$25.30 |
| Operating cost/hour: | \$125.30 | \$95.46 | NA | NA | \$25.43 | \$18.30 |
| %Utilization-ripper: | NA | 0 | NA | NA | NA | NA |
| Ripper own. cost/hour: | NA | \$12.36 | NA | NA | \$0.00 | \$0.00 |
| Ripper op. cost/hour: | NA | \$0.00 | NA | NA | \$0.00 | \$0.00 |
| Operator cost/hour: | \$31.05 | \$41.52 | NA | NA | \$28.69 | \$21.23 |
| Unit Subtotals: | \$258.73 | \$260.05 | NA | NA | \$114.26 | \$64.83 |
| Number of Units: | 2 | 1 | 0 | 0 | 1 | 1 |
| Group Subtotals: | Work: | \$777.51 | Support: | \$0.00 | Maint: | \$179.09 |

Total work team cost/hour: **\$956.60****MATERIAL QUANTITIES**Initial volume: **27,824**

CCY

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

LCY

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

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

Cycle Time:Scraper Loading Time: 0.40 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 7500 feet

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

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

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

Haul Time: 5.78 minutesReturn Route:

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

Return Time: 1.48 minutesTotal Scraper team cycle time: 8.26 minutesAdjusted for job conditions: 113.65 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 227.30 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 227.30 LCY/HourUnadjusted unit production/hour: 136.92 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 122.41 HoursUnit cost: \$4.209 /LCYTotal job cost: \$117,101

SCRAPER TEAM WORKTask description: **Replace Topsoil to Four Bench Slopes**Site: **New Elk Mine**Permit Action: **Permit Renewal 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **677**State: **Colorado**Abbreviation: **None**Date: **11/16/2018**County: **Las Animas**Filename: **C012-677**User: **JHB**Agency or organization name: **DRMS****HOURLY EQUIPMENT**COSTShift basis: **1 per day**

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

Cost Breakdown:

| | Scraper Work Team | | Support Equipment | | Maintenance Equipment | |
|------------------------|-------------------|----------|-------------------|-----------|-----------------------|-------------|
| | Scraper | Dozer | Load Area | Dump Area | Motor Grader | Water Truck |
| %Utilization-machine: | 100 | 100 | NA | NA | 50 | 50 |
| Ownership cost/hour: | \$102.39 | \$110.70 | NA | NA | \$60.13 | \$25.30 |
| Operating cost/hour: | \$125.30 | \$95.46 | NA | NA | \$25.43 | \$18.30 |
| %Utilization-ripper: | NA | 100 | NA | NA | NA | NA |
| Ripper own. cost/hour: | NA | \$12.36 | NA | NA | \$0.00 | \$0.00 |
| Ripper op. cost/hour: | NA | \$7.88 | NA | NA | \$0.00 | \$0.00 |
| Operator cost/hour: | \$31.05 | \$41.52 | NA | NA | \$28.69 | \$21.23 |
| Unit Subtotals: | \$258.73 | \$267.92 | NA | NA | \$114.26 | \$64.83 |
| Number of Units: | 2 | 1 | 0 | 0 | 1 | 1 |
| Group Subtotals: | Work: | \$785.38 | Support: | \$0.00 | Maint: | \$179.09 |

Total work team cost/hour: **\$964.47****MATERIAL QUANTITIES**Initial volume: **3,580**

CCY

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

LCY

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

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

Cycle Time:Scraper Loading Time: 0.40 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 7500 feet

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

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

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

Haul Time: 5.55 minutesReturn Route:

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

Return Time: 1.68 minutesTotal Scraper team cycle time: 8.23 minutesAdjusted for job conditions: 114.06 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 228.12 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 228.12 LCY/HourUnadjusted unit production/hour: 137.42 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 15.69 HoursUnit cost: \$4.228 /LCYTotal job cost: \$15,136

SCRAPER TEAM WORKTask description: **Replace Topsoil to RDA Pond**Site: **New Elk Mine**Permit Action: **Permit Renewal 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **678**State: **Colorado**Abbreviation: **None**Date: **11/16/2018**County: **Las Animas**Filename: **C012-678**User: **JHB**Agency or organization name: **DRMS****HOURLY EQUIPMENT**COSTShift basis: **1 per day**

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

Cost Breakdown:

| | Scraper Work Team | | Support Equipment | | Maintenance Equipment | |
|------------------------|-------------------|----------|-------------------|-----------|-----------------------|-------------|
| | Scraper | Dozer | Load Area | Dump Area | Motor Grader | Water Truck |
| %Utilization-machine: | 100 | 100 | NA | NA | 50 | 50 |
| Ownership cost/hour: | \$102.39 | \$110.70 | NA | NA | \$60.13 | \$25.30 |
| Operating cost/hour: | \$125.30 | \$95.46 | NA | NA | \$25.43 | \$18.30 |
| %Utilization-ripper: | NA | NA | NA | NA | NA | NA |
| Ripper own. cost/hour: | NA | \$0.00 | NA | NA | \$0.00 | \$0.00 |
| Ripper op. cost/hour: | NA | \$0.00 | NA | NA | \$0.00 | \$0.00 |
| Operator cost/hour: | \$31.05 | \$41.52 | NA | NA | \$28.69 | \$21.23 |
| Unit Subtotals: | \$258.73 | \$247.68 | NA | NA | \$114.26 | \$64.83 |
| Number of Units: | 2 | 1 | 0 | 0 | 1 | 1 |
| Group Subtotals: | Work: | \$765.14 | Support: | \$0.00 | Maint: | \$179.09 |

Total work team cost/hour: **\$944.23****MATERIAL QUANTITIES**Initial volume: **1,975**

CCY

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

LCY

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

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

Cycle Time:

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

Job Condition Correction:

Site Altitude: 7500 feet

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

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

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

Haul Time: 3.01 minutesReturn Route:

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

Return Time: 0.90 minutes

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

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

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: 5.17 HoursUnit cost: \$2.469 /LCY Total job cost: \$4,877

TRUCK/LOADER TEAM WORKTask description: **Replace Topsoil to Transformer and Rock Dust Cut Slope**Site: **New Elk Mine**Permit Action: **Permit Renewal 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **680**State: **Colorado**Abbreviation: **None**Date: **11/19/2018**County: **Las Animas**Filename: **C012-680**User: **JHB**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Shift basis: **1 per day**

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

Cost Breakdown:

| | Truck/Loader Team | | Support Equipment | | Maintenance Equipment | |
|------------------------|-------------------|---------|-------------------|-----------|-----------------------|-------------|
| | Truck | Loader | Load Area | Dump Area | Motor Grader | Water Truck |
| %Utilization-machine: | 100 | 65 | 100 | 100 | 50 | 50 |
| Ownership cost/hour: | \$18.75 | \$26.14 | \$110.70 | \$110.70 | \$60.13 | \$25.30 |
| Operating cost/hour: | \$42.43 | \$20.05 | \$95.46 | \$95.46 | \$25.43 | \$18.30 |
| %Utilization-riper: | NA | 0 | NA | NA | NA | NA |
| Ripper own. cost/hour: | NA | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| Ripper op. cost/hour: | NA | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| Operator cost/hour: | \$0.00 | \$40.90 | \$41.52 | \$41.52 | \$28.69 | \$21.23 |
| Unit Subtotals: | \$61.17 | \$87.09 | \$247.68 | \$247.68 | \$114.26 | \$64.83 |
| Number of Units: | 3 | 1 | 1 | 1 | 1 | 1 |
| Group Subtotals: | Work: \$270.60 | | Support: \$495.36 | | Maint: \$179.09 | |

Total work team cost/hour: **\$945.05****MATERIAL QUANTITIES**Initial volume: **400**

CCY

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

LCY

Source of estimated volume: **Division of Reclamation, Mining & Safety**Source of estimated swell factor: **Operator Estimate**Material Purchase Cost: **\$0.00**Total Cost: **\$0.00****HOURLY PRODUCTION****Truck Capacity:****Truck Payload (weight) Basis:**Material weight: **2,055**

Pounds/LCY

Description: **User Provided**Rated Payload: **35,400**

Pounds

Payload Capacity: **17.23**

LCY

Truck Bed (volume) Basis:

| | | |
|------------------|-------|-----|
| Struck Volume: | 10.00 | LCY |
| Heaped Volume: | 12.00 | LCY |
| Average Volume: | 11.00 | LCY |
| Adjusted Volume: | 12.00 | LCY |

Final Truck Volume Based on Number of Loader Passes: 9.46 LCY

Loading Tool Capacity

Bucket Size Class: NA

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

Job Condition Corrections:

Site Altitude (ft.): 7500 feet

| | Truck | Loader | Source |
|-----------------|-------|--------|----------|
| Altitude Adj: | 1.000 | 1.000 | (CAT HB) |
| Job Efficiency: | 0.830 | 0.830 | (CAT HB) |

Net Correction: **0.830**

Loading Tool Cycle Time:

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

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: **0.530** minutes

Truck Cycle Time:

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

Truck Travel (Haul & Return) Time:
maintained 3.0

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

Haul Route:

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

Haul Time: **1.946** minutes

Return Route:

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

Return Time: **1.064** minutesTotal Truck Cycle Time: **4.940** minutes

Loading Tool unit

| | | | | | |
|-----------------------|---------------|----------|------------------------------|---------------|----------|
| Production | <u>551.07</u> | LCY/Hour | Adjusted for job efficiency: | <u>457.39</u> | LCY/Hour |
| Truck Unit Production | <u>114.90</u> | LCY/Hour | Adjusted for job efficiency: | <u>95.37</u> | LCY/Hour |

| | | | | | |
|------------------------|----------|----------|----------------------------|----------|----------|
| Optimal No. of Trucks: | <u>5</u> | Truck(s) | Selected Number of Trucks: | <u>3</u> | Truck(s) |
|------------------------|----------|----------|----------------------------|----------|----------|

| | | |
|---|----------------------|----------|
| Adjusted hourly truck team production: | <u>286.10</u> | LCY/Hour |
| Adjusted single truck/loader team production: | <u>286.10</u> | LCY/Hour |
| Adjusted multiple truck/loader team production: | <u>286.10</u> | LCY/Hour |

JOB TIME AND COST

| | | | | | |
|-------------|----------|---------|-----------------|--------------------|-------|
| Fleet size: | <u>1</u> | Team(s) | Total job time: | <u>1.40</u> | Hours |
|-------------|----------|---------|-----------------|--------------------|-------|

| | | | | |
|------------|----------------|------|-----------------|-----------------------|
| Unit cost: | <u>\$3.303</u> | /LCY | Total job cost: | <u>\$1,321</u> |
|------------|----------------|------|-----------------|-----------------------|

SCRAPER TEAM WORKTask description: **Replace Topsoil to Bates Portal Face-Up**Site: **New Elk Mine**Permit Action: **Permit Renewal 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **681**State: **Colorado**Abbreviation: **None**Date: **11/16/2018**County: **Las Animas**Filename: **C012-681**User: **JHB**Agency or organization name: **DRMS****HOURLY EQUIPMENT**COSTShift basis: **1 per day**

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

Cost Breakdown:

| | Scraper Work Team | | Support Equipment | | Maintenance Equipment | |
|------------------------|-------------------|----------|-------------------|-----------|-----------------------|-------------|
| | Scraper | Dozer | Load Area | Dump Area | Motor Grader | Water Truck |
| %Utilization-machine: | 100 | 100 | NA | NA | 50 | 50 |
| Ownership cost/hour: | \$102.39 | \$110.70 | NA | NA | \$60.13 | \$25.30 |
| Operating cost/hour: | \$125.30 | \$95.46 | NA | NA | \$25.43 | \$18.30 |
| %Utilization-ripper: | NA | 0 | NA | NA | NA | NA |
| Ripper own. cost/hour: | NA | \$12.36 | NA | NA | \$0.00 | \$0.00 |
| Ripper op. cost/hour: | NA | \$0.00 | NA | NA | \$0.00 | \$0.00 |
| Operator cost/hour: | \$31.05 | \$41.52 | NA | NA | \$28.69 | \$21.23 |
| Unit Subtotals: | \$258.73 | \$260.05 | NA | NA | \$114.26 | \$64.83 |
| Number of Units: | 2 | 1 | 0 | 0 | 1 | 1 |
| Group Subtotals: | Work: | \$777.51 | Support: | \$0.00 | Maint: | \$179.09 |

Total work team cost/hour: **\$956.60****MATERIAL QUANTITIES**Initial volume: **1,150**

CCY

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

LCY

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

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

Cycle Time:Scraper Loading Time: 0.40 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 7500 feet

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

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

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

Haul Time: 3.01 minutesReturn Route:

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

Return Time: 0.90 minutesTotal Scraper team cycle time: 4.91 minutesAdjusted for job conditions: 191.19 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 382.37 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 382.37 LCY/HourUnadjusted unit production/hour: 230.35 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 3.01 HoursUnit cost: \$2.502 /LCYTotal job cost: \$2,877

REVEGETATION WORKTask description: **Reseed Facilities Area with Rangeland Mix**Site: **New Elk Mine**Permit Action: **Permit Renewal 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **685**State: **Colorado**Abbreviation: **None**Date: **11/19/2018**County: **Las Animas**Filename: **C012-685**User: **JHB**Agency or organization name: **DRMS****FERTILIZING****Materials**

| Description | Units / Acre | Unit | Cost / Unit | Cost /Acre |
|--------------------------|-------------------------|-------------|---|-------------------|
| 10-34-0, 18-46-0, 5-10-5 | 30.00 | pound | \$0.34 | \$10.20 |
| | | | Total Fertilizer Materials Cost/Acre | \$10.20 |

Application

| Description | Cost /Acre |
|---|-------------------|
| Tractor towed spreader (MEANS 32 01 90.13 0120) | \$34.72 |
| Total Fertilizer Application Cost/Acre | \$34.72 |

TILLING

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

SEEDING

| Seed Mix | Rate – PLS LBS / Acre | Seeds per SQ. FT | Cost /Acre |
|----------------------------------|--|---------------------------------|-------------------|
| Buffalograss - Bison | 0.50 | 0.48 | \$5.90 |
| Blue Grama - Hachita | 0.67 | 10.94 | \$11.16 |
| Little Bluestem - Cimarron | 1.20 | 7.16 | \$17.62 |
| Sideoats Grama - Butte | 2.50 | 8.21 | \$24.75 |
| Milk Vetch, Cicer - Monarch | 0.33 | 1.10 | \$2.77 |
| Streambank Wheatgrass - Sodar | 1.50 | 4.89 | \$9.35 |
| Sainfoin - Remont | 1.67 | 0.73 | \$5.41 |
| Thickspike Wheatgrass - Critana | 0.50 | 1.77 | \$2.94 |
| Western Wheatgrass - Arriba | 2.00 | 5.05 | \$16.56 |
| Rabbitbrush, Rubber | 0.15 | 2.23 | \$9.88 |
| Rose, Wood's | 0.25 | 0.00 | \$5.25 |
| Daisy or Sunflower, Maximillians | 0.11 | 0.62 | \$6.18 |

| | | | |
|---------------------------|--------------|--------------|-----------------|
| Flax, Lewis Blue | 0.11 | 0.73 | \$1.86 |
| Spike Muhly | 0.33 | 12.12 | \$3.25 |
| Penstemon, Rocky Mountain | 0.11 | 1.72 | \$3.32 |
| Totals Seed Mix | 11.93 | 57.76 | \$126.18 |

Application

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

MULCHING and MISCELLANEOUS**Materials**

| Description | Units / Acre | Unit | Cost / Unit | Cost /Acre |
|---|-------------------------|-------------|--------------------|-------------------|
| Straw, delivered {MEANS 31 25 14.16 1200} | 2.00 | TON | \$288.00 | \$576.00 |
| Total Mulch Materials Cost/Acre | | | | \$576.00 |

Application

| Description | Cost /Acre |
|--|-------------------|
| Crimping, with tractor {DMG survey data} | \$68.78 |
| Power mulcher (MEANS 32 91 13.16 0350) | \$92.78 |
| Total Mulch Application Cost/Acre | \$161.56 |

NURSERY STOCK PLANTING

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

JOB TIME AND COST

| | | | |
|----------------------------------|---------|--------------|------------|
| No. of Acres: | 97.26 | Cost /Acre: | \$1,140.66 |
| Estimated Failure Rate: | 33% | Cost /Acre*: | \$358.18 |
| *Selected Replanting Work Items: | SEEDING | | |

Initial Job Cost: **\$110,940.59**
 Reseeding Job Cost: **\$11,496.07**
 Total Job Cost: **\$122,437**
 Job Hours: **178.00**

REVEGETATION WORKTask description: **Reseed Disturbed Areas with Riparian Habitat**Site: **New Elk Mine**Permit Action: **Permit Renewal 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **686**State: **Colorado**Abbreviation: **None**Date: **11/19/2018**County: **Las Animas**Filename: **C012-686**User: **JHB**Agency or organization name: **DRMS****FERTILIZING****Materials**

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

Application

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

TILLING

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

SEEDING

| Seed Mix | Rate – PLS LBS / Acre | Seeds per SQ. FT | Cost /Acre |
|---------------------------------|--------------------------------|------------------------|------------|
| Buffalograss - Bison | 1.00 | 0.96 | \$11.79 |
| Blue Grama - Hachita | 1.34 | 21.87 | \$22.32 |
| Little Bluestem - Cimarron | 2.40 | 14.33 | \$35.23 |
| Sideoats Grama - Butte | 5.00 | 16.41 | \$49.50 |
| Milk Vetch, Cicer - Monarch | 0.66 | 2.20 | \$5.54 |
| Streambank Wheatgrass - Sodar | 3.00 | 9.78 | \$18.69 |
| Sainfoin - Remont | 3.34 | 1.46 | \$10.82 |
| Thickspike Wheatgrass - Critana | 1.00 | 3.54 | \$5.87 |
| Western Wheatgrass - Arriba | 4.00 | 10.10 | \$33.12 |
| Rabbitbrush, Rubber | 0.30 | 4.47 | \$19.75 |

| | | | |
|----------------------------------|--------------|---------------|-----------------|
| Rose, Wood's | 0.50 | 0.00 | \$10.50 |
| Daisy or Sunflower, Maximillians | 0.22 | 1.25 | \$12.36 |
| Flax, Lewis Blue | 0.22 | 1.46 | \$3.72 |
| Spike Muhly | 0.66 | 24.24 | \$6.51 |
| Penstemon, Rocky Mountain | 0.22 | 3.45 | \$6.65 |
| Totals Seed Mix | 23.86 | 115.51 | \$252.37 |

Application

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

MULCHING and MISCELLANEOUS**Materials**

| Description | Units / Acre | Unit | Cost / Unit | Cost /Acre |
|---|-----------------|------|-------------|-----------------|
| Straw, delivered {MEANS 31 25 14.16 1200} | 2.00 | TON | \$288.00 | \$576.00 |
| Total Mulch Materials Cost/Acre | | | | \$576.00 |

Application

| Description | Cost /Acre |
|--|-----------------|
| Crimping, with tractor {DMG survey data} | \$68.78 |
| Power mulcher (MEANS 32 91 13.16 0350) | \$92.78 |
| Total Mulch Application Cost/Acre | \$161.56 |

NURSERY STOCK PLANTING

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

JOB TIME AND COST

| | | | |
|----------------------------------|---------|--------------|------------|
| No. of Acres: | 10.57 | Cost /Acre: | \$1,257.15 |
| Estimated Failure Rate: | 33% | Cost /Acre*: | \$519.59 |
| *Selected Replanting Work Items: | SEEDING | | |

Initial Job Cost: **\$13,288.08**
 Reseeding Job Cost: **\$1,812.38**
 Total Job Cost: **\$15,100**
 Job Hours: **21.14**

REVEGETATION WORKTask description: **Reseed RDA**Site: **New Elk Mine**Permit Action: **Permit Renewal 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **687**State: **Colorado**Abbreviation: **None**Date: **11/19/2018**County: **Las Animas**Filename: **CO012-687**User: **JHB**Agency or organization name: **DRMS****FERTILIZING****Materials**

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

Application

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

TILLING

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

SEEDING

| Seed Mix | Rate – PLS LBS / Acre | Seeds per SQ. FT | Cost /Acre |
|---------------------------------|--------------------------------|------------------------|------------|
| Buffalograss - Bison | 0.50 | 0.48 | \$5.90 |
| Blue Grama - Hachita | 0.67 | 10.94 | \$11.16 |
| Little Bluestem - Cimarron | 1.20 | 7.16 | \$17.62 |
| Sideoats Grama - Butte | 2.50 | 8.21 | \$24.75 |
| Milk Vetch, Cicer - Monarch | 0.33 | 1.10 | \$2.77 |
| Streambank Wheatgrass - Sodar | 1.50 | 4.89 | \$9.35 |
| Sainfoin - Remont | 1.67 | 0.73 | \$5.41 |
| Thickspike Wheatgrass - Critana | 0.50 | 1.77 | \$2.94 |
| Western Wheatgrass - Arriba | 2.00 | 5.05 | \$16.56 |
| Rabbitbrush, Rubber | 0.15 | 2.23 | \$9.88 |

| | | | |
|----------------------------------|--------------|--------------|-----------------|
| Rose, Wood's | 0.20 | 0.00 | \$4.20 |
| Daisy or Sunflower, Maximillians | 0.11 | 0.62 | \$6.18 |
| Flax, Lewis Blue | 0.11 | 0.73 | \$1.86 |
| Spike Muhly | 0.33 | 12.12 | \$3.25 |
| Penstemon, Rocky Mountain | 0.11 | 1.72 | \$3.32 |
| Totals Seed Mix | 11.88 | 57.76 | \$125.13 |

Application

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

MULCHING and MISCELLANEOUS**Materials**

| Description | Units / Acre | Unit | Cost / Unit | Cost /Acre |
|---|-------------------------|-------------|--------------------|-------------------|
| Straw, delivered {MEANS 31 25 14.16 1200} | 2.00 | TON | \$288.00 | \$576.00 |
| Total Mulch Materials Cost/Acre | | | | \$576.00 |

Application

| Description | Cost /Acre |
|--|-------------------|
| Crimping, with tractor {DMG survey data} | \$68.78 |
| Power mulcher (MEANS 32 91 13.16 0350) | \$92.78 |
| Total Mulch Application Cost/Acre | \$161.56 |

NURSERY STOCK PLANTING

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

JOB TIME AND COST

| | | | |
|----------------------------------|---------|--------------|------------|
| No. of Acres: | 31.75 | Cost /Acre: | \$1,094.69 |
| Estimated Failure Rate: | 33% | Cost /Acre*: | \$357.13 |
| *Selected Replanting Work Items: | SEEDING | | |

Initial Job Cost: **\$34,756.41**
 Reseeding Job Cost: **\$3,741.83**
 Total Job Cost: **\$38,498**
 Job Hours: **95.25**

REVEGETATION WORKTask description: **Reseed DWP with Rangeland Mix**Site: **New Elk Mine**Permit Action: **Permit Renewal 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **688**State: **Colorado**Abbreviation: **None**Date: **11/20/2018**County: **Las Animas**Filename: **C012-688**User: **JHB**Agency or organization name: **DRMS****FERTILIZING****Materials**

| Description | Units / Acre | Unit | Cost / Unit | Cost /Acre |
|--------------------------|-----------------|-------|---|----------------|
| 10-34-0, 18-46-0, 5-10-5 | 30.00 | pound | \$0.34 | \$10.20 |
| | | | Total Fertilizer Materials Cost/Acre | \$10.20 |

Application

| Description | Cost /Acre |
|---|----------------|
| Tractor towed spreader (MEANS 32 01 90.13 0120) | \$34.72 |
| Total Fertilizer Application Cost/Acre | \$34.72 |

TILLING

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

SEEDING

| Seed Mix | Rate – PLS LBS / Acre | Seeds per SQ. FT | Cost /Acre |
|---------------------------------|--------------------------------|------------------------|------------|
| Buffalograss - Bison | 0.50 | 0.48 | \$5.90 |
| Blue Grama - Hachita | 0.67 | 10.94 | \$11.16 |
| Little Bluestem - Cimarron | 1.20 | 7.16 | \$17.62 |
| Sideoats Grama - Butte | 2.50 | 8.21 | \$24.75 |
| Smooth Brome - Manchar | 1.00 | 3.33 | \$4.36 |
| Milk Vetch, Cicer - Monarch | 0.33 | 1.10 | \$2.77 |
| Streambank Wheatgrass - Sodar | 1.50 | 4.89 | \$9.35 |
| Sainfoin - Remont | 1.67 | 0.73 | \$5.41 |
| Thickspike Wheatgrass - Critana | 0.50 | 1.77 | \$2.94 |
| Western Wheatgrass - Arriba | 2.00 | 5.05 | \$16.56 |
| Rabbitbrush, Rubber | 0.15 | 2.23 | \$9.88 |
| Rose, Wood's | 0.25 | 0.00 | \$5.25 |

| | | | |
|----------------------------------|--------------|--------------|-----------------|
| Daisy or Sunflower, Maximillians | 0.11 | 0.62 | \$6.18 |
| Flax, Lewis Blue | 0.11 | 0.73 | \$1.86 |
| Spike Muhly | 0.33 | 12.12 | \$3.25 |
| Penstemon, Rocky Mountain | 0.11 | 1.72 | \$3.32 |
| Totals Seed Mix | 12.93 | 61.08 | \$130.54 |

Application

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

MULCHING and MISCELLANEOUS**Materials**

| Description | Units / Acre | Unit | Cost / Unit | Cost /Acre |
|---|-------------------------|-------------|--------------------|-------------------|
| Straw, delivered {MEANS 31 25 14.16 1200} | 2.00 | TON | \$288.00 | \$576.00 |
| Total Mulch Materials Cost/Acre | | | | \$576.00 |

Application

| Description | Cost /Acre |
|--|-------------------|
| Crimping, with tractor {DMG survey data} | \$68.78 |
| Power mulcher (MEANS 32 91 13.16 0350) | \$92.78 |
| Total Mulch Application Cost/Acre | \$161.56 |

NURSERY STOCK PLANTING

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

JOB TIME AND COST

| | | | |
|----------------------------------|---------|--------------|------------|
| No. of Acres: | 5.62 | Cost /Acre: | \$1,145.02 |
| Estimated Failure Rate: | 33% | Cost /Acre*: | \$362.54 |
| *Selected Replanting Work Items: | SEEDING | | |

Initial Job Cost: **\$6,435.01**
 Reseeding Job Cost: **\$672.37**
 Total Job Cost: **\$7,107**
 Job Hours: **11.24**

REVEGETATION WORKTask description: **Plant 6 Shrub Clumps**Site: **New Elk Mine**Permit Action: **Permit Renewal 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **689**State: **Colorado**Abbreviation: **None**Date: **11/20/2018**County: **Las Animas**Filename: **C012-689**User: **JHB**Agency or organization name: **DRMS****FERTILIZING****Materials**

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

Application

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

TILLING

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

SEEDING

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

Application

| Description | Cost /Acre |
|-------------|------------|
| | \$ |
| | |

| | |
|---|---------------|
| Total Seed Application Cost/Acre | \$0.00 |
|---|---------------|

MULCHING and MISCELLANEOUS**Materials**

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

Application

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

NURSERY STOCK PLANTING

| Common Name | No / Acre | Type and Size | Planting Cost | Fertilizer Pellet Cost | Cost /Acre |
|---|--------------|--|------------------|---------------------------|-------------------|
| Juniper, Utah | 74 | Tubling, 10 cu. in. container {(MEANS)} | \$2.38 | \$2.40 | \$176.12 |
| Pine, Pinyon | 74 | Tubling, 10 cu. in. container {(MEANS)} | \$2.38 | \$2.40 | \$176.12 |
| Pine, Ponderosa | 74 | Tubling, 10 cu. in. container {(MEANS)} | \$1.98 | \$2.40 | \$146.52 |
| Mahogany, Mountain | 74 | Tubling, 10 cu. in. container {(MEANS)} | \$2.00 | \$2.40 | \$148.00 |
| Snowberry, Western | 74 | Tubling, 10 cu. in. container {(MEANS)} | \$2.00 | \$2.40 | \$148.00 |
| Sumac, Skunkbrush | 74 | Tubling, 10 cu. in. container {(MEANS)} | \$4.40 | \$2.40 | \$325.60 |
| Totals Nursery Stock Cost / Acre | | | | | \$1,120.36 |

JOB TIME AND COST

| | | | |
|----------------------------------|-----|--------------|------------|
| No. of Acres: | 1.4 | Cost /Acre: | \$1,120.36 |
| Estimated Failure Rate: | 50% | Cost /Acre*: | \$1,120.36 |
| *Selected Replanting Work Items: | | NURSERY | |

Initial Job Cost: **\$1,568.50**
 Reseeding Job Cost: **\$784.25**
 Total Job Cost: **\$2,353**
 Job Hours: **5.60**

REVEGETATION WORKTask description: Weed Control - Assume 1/4 of Area Three TimesSite: New Elk MinePermit Action: Permit Renewal 07Permit/Job#: C1981012**PROJECT IDENTIFICATION**Task #: 690State: ColoradoAbbreviation: NoneDate: 11/20/2018County: Las AnimasFilename: C012-690User: JHBAgency 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 |
|---|---------------|

MULCHING and MISCELLANEOUS**Materials**

| Description | Units / Acre | Unit | Cost / Unit | Cost /Acre |
|---|-----------------|------|-------------|---------------|
| | 1.00 | | \$0.00 | \$0.00 |
| Herbicide - Glyphosate (Journey)@ 1.0 pt/ac | 1.00 | ACRE | \$4.26 | \$4.26 |
| Total Mulch Materials Cost/Acre | | | | \$4.26 |

Application

| Description | Cost /Acre |
|--|-----------------|
| Weed spray, hand, non-aquatic area, nox. [DMG] | \$184.32 |
| Total Mulch Application Cost/Acre | \$184.32 |

NURSERY STOCK PLANTING

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

JOB TIME AND COST

| | | | |
|----------------------------------|--------|--------------|----------|
| No. of Acres: | 102.71 | Cost /Acre: | \$188.58 |
| Estimated Failure Rate: | 0% | Cost /Acre*: | \$0.00 |
| *Selected Replanting Work Items: | NONE | | |

| | |
|---------------------|--------------------|
| Initial Job Cost: | \$19,369.05 |
| Reseeding Job Cost: | \$0.00 |
| Total Job Cost: | \$19,369 |
| Job Hours: | 102.71 |

DEMOLITION WORKTask description: **Demolish and Remove All Structures**Site: **New Elk Mine**Permit Action: **Permit Renewal 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **695**State: **Colorado**Abbreviation: **None**Date: **11/26/2018**County: **Las Animas**Filename: **C012-695**User: **JHB**Agency or organization name: **DRMS****UNIT COSTS****Location adjustment: 94.00 %**

| Structure or Item Description | Dimensions | Demolition Menu Selection | Quantity | Unit | Unit Cost | Total Cost |
|--------------------------------------|-------------------|--|-----------------|-------------|------------------|-------------------|
| Pump House at North River Stockpile | 25'X20'X10' | Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 5,000.00 | CF | \$0.19 | \$940.00 |
| -Pad | 25'X20'X6' | Demo. and on-site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul | 250.00 | SF | \$0.83 | \$207.25 |
| -Footers | 1'X2'X88 | Demo. and on-site disposal in existing pit, 1.0 ft. x 2 ft. - Max. 10,000 ft. haul | 88.00 | LF | \$3.49 | \$307.12 |
| East Portal Fan | 30'X14'X10' | Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 4,200.00 | CF | \$0.19 | \$789.60 |
| -Pad | 20'X10'X12" | Demo. and on-site disposal in existing pit, 12 in. thick - Max. 10,000 ft. haul | 200.00 | SF | \$1.66 | \$331.80 |
| -Steel Duct Work | 18'X18'X10' | Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 3,240.00 | CF | \$0.19 | \$609.12 |
| -Fan and Related Structures | 10,000lbs | USER PROVIDED ITEM | 10,000.00 | LBS | \$0.25 | \$2,500.00 |
| Oil House | 33'X32'X16' | Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. | 16,896.00 | CF | \$0.19 | \$3,176.45 |

| | | | | | | |
|---------------------------------|----------------|---|------------|-----|----------|-------------|
| | | haul | | | | |
| -Pad | 33'X32'X4" | Demo. and on-site disposal in existing pit, 4 in. thick - Max. 10,000 ft. haul | 1,056.00 | SF | \$0.55 | \$583.97 |
| Hoist House | 54'X42'X24' | Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 54,432.00 | CF | \$0.19 | \$10,233.22 |
| -Pad | 51'X42'X24" | Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced | 159.00 | CY | \$122.50 | \$19,477.50 |
| -Hoist Unit and Controls | 18,000lbs | USER PROVIDED ITEM | 18,000.00 | LBS | \$0.25 | \$4,500.00 |
| Hoist House 2 | 20'X40'X20' | Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 16,000.00 | CF | \$0.19 | \$3,008.00 |
| -Sheave | 30 Tons | USER PROVIDED ITEM | 30.00 | TON | \$24.34 | \$730.20 |
| -Pad | 50'X30'X5.4" | Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced | 300.00 | CY | \$122.50 | \$36,750.00 |
| Industrial Building - Segment 1 | 246'X50'X23' | Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 282,900.00 | CF | \$0.19 | \$53,185.20 |
| Industrial Building - Segment 2 | 246'X49'X38' | Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 458,052.00 | CF | \$0.19 | \$86,113.78 |
| Industrial Building - Segment 3 | 246'X40.5'X21' | Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 209,223.00 | CF | \$0.19 | \$39,333.92 |
| -Pad | 246'X139.5'X6" | Demo. and on-site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul | 34,317.00 | SF | \$0.83 | \$28,448.79 |
| Transfer Building | 42'X22'X31.5' | Bldg. (SN) demo./on-site | 29,106.00 | CF | \$0.19 | \$5,471.93 |

| | | | | | | |
|-------------------------------------|--------------------|--|------------|----|----------|-------------|
| | | disposal in existing pit or cut - Max. 10,000 ft. haul | | | | |
| Breaker Building | 65'X45'X65' | Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 190,125.00 | CF | \$0.19 | \$35,743.50 |
| -Pad | 65'X45'X24" | Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced | 217.00 | CY | \$122.50 | \$26,582.50 |
| Slope Conveyor Drive House Building | 50' x 37.5' x 15'h | Bldg. (MN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 28,125.00 | CF | \$0.21 | \$5,850.00 |
| -Drive and Internal Equipment | 3,706 CF | Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 3,706.00 | CF | \$0.19 | \$696.73 |
| -Foundation | 45'X37'X5' | Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced | 308.00 | CY | \$122.50 | \$37,730.00 |
| -Slope Belt | 1,000'L X 6'w x6'h | Conveyor, demolition, on-site disposal, existing pit, 10,000 ft. haul | 36,000.00 | CF | \$0.21 | \$7,560.00 |
| -Transfer Belt | 1,000'L x 6'wx6'h | Conveyor, demolition, on-site disposal, existing pit, 10,000 ft. haul | 36,000.00 | CF | \$0.21 | \$7,560.00 |
| -Drive Belt | 1000'Lx6'wx6'h | Conveyor, demolition, on-site disposal, existing pit, 10,000 ft. haul | 36,000.00 | CF | \$0.21 | \$7,560.00 |
| -Retaining Wall | 40'X6'X2' | Wall, concrete, demolition only, average reinforcing - 24 in. thick | 240.00 | SF | \$3.74 | \$897.60 |
| Breaker Building Rock Box | 14'X24'X10' | Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 3,360.00 | CF | \$0.19 | \$631.68 |
| -Pad | 20 CY | Pavement, | 20.00 | CY | \$122.50 | \$2,450.00 |

| | | | | | | |
|----------------------------------|---------------------|--|-----------|----|------------|-------------|
| | | concrete, demolition only, 7 in. to 24 in. thick - Reinforced | | | | |
| -Retaining Wall | 3.5'X12"X80 LF | Demo. and on- site disposal in existing pit, 12 in. thick - Max. 10,000 ft. haul | 280.00 | SF | \$3.08 | \$862.40 |
| Sewage Plant Building | 20'X20'X12' | Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 4,800.00 | CF | \$0.19 | \$902.40 |
| -Pad | 40 CY | Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced | 40.00 | CY | \$122.50 | \$4,900.00 |
| -32,000 Gallon Sludge Tank | 32,000 G | Comprehensive storage tank removal, non- leaking - 9,000 to 12,000 gal. tank | 1.00 | EA | \$7,608.95 | \$7,608.95 |
| -Pump Sudge From Tank | 32,000 G | Remove sludge, water, and rem. product from tank - 9,000 to 12,000 gal. | 1.00 | EA | \$377.00 | \$377.00 |
| Water Pipe Vaults (fig.2a) | 16' x 10' x 8' | Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced | 134.80 | CY | \$122.50 | \$16,513.00 |
| -400,000 Gallon Water Tank | 20'X43' Diameter | Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 29,029.00 | CF | \$0.19 | \$5,457.45 |
| -Pad | 2'X44' | Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced | 113.00 | CY | \$122.50 | \$13,842.50 |
| -25,000 Gallon Water Tank | 21'X11' Diameter | Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 1,995.00 | CF | \$0.19 | \$375.06 |
| -Pad | 2'X12' | Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced | 8.00 | CY | \$122.50 | \$980.00 |
| Water Tank | 21.5'X24' | Bldg. (SN) demo./on-site | 8,714.00 | CF | \$0.19 | \$1,638.23 |

| | | | | | | |
|---|--------------------|--|--------------|----|----------|--------------|
| | | disposal in existing pit or cut - Max. 10,000 ft. haul | | | | |
| -Footers | 67.5 LF (5) | Demo. and on-site disposal in existing pit, 1.0 ft. x 2 ft. - Max. 10,000 ft. haul | 338.00 | LF | \$3.49 | \$1,179.62 |
| Emergency Escape Hoist | 20'X20'X20' | Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 8,000.00 | CF | \$0.19 | \$1,504.00 |
| Prep Plant | 78'X65'X82' | Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 415,740.00 | CF | \$0.19 | \$78,159.12 |
| -Pad | 78'X65'X24" | Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced | 376.00 | CY | \$122.50 | \$46,060.00 |
| -Footers | 2'X3' | Demo. and on-site disposal in existing pit, 2.0 ft. x 3 ft. - Max. 10,000 ft. haul | 283.00 | LF | \$10.46 | \$2,960.18 |
| Thickener Tank | 100'DX12' | Demo. and on-site disposal in existing pit, 12 in. thick - Max. 10,000 ft. haul | 3,770.00 | SF | \$1.66 | \$6,254.43 |
| -Pad | 100'DX12" | Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced | 290.80 | CY | \$122.50 | \$35,623.00 |
| Coal Silos (2) | 70'X183'X3' (Each) | Explosive demolition, large projects - Concrete structures | 1,408,600.00 | CF | \$0.28 | \$394,408.00 |
| -Pad (2) | 70'X24" (Each) | Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced | 570.00 | CY | \$122.50 | \$69,825.00 |
| -Footers | 2'X3'X220 LF | Demo. and on-site disposal in existing pit, 2.0 ft. x 3 ft. - Max. 10,000 ft. haul | 440.00 | LF | \$10.46 | \$4,602.40 |
| River Crossing Bridge (metal foot bridge) | 30' x 4'w x 3'h | Bridge Demolition - Steel | 120.00 | SF | \$8.60 | \$1,032.00 |

| | | | | | | |
|------------------------|----------------|---|----------|----|------------|-------------|
| Slope Rail Track | 1,325 LF | Railroad track - Ties and track | 1,325.00 | LF | \$9.19 | \$12,176.75 |
| -Fencing | 500 LF | Fencing, chain link, including posts and fabric - 8 ft. to 10 ft. high | 500.00 | LF | \$3.06 | \$1,530.00 |
| -Retaining Wall | 3.5'X12"X150LF | Demo. and on-site disposal in existing pit, 12 in. thick - Max. 10,000 ft. haul | 525.00 | SF | \$3.08 | \$1,617.00 |
| Rock Dust Bin | 5,000 CF | Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 5,000.00 | CF | \$0.19 | \$940.00 |
| -Pad | 12'X12'X1'th | Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced | 5.33 | CY | \$122.50 | \$652.93 |
| -Compressor Building | 20'X20'X10' | Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 4,000.00 | CF | \$0.19 | \$752.00 |
| -Equipment Removal | 20'X20'X10' | Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 2,000.00 | CF | \$0.19 | \$376.00 |
| -Pad | 20'X20'X2' | Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced | 27.00 | CY | \$122.50 | \$3,307.50 |
| Refuse Substation | 32'X17.5'X6' | Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 3,360.00 | CF | \$0.19 | \$631.68 |
| -Remove Transformer | NA | NON-PCB Transformer Removal | 1.00 | EA | \$2,082.20 | \$2,082.20 |
| Plant Substation | 32'X17.5'X6' | Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 3,360.00 | CF | \$0.19 | \$631.68 |
| -Remove Transformer | NA | NON-PCB Transformer Removal | 1.00 | EA | \$2,082.20 | \$2,082.20 |
| East Portal Substation | 32'X17.5'X6' | Bldg. (SN) demo./on-site | 3,360.00 | CF | \$0.19 | \$631.68 |

| | | | | | | |
|--|---------------|--|-----------|----|------------|------------|
| | | disposal in existing pit or cut - Max. 10,000 ft. haul | | | | |
| -Remove Transformer | NA | NON-PCB Transformer Removal | 1.00 | EA | \$2,082.20 | \$2,082.20 |
| Thickener Substation | 15'DX12' | Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 2,120.00 | CF | \$0.19 | \$398.56 |
| -Pad | 15'DX12" | Demo. and on-site disposal in existing pit, 12 in. thick - Max. 10,000 ft. haul | 176.70 | SF | \$1.66 | \$293.15 |
| -Remove Transformer | NA | NON-PCB Transformer Removal | 1.00 | EA | \$2,082.20 | \$2,082.20 |
| Electric House | 9'X9'X10' | Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 810.00 | CF | \$0.19 | \$152.28 |
| -Concrete Portion | 7'X7'X5' | Bldg. (SC) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 245.00 | CF | \$0.24 | \$59.54 |
| Electric Power Upgrade Equip. Removal | 96 CY | USER PROVIDED ITEM | 96.00 | CY | \$24.34 | \$2,336.64 |
| Bates Portal Access Rd Retaining Walls | 12"X8'X 285LF | Demo. and on-site disposal in existing pit, 12 in. thick - Max. 10,000 ft. haul | 285.00 | SF | \$3.08 | \$877.80 |
| -Footer | 6'X12" | Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push | 285.00 | LF | \$10.75 | \$3,063.75 |
| Bates Portal Ditch 26 Retaining Wall | 50 CY | Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced | 50.00 | CY | \$122.50 | \$6,125.00 |
| Bates Portal Conveyor Drive Bldg. | 24'X42'X30' | Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 30,240.00 | CF | \$0.19 | \$5,685.12 |
| -Pad | 24'X42'X2' | Pavement, concrete, | 74.00 | CY | \$122.50 | \$9,065.00 |

| | | | | | | |
|--|----------------|--|----------|-----|------------|------------|
| | | demolition only, 7 in. to 24 in. thick - Reinforced | | | | |
| Bates Portal Conveyor Transfer Bldg. | 18'X18'X30' | Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 9,720.00 | CF | \$0.19 | \$1,827.36 |
| -Pad | 18'X18'X2' | Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced | 24.00 | CY | \$122.50 | \$2,940.00 |
| Bates Portal Vent Fan | 20'X20'X14' | Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 1,520.00 | CF | \$0.19 | \$285.76 |
| -Concrete Portion | 20'X10'X6" | Demo. and on- site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul | 200.00 | SF | \$0.83 | \$165.80 |
| -Fan Removal | 5,000 lbs | USER PROVIDED ITEM | 5,000.00 | LBS | \$0.25 | \$1,250.00 |
| -Fan Motor | 5,000 lbs | USER PROVIDED ITEM | 5,000.00 | LBS | \$0.25 | \$1,250.00 |
| West Portal Fan | 20'X20'X14' | Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 1,520.00 | CF | \$0.19 | \$285.76 |
| -Concrete Portion | 22.4'X22.4'X6" | Demo. and on- site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul | 501.00 | SF | \$0.83 | \$415.33 |
| -Fan Removal | 3,500 lbs | USER PROVIDED ITEM | 3,500.00 | LBS | \$0.25 | \$875.00 |
| -Fan Motor | 4,000 lbs | USER PROVIDED ITEM | 4,000.00 | LBS | \$0.25 | \$1,000.00 |
| West Portal Fan Transformer | 8,000 lbs | NON-PCB Transformer Removal | 1.00 | EA | \$2,082.20 | \$2,082.20 |
| - Pad | 15'X12'X1' | Demo. and on- site disposal in existing pit, 12 in. thick - Max. 10,000 ft. haul | 180.00 | SF | \$1.66 | \$298.62 |
| Acid Tank | 10'DX12' | Comprehensive storage tank removal, non- | 1.00 | EA | \$5,286.80 | \$5,286.80 |

| | | | | | | |
|--------------------------------------|---------------|---|----------|----|------------|-------------|
| | | leaking - 6,000 to 8,000 gal. tank | | | | |
| Fuel Containment Sumps (2) | 17'X10'X3'X8" | Demo. and on-site disposal in existing pit, 8 in. thick - Max. 10,000 ft. haul | 1,004.00 | SF | \$1.11 | \$1,110.42 |
| -Petroleum Contaminated Soil Removal | 10 cy | Dispose of contaminated soil at approved landfill - Minimum | 10.00 | CY | \$160.00 | \$1,600.00 |
| Antifreeze Tank Sump | 39'X11'X4'X8" | Demo. and on-site disposal in existing pit, 8 in. thick - Max. 10,000 ft. haul | 829.00 | SF | \$1.11 | \$916.87 |
| Stacking Tube - Raw Coal | 9'DX59' | Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 3,753.00 | CF | \$0.19 | \$705.56 |
| Water Pumphouse Tank | 20'DX15'X8" | Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 950.00 | CF | \$0.19 | \$178.60 |
| Scale House | 6'X4'X8' | Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 192.00 | CF | \$0.19 | \$36.10 |
| -Scale | 12'X30'X4' | Demo. and on-site disposal in existing pit, 12 in. thick - Max. 10,000 ft. haul | 360.00 | SF | \$1.66 | \$597.24 |
| Powerline Removal | 19580 LF | Utility Poles, Wood 20' to 0' high (each pole) | 50.00 | EA | \$214.50 | \$10,725.00 |
| Sewage Treatment Tank - Buried | 8.5'X5.5'X96' | Comprehensive storage tank removal, non-leaking - 9,000 to 12,000 gal. tank | 1.00 | EA | \$7,608.95 | \$7,608.95 |
| Slope Belt Conveyor | 75 LF X 8' | Conveyor, Horizontal Belt 24" Belt, 61.5' Length | 1.22 | EA | \$2,825.00 | \$3,446.50 |
| Transfer Belt Conveyor | 8'X85 LF | Conveyor, Horizontal Belt 24" Belt, 61.5' Length | 1.38 | EA | \$2,825.00 | \$3,898.50 |
| Tube Belt Conveyor | 8'X582 LF | Conveyor, Horizontal Belt 24" Belt, 61.5' | 9.50 | EA | \$2,825.00 | \$26,837.50 |

| | | Length | | | | |
|--------------------------------------|---------------|--|--------|----|------------|-------------|
| Raw Coal to Transfer Bldg | 6'X374 LF | Conveyor, Horizontal Belt 24" Belt, 61.5' Length | 6.00 | EA | \$2,825.00 | \$16,950.00 |
| Raw Coal Reclaim to Prep Plant | 6'X296 LF | Conveyor, Horizontal Belt 24" Belt, 61.5' Length | 4.80 | EA | \$2,825.00 | \$13,560.00 |
| Clean Coal Reclaim to Transfer Bldg. | 6'X497 LF | Conveyor, Horizontal Belt 24" Belt, 61.5' Length | 8.00 | EA | \$2,825.00 | \$22,600.00 |
| Clean Coal from Prep Plant | 6'X230 LF | Conveyor, Horizontal Belt 24" Belt, 61.5' Length | 3.74 | EA | \$2,825.00 | \$10,565.50 |
| Refuse Belt-Overland | 6'X1,050 LF | Conveyor, Horizontal Belt 24" Belt, 61.5' Length | 17.00 | EA | \$2,825.00 | \$48,025.00 |
| Refuse Belt - Elevated | 6'X406 LF | Conveyor, Horizontal Belt 24" Belt, 61.5' Length | 6.60 | EA | \$2,825.00 | \$18,645.00 |
| Truck Dump | 6'X170 LF | Conveyor, Horizontal Belt 24" Belt, 61.5' Length | 1.10 | EA | \$2,825.00 | \$3,107.50 |
| Silo Loadout | 8'X200 LF | Conveyor, Horizontal Belt 24" Belt, 61.5' Length | 3.25 | EA | \$2,825.00 | \$9,181.25 |
| Transfer to Loadout | 8'X114 LF | Conveyor, Horizontal Belt 24" Belt, 61.5' Length | 1.85 | EA | \$2,825.00 | \$5,226.25 |
| Raw Coal Reclaim Tunnel | 12'D CMP*253' | Pipe, corrugated metal (CMP) - 144 in. diameter pipe | 253.00 | LF | \$49.49 | \$12,519.71 |
| Clean Coal Reclaim Tunnel | 12'D CMP*275' | Pipe, corrugated metal (CMP) - 144 in. diameter pipe | 275.00 | LF | \$49.49 | \$13,608.38 |
| Culvert #1 | 21" | Pipe, corrugated metal (CMP) - 21 in. diameter pipe | 25.00 | LF | \$4.35 | \$108.65 |
| Culvert #5 | 12" | Pipe, corrugated metal (CMP) - 12 in. diameter pipe | 38.00 | LF | \$2.81 | \$106.78 |
| Culvert #6 | 60" | Pipe, corrugated metal (CMP) - 60 in. diameter pipe | 17.00 | LF | \$14.31 | \$243.27 |
| Culvert #7 | 12" | Pipe, corrugated metal (CMP) - 12 in. diameter pipe | 75.00 | LF | \$2.81 | \$210.75 |
| Culvert #11 | 12" | Pipe, corrugated metal (CMP) - 12 | 75.00 | LF | \$2.81 | \$210.75 |

| | | | | | | |
|-------------|-----|---|--------|----|---------|------------|
| | | in. diameter pipe | | | | |
| Culvert #12 | 21" | Pipe, corrugated metal (CMP) - 21 in. diameter pipe | 775.00 | LF | \$4.35 | \$3,368.15 |
| Culvert #13 | 21" | Pipe, corrugated metal (CMP) - 21 in. diameter pipe | 50.00 | LF | \$4.35 | \$217.30 |
| Culvert #17 | 36" | Pipe, corrugated metal (CMP) - 36 in. diameter pipe | 69.00 | LF | \$7.53 | \$519.71 |
| Culvert #19 | 33" | Pipe, corrugated metal (CMP) - 30 in. diameter pipe | 38.00 | LF | \$6.29 | \$239.06 |
| Culvert #21 | 36" | Pipe, corrugated metal (CMP) - 36 in. diameter pipe | 50.00 | LF | \$7.53 | \$376.60 |
| Culvert #22 | 12" | Pipe, corrugated metal (CMP) - 12 in. diameter pipe | 19.00 | LF | \$2.81 | \$53.39 |
| Culvert #24 | 60" | Pipe, corrugated metal (CMP) - 60 in. diameter pipe | 160.00 | LF | \$14.31 | \$2,289.60 |
| Culvert #25 | 60" | Pipe, corrugated metal (CMP) - 60 in. diameter pipe | 140.00 | LF | \$14.31 | \$2,003.40 |
| Culvert #26 | 42" | Pipe, corrugated metal (CMP) - 36 in. diameter pipe | 13.00 | LF | \$7.53 | \$97.92 |
| Culvert #28 | 12" | Pipe, corrugated metal (CMP) - 12 in. diameter pipe | 31.00 | LF | \$2.81 | \$87.11 |
| Culvert #29 | 12" | Pipe, corrugated metal (CMP) - 12 in. diameter pipe | 38.00 | LF | \$2.81 | \$106.78 |
| Culvert #31 | 18" | Pipe, corrugated metal (CMP) - 18 in. diameter pipe | 50.00 | LF | \$3.78 | \$189.05 |
| Culvert #32 | 33" | Pipe, corrugated metal (CMP) - 30 in. diameter pipe | 44.00 | LF | \$6.29 | \$276.80 |
| Culvert #33 | 12" | Pipe, corrugated metal (CMP) - 12 in. diameter pipe | 125.00 | LF | \$2.81 | \$351.25 |
| Culvert #34 | 15" | Pipe, corrugated metal (CMP) - 15 in. diameter pipe | 31.00 | LF | \$3.28 | \$101.74 |
| Culvert #35 | 6" | Pipe, corrugated metal (CMP) - 8 in. diameter pipe | 19.00 | LF | \$2.14 | \$40.60 |
| Culvert #36 | 12" | Pipe, corrugated metal (CMP) - 12 in. diameter pipe | 31.00 | LF | \$2.81 | \$87.11 |
| Culvert #37 | 36" | Pipe, corrugated metal (CMP) - 36 in. diameter pipe | 50.00 | LF | \$7.53 | \$376.60 |
| Culvert #41 | 48" | Pipe, corrugated metal (CMP) - 48 in. diameter pipe | 19.00 | LF | \$10.75 | \$204.33 |
| Culvert #46 | 12" | Pipe, corrugated | 19.00 | LF | \$2.81 | \$53.39 |

| | | | | | | |
|--|-----------|---|--------|----|------------|-------------|
| | | metal (CMP) - 12 in. diameter pipe | | | | |
| Culvert #47 | 15" | Pipe, corrugated metal (CMP) - 15 in. diameter pipe | 13.00 | LF | \$3.28 | \$42.67 |
| Culvert #48 | 42" | Pipe, corrugated metal (CMP) - 36 in. diameter pipe | 313.00 | LF | \$7.53 | \$2,357.52 |
| Culvert #50 | 18" | Pipe, corrugated metal (CMP) - 18 in. diameter pipe | 25.00 | LF | \$3.78 | \$94.53 |
| Culvert #52 | 36" | Pipe, corrugated metal (CMP) - 36 in. diameter pipe | 50.00 | LF | \$7.53 | \$376.60 |
| Culvert #53 | 24" | Pipe, corrugated metal (CMP) - 24 in. diameter pipe | 60.00 | LF | \$4.88 | \$292.74 |
| Culvert #54 | 36" | Pipe, corrugated metal (CMP) - 36 in. diameter pipe | 50.00 | LF | \$7.53 | \$376.60 |
| Culvert #55 | 8" | Pipe, corrugated metal (CMP) - 8 in. diameter pipe | 25.00 | LF | \$2.14 | \$53.43 |
| Culvert #59 | 18" | Pipe, corrugated metal (CMP) - 18 in. diameter pipe | 28.00 | LF | \$3.78 | \$105.87 |
| Culvert #60 | 24" | Pipe, corrugated metal (CMP) - 24 in. diameter pipe | 31.00 | LF | \$4.88 | \$151.25 |
| Culvert #61 | 8" | Pipe, corrugated metal (CMP) - 8 in. diameter pipe | 25.00 | LF | \$2.14 | \$53.43 |
| Culvert #62 | 12" | Pipe, corrugated metal (CMP) - 12 in. diameter pipe | 13.00 | LF | \$2.81 | \$36.53 |
| Culvert #64 | 24" | Pipe, corrugated metal (CMP) - 24 in. diameter pipe | 50.00 | LF | \$4.88 | \$243.95 |
| Culvert #65 | 12" | Pipe, corrugated metal (CMP) - 12 in. diameter pipe | 19.00 | LF | \$2.81 | \$53.39 |
| Culvert #66 | 18" | Pipe, corrugated metal (CMP) - 18 in. diameter pipe | 18.00 | LF | \$3.78 | \$68.06 |
| Culvert #67 | 18" | Pipe, corrugated metal (CMP) - 18 in. diameter pipe | 22.00 | LF | \$3.78 | \$83.18 |
| Culvert #68 | 18" | Pipe, corrugated metal (CMP) - 18 in. diameter pipe | 48.00 | LF | \$3.78 | \$181.49 |
| Culvert #69 | 18" | Pipe, corrugated metal (CMP) - 18 in. diameter pipe | 80.00 | LF | \$3.78 | \$302.48 |
| Bates Portal Conveyor to Breaker Bldg. | 8'X970 LF | Conveyor, Horizontal Belt 24" Belt, 61.5' Length | 15.80 | EA | \$2,825.00 | \$44,635.00 |
| Jansen Loadout Truck Scale | 15'X40' | Demo. and on-site disposal in | 600.00 | SF | \$1.66 | \$995.40 |

| | | | | | | |
|--|-----------------|--|-----------|----|------------|--------------|
| | | existing pit, 12 in. thick - Max. 10,000 ft. haul | | | | |
| Jansen Coal Conveyor | 2,740 LF | Conveyor, Horizontal Belt 24" Belt, 61.5' Length | 44.50 | EA | \$2,825.00 | \$125,712.50 |
| -Footers | 45cy | Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced | 45.00 | CY | \$122.50 | \$5,512.50 |
| -Transfer Points | 10'X10'X10' (3) | Bldg. (MN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 3,000.00 | CF | \$0.21 | \$624.00 |
| -Footers | 3'X2' | Demo. and on-site disposal in existing pit, 2.0 ft. x 3 ft. - Max. 10,000 ft. haul | 120.00 | LF | \$10.46 | \$1,255.20 |
| Jansen Loadout Bin | 38'X35'X40' | Bldg. (MN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 53,200.00 | CF | \$0.21 | \$11,065.60 |
| Jansen Feed Hopper | 20'X15'X16' | Bldg. (MN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 4,920.00 | CF | \$0.21 | \$1,023.36 |
| Two Radial stackers @ RDA (p. 2.05-27) | 2(150' l) | Conveyor, Horizontal Belt 24" Belt, 61.5' Length | 4.90 | EA | \$2,825.00 | \$13,842.50 |
| RDA portable belt (p. 2.05-27) | 500'Lx6'x8' | Conveyor, demolition, off-site disposal in approved landfill, 30 mile haul | 24,000.00 | CF | \$0.66 | \$15,840.00 |
| remove piping @ slurry wells | 50 ft. | Pipe, steel, welded connections - 10 in. diameter pipe | 50.00 | LF | \$6.33 | \$316.50 |
| remove HPDE slurry line (MR 104) | 9000 ft. l | Pipe, steel, welded connections - 10 in. diameter pipe | 9,000.00 | LF | \$6.33 | \$56,970.00 |
| Culvert #C75 | 42" | Pipe, corrugated metal (CMP) - 36 in. diameter pipe | 60.00 | LF | \$7.53 | \$451.92 |
| Culvert #C76 | 42" | Pipe, corrugated metal (CMP) - 36 in. diameter pipe | 40.00 | LF | \$7.53 | \$301.28 |
| Culvert #C14A | 36" | Pipe, corrugated | 70.00 | LF | \$7.53 | \$527.24 |

| | | | | | | |
|-----------------------|----------------------|---|-----------|----|------------|-------------|
| | | metal (CMP) - 36 in. diameter pipe | | | | |
| Culvert #C70 | 18" | Pipe, corrugated metal (CMP) - 18 in. diameter pipe | 68.00 | LF | \$3.78 | \$257.11 |
| Culvert #C71 | 18" | Pipe, corrugated metal (CMP) - 18 in. diameter pipe | 54.00 | LF | \$3.78 | \$204.17 |
| Culvert #C72 | 24" | Pipe, corrugated metal (CMP) - 24 in. diameter pipe | 120.00 | LF | \$4.88 | \$585.48 |
| Culvert #C73 | 24" | Pipe, corrugated metal (CMP) - 24 in. diameter pipe | 190.00 | LF | \$4.88 | \$927.01 |
| Culvert #C74 | 24" | Pipe, corrugated metal (CMP) - 24 in. diameter pipe | 40.00 | LF | \$4.88 | \$195.16 |
| Culvert #C16A | 24" | Pipe, corrugated metal (CMP) - 24 in. diameter pipe | 45.00 | LF | \$4.88 | \$219.56 |
| Culvert #C16B | 24" | Pipe, corrugated metal (CMP) - 24 in. diameter pipe | 220.00 | LF | \$4.88 | \$1,073.38 |
| Culvert #C12A | 36" | Pipe, corrugated metal (CMP) - 36 in. diameter pipe | 160.00 | LF | \$7.53 | \$1,205.12 |
| Culvert #C17A | 36" | Pipe, corrugated metal (CMP) - 36 in. diameter pipe | 20.00 | LF | \$7.53 | \$150.64 |
| Culvert #C17B | 36" | Pipe, corrugated metal (CMP) - 36 in. diameter pipe | 75.00 | LF | \$7.53 | \$564.90 |
| Culvert #C28 | 24" | Pipe, corrugated metal (CMP) - 24 in. diameter pipe | 46.00 | LF | \$4.88 | \$224.43 |
| Culvert #C28A | 24" | Pipe, corrugated metal (CMP) - 24 in. diameter pipe | 60.00 | LF | \$4.88 | \$292.74 |
| Culvert #C29 | 24" | Pipe, corrugated metal (CMP) - 24 in. diameter pipe | 34.00 | LF | \$4.88 | \$165.89 |
| Bathhouse (TR61) | 62'l x 21'w x 12'h | Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 15,624.00 | CF | \$0.19 | \$2,937.31 |
| -bathhouse pad (TR61) | 62'l x 21'w x 0.5'th | Demo. and on-site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul | 1,302.00 | SF | \$0.83 | \$1,079.36 |
| Belt feeder (MR101) | 35' x 12' x 6' | Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 2,520.00 | CF | \$0.19 | \$473.76 |
| 36" Belt | 36" x 500 lf | Conveyor, | 8.10 | EA | \$2,825.00 | \$22,882.50 |

| | | | | | | |
|---|--------------------------|---|-----------|----|------------|-------------|
| (MR101) | | Horizontal Belt 24" Belt, 61.5' Length | | | | |
| Elevating belt (MR101) | 36" x 100 lf | Conveyor, Horizontal Belt 24" Belt, 61.5' Length | 1.62 | EA | \$2,825.00 | \$4,576.50 |
| Office shop (MR105) | 100'l x 50'w x 18'h | Bldg. (MN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 90,000.00 | CF | \$0.21 | \$18,720.00 |
| -Office shop floor (MR105) | 100'l x 50'w x 0.5'th | Demo. and on- site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul | 5,000.00 | SF | \$0.83 | \$4,145.00 |
| Pump house (MR105) | 12'x 12'x 10'h | Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 1,440.00 | CF | \$0.19 | \$270.72 |
| -pump house floor | 12'x12'x 0.5'th | Demo. and on- site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul | 144.00 | SF | \$0.83 | \$119.38 |
| Radial stacker pads (MR97) | 3'x 3'x 1' | Demo. and on- site disposal in existing pit, 12 in. thick - Max. 200 ft. push | 9.00 | SF | \$1.63 | \$14.63 |
| 200 foot conveyor extension (MR97) | 200 lf | Conveyor, Horizontal Belt 24" Belt, 61.5' Length | 3.25 | EA | \$2,825.00 | \$9,181.25 |
| Conveyor tube (MR97) | 80'l x 10' dia | Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 6,282.00 | CF | \$0.19 | \$1,181.02 |
| Disposal of Powerline crossarms, cable, et.al. | 19580 LF | Disposal of utility pole cross arms and hardware surplus material | 19,580.00 | LF | \$0.01 | \$195.80 |
| Fan and Duct (MR113) | (50'x12'x12')2 | Bldg. (MN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 14,400.00 | CF | \$0.21 | \$2,995.20 |
| 8 Footers (MR113) | 14'x 2'x6' | Demo. and on- site disposal in existing pit, 2.0 ft. x 3 ft. - Max. 10,000 ft. haul | 112.00 | LF | \$10.46 | \$1,171.52 |

| | | | | | | |
|--------------------------------------|-----------------------|--|----------|----|------------|------------|
| 42" temp belt conveyor (MR113) | 115'x3.5'x6' | Conveyor, Horizontal Belt 24" Belt, 61.5' Length | 1.87 | EA | \$2,825.00 | \$5,282.75 |
| 42" Silo #1 conveyor (MR113) | 165'x3.5'x3' | Conveyor, Horizontal Belt 24" Belt, 61.5' Length | 2.68 | EA | \$2,825.00 | \$7,571.00 |
| 42" Silo #2 conveyor (MR113) | 56'x3.5'x3' | Conveyor, Horizontal Belt 24" Belt, 61.5' Length | 0.91 | EA | \$2,825.00 | \$2,570.75 |
| Retaining Wall North Elev. (MR113) | 12"th. x 790'L | Demo. and on-site disposal in existing pit, 12 in. thick - Max. 10,000 ft. haul | 790.00 | SF | \$3.08 | \$2,433.20 |
| Retaining Wall East Elev. (MR113) | 12"thx 360'L | Demo. and on-site disposal in existing pit, 12 in. thick - Max. 10,000 ft. haul | 360.00 | SF | \$3.08 | \$1,108.80 |
| footer (MR113) | 12"x? | Demo. and on-site disposal in existing pit, 2.0 ft. x 3 ft. - Max. 10,000 ft. haul | 110.00 | LF | \$10.46 | \$1,150.60 |
| Truck Loadout (MR113) | 9'x18'x22' | Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 3,564.00 | CF | \$0.19 | \$670.03 |
| 4 footers (MR113) | 2'x4'x4' | Demo. and on-site disposal in existing pit, 2.0 ft. x 3 ft. - Max. 10,000 ft. haul | 16.00 | LF | \$10.46 | \$167.36 |
| Silo Belt Transfer structure (MR113) | 25'x 15'x 22' (MR113) | Bldg. (MN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 8,250.00 | CF | \$0.21 | \$1,716.00 |
| 4 footers (MR113) | 2'x 4' x4' (MR113) | Demo. and on-site disposal in existing pit, 2.0 ft. x 3 ft. - Max. 10,000 ft. haul | 16.00 | LF | \$10.46 | \$167.36 |
| 35 Ton Coal Blending Bins (MR113) | 30'x 12'x 22' | Bldg. (MN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 7,920.00 | CF | \$0.21 | \$1,647.36 |
| 6 Footers (MR113) | 2'x 4'x 4' | Demo. and on-site disposal in existing pit, 2.0 ft. x 3 ft. - Max. | 24.00 | LF | \$10.46 | \$251.04 |

| | | | | | | |
|-------------|------------|---|-------|----|--------|----------|
| | | 10,000 ft. haul | | | | |
| Culvert C23 | 30" X 50'L | Pipe, corrugated metal (CMP) - 30 in. diameter pipe | 50.00 | LF | \$6.29 | \$314.55 |
| Culvert C82 | 30" X 25'L | Pipe, corrugated metal (CMP) - 30 in. diameter pipe | 25.00 | LF | \$6.29 | \$157.28 |
| Culvert C83 | 18" x 20'L | Pipe, corrugated metal (CMP) - 18 in. diameter pipe | 20.00 | LF | \$3.78 | \$75.62 |
| Culvert C84 | 18" X20'L | Pipe, corrugated metal (CMP) - 18 in. diameter pipe | 20.00 | LF | \$3.78 | \$75.62 |
| Culvert C85 | 36" X 65'L | Pipe, corrugated metal (CMP) - 36 in. diameter pipe | 65.00 | LF | \$7.53 | \$489.58 |

| | | |
|-----------------------------------|-----------------------|--------------------------|
| | Subtotal | Total Cost |
| | (unadjusted): | (adjusted for location): |
| Job Hours: <u>1,009.00</u> | <u>\$1,831,995.17</u> | <u>\$1,722,075.46</u> |

SAFEGUARDING UNDERGROUND OPENINGSTask description: **Seal Portals and Vent Shafts**Site: **New Elk Mine**Permit Action: **Permit Renewal 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **700**State: **Colorado**Abbreviation: **None**Date: **11/20/2018**County: **Las Animas**Filename: **C012-700**User: **JHB**Agency or organization name: **DRMS****UNIT COSTS**

| Opening Description | Dimensions | Closure Method | Quantity | Unit | Unit Cost | Total Cost |
|---------------------------------------|-------------------|---|-----------------|-------------|------------------|-------------------|
| Seal East Portal | 12'X10' | Adit closure - bulkhead seal, >= 36 sq. ft. (per sq. ft.) | 120.00 | SF | \$136.51 | \$16,381.20 |
| Backfill East Portal | 12'X10'X50' | Adit closure - backfilling (per cu. yd.) | 222.00 | CY | \$10.75 | \$2,386.50 |
| Drain Pipe | 100 LF | PVC drain pipe, 6 in. diameter (per ln. ft. incl. mat. & labor) | 100.00 | LF | \$10.90 | \$1,090.00 |
| Seal West Portals (2) | 15'X10' | Adit closure - bulkhead seal, >= 36 sq. ft. (per sq. ft.) | 300.00 | SF | \$136.51 | \$40,953.00 |
| Backfill West Portals (2) | 600 CY | Adit closure - backfilling (per cu. yd.) | 600.00 | CY | \$10.75 | \$6,450.00 |
| Drain Pipes | 100 LF (2) | PVC drain pipe, 6 in. diameter (per ln. ft. incl. mat. & labor) | 200.00 | LF | \$10.90 | \$2,180.00 |
| Seal Bates Portals (3) | 14'X18' | Adit closure - bulkhead seal, >= 36 sq. ft. (per sq. ft.) | 756.00 | SF | \$136.51 | \$103,201.56 |
| Backfill Bates Portals (3) | 14'X18'X50' | Adit closure - backfilling (per cu. yd.) | 466.00 | CY | \$10.75 | \$5,009.50 |
| Drain Pipes (3) | 100 LF (3) | PVC drain pipe, 6 in. diameter (per ln. ft. incl. mat. & labor) | 300.00 | LF | \$10.90 | \$3,270.00 |
| East Portal Fan Shaft Concrete Cap | 16' D | Shaft closure - concrete cap, poured-in-place (per Cubic Feet) | 200.00 | CF | \$3.89 | \$778.00 |
| Apache Canyon East Shaft Concrete Cap | 16" D | Shaft closure - concrete cap, poured-in-place (per Cubic Feet) | 200.00 | CF | \$3.89 | \$778.00 |
| Apache Canyon West Shaft Concrete Cap | 16" D | Shaft closure - concrete cap, poured-in-place (per Cubic Feet) | 200.00 | CF | \$3.89 | \$778.00 |

Job Hours: 270.00**Total Cost: \$183,255.76**

BULLDOZER WORKTask description: **Backfill East Portal Face**Site: **New Elk Mine**Permit Action: **Permit Renewal 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **701**State: **Colorado**Abbreviation: **None**Date: **11/15/2018**County: **Las Animas**Filename: **C012-701**User: **JHB**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D9T - 9SU**Horsepower: **405**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

| | | <u>Utilization %</u> |
|---------------------------|----------|----------------------|
| Ownership Cost/Hour: | \$110.70 | NA |
| Operating Cost/Hour: | \$95.46 | 100 |
| Ripper own. Cost/Hour: | \$12.36 | NA |
| Ripper op. Cost/Hour: | \$7.88 | 100 |
| Operator Cost/Hour: | \$41.52 | NA |

Total unit Cost/Hour: **\$267.92**Total Fleet Cost/Hour: **\$535.85****MATERIAL QUANTITIES**Initial Volume: **1,400**Swell factor: **1.125**Loose volume: **1,575 LCY**Source of estimated volume: **Division of Reclamation, Mining & Safety**Source of estimated swell
factor: **Operator Estimate****HOURLY PRODUCTION**Average push distance: **100 feet**Unadjusted hourly
production: **1,243.2 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **10 %**Average site altitude: **7,500 feet**Material weight: **2,132 lbs/LCY**Weight description: **User Provided****Job Condition Correction Factor****Source**

| | | |
|-----------------------|-------|---------------|
| Operator Skill: | 0.900 | (AB.AVG.) |
| Material consistency: | 0.900 | (CAT HB)) |
| Dozing method: | 1.000 | (GEN.) |
| Visibility: | 1.000 | (AVG.) |
| Job efficiency: | 0.830 | (1 SHIFT/DAY) |
| Spoil pile: | 0.800 | (FND-RF) |
| Push gradient: | 0.786 | (CAT HB) |
| Altitude: | 1.000 | (CAT HB) |
| Material Weight: | 1.079 | (CAT HB) |
| Blade type: | 1.000 | (PAT) |

Net correction: 0.4561

Adjusted unit production: 567.02 LCY/hr

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

JOB TIME AND COST

Fleet size: 2 Dozer(s)

Unit cost: \$0.473/LCY

Total job time: **1.39** Hours

Total job cost: **\$744**

BULLDOZER WORKTask description: **Backfill West Portal Face**Site: **New Elk Mine**Permit Action: **Permit Renewal 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **702**State: **Colorado**Abbreviation: **None**Date: **11/15/2018**County: **Las Animas**Filename: **C012-702**User: **JHB**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D9T - 9SU**Horsepower: **405**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

| | | <u>Utilization %</u> |
|---------------------------|----------|----------------------|
| Ownership Cost/Hour: | \$110.70 | NA |
| Operating Cost/Hour: | \$95.46 | 100 |
| Ripper own. Cost/Hour: | \$12.36 | NA |
| Ripper op. Cost/Hour: | \$0.00 | 0 |
| Operator Cost/Hour: | \$41.52 | NA |

Total unit Cost/Hour: **\$260.05**Total Fleet Cost/Hour: **\$520.09****MATERIAL QUANTITIES**Initial Volume: **1,400**Swell factor: **1.125**Loose volume: **1,575 LCY**Source of estimated volume: **Division of Reclamation, Mining & Safety**Source of estimated swell
factor: **Operator Estimate****HOURLY PRODUCTION**Average push distance: **100 feet**Unadjusted hourly
production: **1,243.2 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **10 %**Average site altitude: **7,500 feet**Material weight: **2,132 lbs/LCY**Weight description: **User Provided****Job Condition Correction Factor****Source**

| | | |
|-----------------------|-------|---------------|
| Operator Skill: | 0.900 | (AB.AVG.) |
| Material consistency: | 0.900 | (CAT HB)) |
| Dozing method: | 1.000 | (GEN.) |
| Visibility: | 1.000 | (AVG.) |
| Job efficiency: | 0.830 | (1 SHIFT/DAY) |
| Spoil pile: | 0.800 | (FND-RF) |
| Push gradient: | 0.786 | (CAT HB) |
| Altitude: | 1.000 | (CAT HB) |
| Material Weight: | 1.079 | (CAT HB) |
| Blade type: | 1.000 | (PAT) |

Net correction: 0.4561

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

JOB TIME AND COST

Fleet size: 2 Dozer(s)
Unit cost: \$0.459/LCY

Total job time: **1.39** Hours
Total job cost: **\$722**

BULLDOZER WORKTask description: **Backfill Bates Portal Face**Site: **New Elk Mine**Permit Action: **Permit Renewal 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **703**State: **Colorado**Abbreviation: **None**Date: **11/15/2018**County: **Las Animas**Filename: **C012-703**User: **JHB**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D9T - 9SU**Horsepower: **405**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

| | | <u>Utilization %</u> |
|---------------------------|----------|----------------------|
| Ownership Cost/Hour: | \$110.70 | NA |
| Operating Cost/Hour: | \$95.46 | 100 |
| Ripper own. Cost/Hour: | \$12.36 | NA |
| Ripper op. Cost/Hour: | \$0.00 | 0 |
| Operator Cost/Hour: | \$41.52 | NA |

Total unit Cost/Hour: **\$260.05**Total Fleet Cost/Hour: **\$520.09****MATERIAL QUANTITIES**Initial Volume: **39,000**Swell factor: **1.125**Loose volume: **43,875 LCY**Source of estimated volume: **Division of Reclamation, Mining & Safety**Source of estimated swell
factor: **Operator Estimate****HOURLY PRODUCTION**Average push distance: **100 feet**Unadjusted hourly
production: **1,243.2 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **10 %**Average site altitude: **7,500 feet**Material weight: **2,132 lbs/LCY**Weight description: **User Provided****Job Condition Correction Factor****Source**

| | | |
|-----------------------|-------|---------------|
| Operator Skill: | 0.900 | (AB.AVG.) |
| Material consistency: | 0.900 | (CAT HB)) |
| Dozing method: | 1.000 | (GEN.) |
| Visibility: | 1.000 | (AVG.) |
| Job efficiency: | 0.830 | (1 SHIFT/DAY) |
| Spoil pile: | 0.800 | (FND-RF) |
| Push gradient: | 0.786 | (CAT HB) |
| Altitude: | 1.000 | (CAT HB) |
| Material Weight: | 1.079 | (CAT HB) |
| Blade type: | 1.000 | (PAT) |

Net correction: 0.4561

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

JOB TIME AND COST

Fleet size: 2 Dozer(s)
Unit cost: \$0.459/LCY

Total job time: **38.69** Hours
Total job cost: **\$20,122**

BOREHOLE SEALING WORKTask description: **Plug and Seal All Boreholes and Monitoring Wells**Site: **New Elk Mine**Permit Action: **Permit Renewal 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **704**State: **Colorado**Abbreviation: **None**Date: **11/29/2018**County: **Las Animas**Filename: **C012-704**User: **JHB**Agency or organization name: **DRMS****UNIT COSTS**

| Borehole Description | Sealing/Item Method | Diameter | Length | Quantity | Unit | Unit Cost | Total Cost |
|-----------------------------------|--|-----------------|---------------|-----------------|-------------|------------------|-------------------|
| MW1 - MW10 Fill w/Cement | Portland cement grout (Bag, material cost only...94 lb. bag) | 4" | 150 | 7.00 | bag | \$13.80 | \$96.60 |
| -Plug | PVC plug - 4 in. diameter borehole | 4" | NA | 10.00 | EA | \$31.98 | \$319.80 |
| -Cut Casings at Surface | Exposed casing removal - Calculate Circumference in Linear Feet | 4" | NA | 4.00 | LF | \$1.83 | \$7.32 |
| -Borehole Marker | Borehole location/identification marker (EA, material cost only) | NA | NA | 10.00 | EA | \$3.67 | \$36.70 |
| -Drill Rig Time | SCHRAMM T450WS | NA | NA | 20.00 | EA | \$232.72 | \$4,654.40 |
| -Water Truck Time | Water Tanker, 2,500 Gal. | NA | NA | 20.00 | EA | \$24.48 | \$489.60 |
| PAW1 - PAW4; PAW8,9 Fill w/Cement | Portland cement grout (Bag, material cost only...94 lb. bag) | 4" | 137 LF | 6.00 | bag | \$13.80 | \$82.80 |
| -Plug | PVC plug - 4 in. diameter borehole | 4" | NA | 6.00 | EA | \$31.98 | \$191.88 |
| -Cut Casings at Surface | Exposed casing removal - Calculate Circumference in Linear Feet | NA | NA | 4.00 | LF | \$1.83 | \$7.32 |
| -Borehole Marker | Borehole location/identification marker (EA, material cost only) | NA | NA | 6.00 | EA | \$3.67 | \$22.02 |
| -Drill Rig Time | SCHRAMM T450WS | NA | NA | 12.00 | EA | \$232.72 | \$2,792.64 |
| -Water Truck Time | Water Tanker, 2,500 Gal. | NA | NA | 12.00 | EA | \$24.48 | \$293.76 |
| NEW2 - NEW4 Fill w/Cement | Portland cement grout (Bag, material cost only...94 lb. bag) | 4" | 1210 LF | 53.00 | bag | \$13.80 | \$731.40 |
| -Plug | PVC plug - 4 in. | 4" | NA | 3.00 | EA | \$31.98 | \$95.94 |

| | | | | | | | |
|--------------------------------|--|----|--------|--------|-----|----------|------------|
| | diameter borehole | | | | | | |
| -Cut Casings at Surface | Exposed casing removal - Calculate Circumference in Linear Feet | 4" | NA | 4.00 | LF | \$1.83 | \$7.32 |
| -Borehole Markers | Borehole location/identification marker (EA, material cost only) | NA | NA | 3.00 | EA | \$3.67 | \$11.01 |
| -Drill Rig Time | SCHRAMM T450WS | NA | NA | 18.00 | EA | \$232.72 | \$4,188.96 |
| -Water Truck Time | Water Tanker, 2,500 Gal. | NA | NA | 18.00 | EA | \$24.48 | \$440.64 |
| RW1 & SW1 - SW6 Fill w/Cement | Portland cement grout (Bag, material cost only...94 lb. bag) | 4" | 161 LF | 7.00 | bag | \$13.80 | \$96.60 |
| -Plug | PVC plug - 4 in. diameter borehole | 4" | NA | 7.00 | EA | \$31.98 | \$223.86 |
| -Cut Casing at Surface | Exposed casing removal - Calculate Circumference in Linear Feet | 4" | NA | 4.00 | LF | \$1.83 | \$7.32 |
| -Borehole Marker | Borehole location/identification marker (EA, material cost only) | NA | NA | 7.00 | EA | \$3.67 | \$25.69 |
| -Drill Rig Time | SCHRAMM T450WS | NA | NA | 14.00 | EA | \$232.72 | \$3,258.08 |
| -Water Truck Time | Water Tanker, 2,500 Gal. | NA | NA | 14.00 | EA | \$24.48 | \$342.72 |
| Dewatering Holes Fill w/Cement | Portland cement grout (Bag, material cost only...94 lb. bag) | 4" | 450 | 19.00 | bag | \$13.80 | \$262.20 |
| -Plug | PVC plug - 4 in. diameter borehole | 4" | NA | 2.00 | EA | \$31.98 | \$63.96 |
| -Cut Casing at Surface | Exposed casing removal - Calculate Circumference in Linear Feet | 4" | NA | 4.00 | LF | \$1.83 | \$7.32 |
| -Borehole Marker | Borehole location/identification marker (EA, material cost only) | NA | NA | 2.00 | EA | \$3.67 | \$7.34 |
| -Drill Rig Time | SCHRAMM T450WS | NA | NA | 10.00 | EA | \$232.72 | \$2,327.20 |
| -Water Truck Time | Water Tanker, 2,500 Gal. | NA | NA | 10.00 | EA | \$24.48 | \$244.80 |
| Seal 3 Slurry wells (MR95) | Portland cement grout (Bag, material cost only...94 lb. bag) | 9" | 1350 | 298.00 | bag | \$13.80 | \$4,112.40 |
| -Drill rig and labor | Atlas Capco DM45/HP - 9.0" | NA | NA | 12.00 | EA | \$244.31 | \$2,931.72 |
| -Water Truck time | Water Tanker, 2,500 Gal. | na | na | 12.00 | EA | \$24.48 | \$293.76 |
| -slurry well plugs | PVC plug - 8 in. diameter borehole | 9" | NA | 3.00 | EA | \$79.19 | \$237.57 |
| -slurry hole markers | Borehole location/identification | NA | NA | 3.00 | EA | \$3.67 | \$11.01 |

| | | | | | | | |
|--|--|----|------|----------|-----|----------|-------------|
| | marker (EA, material cost only) | | | | | | |
| Seal NE-16-11 (MR96) | Portland cement grout (Bag, material cost only...94 lb. bag) | 9" | 392 | 86.00 | bag | \$13.80 | \$1,186.80 |
| -plug | PVC plug - 8 in. diameter borehole | 9" | NA | 1.00 | EA | \$79.19 | \$79.19 |
| -marker | Borehole location/identification marker (EA, material cost only) | NA | NA | 1.00 | EA | \$3.67 | \$3.67 |
| -Rig and labor | Altas Capco DM25SP - 6-3/4" | NA | NA | 4.00 | EA | \$212.49 | \$849.96 |
| -water truck time | Water Tanker, 2,500 Gal. | NA | NA | 4.00 | EA | \$24.48 | \$97.92 |
| Plug 6 "exploration" wells (MR114) | Portland cement grout (Bag, material cost only...94 lb. bag) | 6" | 2270 | 223.00 | bag | \$13.80 | \$3,077.40 |
| -plugs | PVC plug - 6 in. diameter borehole | 6" | NA | 6.00 | EA | \$57.81 | \$346.86 |
| -drill rig and labor | Altas Capco DM25SP - 6-3/4" | NA | NA | 36.00 | EA | \$212.49 | \$7,649.64 |
| -water truck time | Water Tanker, 2,500 Gal. | NA | NA | 36.00 | EA | \$24.48 | \$881.28 |
| Seal NE01-12, NE17-12, NE18-12 (MR107) | Portland cement grout (Bag, material cost only...94 lb. bag) | 6" | 2500 | 245.00 | bag | \$13.80 | \$3,381.00 |
| -plug | PVC plug - 6 in. diameter borehole | 6" | NA | 3.00 | EA | \$57.81 | \$173.43 |
| -Mark holes | Borehole location/identification marker (EA, material cost only) | NA | NA | 3.00 | EA | \$3.67 | \$11.01 |
| -Rig and Labor | Altas Capco DM25SP - 6-3/4" | NA | NA | 6.00 | EA | \$212.49 | \$1,274.94 |
| -water truck time | Water Tanker, 2,500 Gal. | NA | NA | 8.00 | EA | \$24.48 | \$195.84 |
| Seal 2 alluvial wells (MR116) | Portland cement grout (Bag, material cost only...94 lb. bag) | 4" | 60 | 2.62 | bag | \$13.80 | \$36.16 |
| -marker | Borehole location/identification marker (EA, material cost only) | NA | NA | 2.00 | EA | \$3.67 | \$7.34 |
| -labor | General laborer - Colorado (total incl. fringes, empl. burden) | na | na | 2.00 | HR | \$23.53 | \$47.06 |
| Plug and Seal NE-05-11 (4wells) and 08-11(4 wells) | Portland cement grout (Bag, material cost only...94 lb. bag) | 9" | 5200 | 1,148.00 | bag | \$13.80 | \$15,842.40 |
| -marker | Borehole location/identification marker (EA, material cost only) | NA | NA | 8.00 | EA | \$3.67 | \$29.36 |

| | | | | | | | |
|----------------|---|----|----|-------|----|----------|-------------|
| -cut casing | Exposed casing removal - Calculate Circumference in Linear Feet | 9" | 72 | 8.00 | LF | \$1.83 | \$14.64 |
| -rig and labor | Atlas Capco DM45/HP - 9.0" | NA | NA | 45.00 | EA | \$244.31 | \$10,993.95 |
| -water tanker | Water Tanker, 2,500 Gal. | NA | NA | 45.00 | EA | \$24.48 | \$1,101.60 |

Job Hours: 73.00**Total Cost:** \$76,205.00

TRUCK/LOADER TEAM WORKTask description: Clean Ponds 004, 007, and 008 Twice During Liability PeriodSite: New Elk MinePermit Action: Permit Renewal 07Permit/Job#: C1981012**PROJECT IDENTIFICATION**Task #: 706State: ColoradoAbbreviation: NoneDate: 11/19/2018County: Las AnimasFilename: C012-706User: JHBAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Shift basis: 1 per day

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

Cost Breakdown:

| | Truck/Loader Team | | Support Equipment | | Maintenance Equipment | |
|------------------------|-------------------|-----------|-------------------|-----------|-----------------------|-------------|
| | Truck | Excavator | Load Area | Dump Area | Motor Grader | Water Truck |
| %Utilization-machine: | 100 | 75 | NA | 100 | 50 | 50 |
| Ownership cost/hour: | \$15.87 | \$50.81 | NA | \$110.70 | \$60.13 | \$25.30 |
| Operating cost/hour: | \$40.15 | \$43.15 | NA | \$95.46 | \$25.43 | \$18.30 |
| %Utilization-riper: | NA | 0 | NA | NA | NA | NA |
| Ripper own. cost/hour: | NA | \$0.00 | NA | \$0.00 | \$0.00 | \$0.00 |
| Ripper op. cost/hour: | NA | \$0.00 | NA | \$0.00 | \$0.00 | \$0.00 |
| Operator cost/hour: | \$0.00 | \$37.79 | NA | \$41.52 | \$28.69 | \$21.23 |
| Unit Subtotals: | \$56.02 | \$131.75 | NA | \$247.68 | \$114.26 | \$64.83 |
| Number of Units: | 3 | 1 | 0 | 1 | 1 | 1 |
| Group Subtotals: | Work: \$299.81 | | Support: \$247.68 | | Maint: \$179.09 | |

Total work team cost/hour: \$726.58**MATERIAL QUANTITIES**Initial volume: 19,095

CCY

Swell factor: 1.000Loose volume: 19,095

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: 2,700

Pounds/LCY

Description: Earth - Wet excavatedRated Payload: 27,280

Pounds

Payload Capacity: 10.10

LCY

Truck Bed (volume) Basis:

| | | |
|------------------|-------|-----|
| Struck Volume: | 8.00 | LCY |
| Heaped Volume: | 10.00 | LCY |
| Average Volume: | 9.00 | LCY |
| Adjusted Volume: | 10.00 | LCY |

Final Truck Volume Based on Number of Loader Passes: 8.81 LCY

Loading Tool Capacity

Bucket Size Class: Medium

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

Job Condition Corrections:

Site Altitude (ft.): 7500 feet

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

Loading Tool Cycle Time:

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

Excavators and Front Shovels:

Machine Cycle Time vs. Job Condition Rating: BELOW AVERAGE

Selected Value within this Basic Rating: SEVERE

Track Loaders – Material Description: _____

Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100

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: | | 0.390 | minutes |
| Net Load Time per Truck: | | 1.270 | minutes |

Truck Cycle Time:

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

Truck Travel (Haul & Return) Time:
penetration 4.0

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

Haul Route:

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

Haul Time: **4.024** minutes

Return Route:

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

Return Time: **1.754** minutesTotal Truck Cycle Time: **8.348** minutes

Loading Tool unit
 Production 298.78 LCY/Hour Adjusted for job efficiency: 247.99 LCY/Hour
 Truck Unit Production 63.35 LCY/Hour Adjusted for job efficiency: 52.58 LCY/Hour
 Optimal No. of Trucks: 5 Truck(s) Selected Number of Trucks: 3 Truck(s)

Adjusted hourly truck team production: 157.74 LCY/Hour
 Adjusted single truck/loader team production: 157.74 LCY/Hour
 Adjusted multiple truck/loader team production: **157.74** LCY/Hour

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: **121.05** Hours
 Unit cost: \$4.606 /LCY Total job cost: **\$87,955**

BULLDOZER WORKTask description: **Regrade Areas from MR-99, MR-107, MR-111, MR-114**Site: **New Elk Mine**Permit Action: Permit Renewal 07Permit/Job#: C1981012**PROJECT IDENTIFICATION**Task #: 733State: ColoradoAbbreviation: NoneDate: 11/15/2018County: Las AnimasFilename: C012-733User: JHBAgency 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: | \$110.70 | NA |
| Operating Cost/Hour: | \$95.46 | 100 |
| Ripper own. Cost/Hour: | \$0.00 | NA |
| Ripper op. Cost/Hour: | \$0.00 | 0 |
| Operator Cost/Hour: | \$41.52 | NA |

Total unit Cost/Hour: \$247.68Total Fleet Cost/Hour: **\$743.05****MATERIAL QUANTITIES**Initial Volume: 5,536Swell factor: 1.125Loose volume: **6,228 LCY**Source of estimated volume: Exhibit 28- p. 232 assume 4" "topsoil material"Source of estimated swell Operator Estimate

factor: _____

HOURLY PRODUCTIONAverage push distance: 60 feetUnadjusted hourly 1,872.0 LCY/hr

production: _____

Materials consistency description: Loose stockpile 1.2Average push gradient: 0 %Average site altitude: 7,400 feetMaterial weight: 2,132 lbs/LCYWeight description: User ProvidedJob Condition Correction FactorSource

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

Net correction: 0.7738

Adjusted unit production: 1,448.55 LCY/hr

Adjusted fleet production: **4345.65** LCY/hr

JOB TIME AND COST

Fleet size: 3 Dozer(s)

Unit cost: \$0.171/LCY

Total job time: **1.43** Hours

Total job cost: **\$1,065**

REVEGETATION WORKTask description: Seed Rangeland Seed Mix on MR AreasSite: New Elk MinePermit Action: Permit Renewal 07Permit/Job#: C1981012**PROJECT IDENTIFICATION**Task #: 734State: ColoradoAbbreviation: NoneDate: 11/20/2018County: Las AnimasFilename: C012-734User: JHBAgency or organization name: DRMS**FERTILIZING****Materials**

| Description | Units / Acre | Unit | Cost / Unit | Cost /Acre |
|--------------------------|-----------------|-------|---|----------------|
| 10-34-0, 18-46-0, 5-10-5 | 30.00 | pound | \$0.34 | \$10.20 |
| | | | Total Fertilizer Materials Cost/Acre | \$10.20 |

Application

| Description | Cost /Acre |
|---|-----------------|
| Hand spread (MEANS 32 01 90.13 0100) | \$579.35 |
| Total Fertilizer Application Cost/Acre | \$579.35 |

TILLING

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

SEEDING

| Seed Mix | Rate – PLS LBS / Acre | Seeds per SQ. FT | Cost /Acre |
|----------------------------------|--------------------------------|------------------------|------------|
| Buffalograss - Bison | 1.00 | 0.96 | \$11.79 |
| Blue Grama - Hachita | 1.34 | 21.87 | \$22.32 |
| Little Bluestem - Cimarron | 2.40 | 14.33 | \$35.23 |
| Sideoats Grama - Butte | 5.00 | 16.41 | \$49.50 |
| Milk Vetch, Cicer - Monarch | 0.66 | 2.20 | \$5.54 |
| Streambank Wheatgrass - Sodar | 3.00 | 9.78 | \$18.69 |
| Sainfoin - Remont | 3.34 | 1.46 | \$10.82 |
| Thickspike Wheatgrass - Critana | 1.00 | 3.54 | \$5.87 |
| Western Wheatgrass - Arriba | 4.00 | 10.10 | \$33.12 |
| Rabbitbrush, Rubber | 0.30 | 4.47 | \$19.75 |
| Rose, Wood's | 0.50 | 0.00 | \$10.50 |
| Daisy or Sunflower, Maximillians | 0.22 | 1.25 | \$12.36 |

| | | | |
|---------------------------|--------------|---------------|-----------------|
| Flax, Lewis Blue | 0.22 | 1.46 | \$3.72 |
| Spike Muhly | 0.66 | 24.24 | \$6.51 |
| Penstemon, Rocky Mountain | 0.22 | 3.45 | \$6.65 |
| Totals Seed Mix | 23.86 | 115.51 | \$252.37 |

Application

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

MULCHING and MISCELLANEOUS**Materials**

| Description | Units / Acre | Unit | Cost / Unit | Cost /Acre |
|---|-------------------------|-------------|--------------------|-------------------|
| Straw, delivered {MEANS 31 25 14.16 1200} | 2.00 | TON | \$288.00 | \$576.00 |
| Total Mulch Materials Cost/Acre | | | | \$576.00 |

Application

| Description | Cost /Acre |
|--|-------------------|
| Crimping, with tractor {DMG survey data} | \$68.78 |
| Total Mulch Application Cost/Acre | \$68.78 |

NURSERY STOCK PLANTING

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

JOB TIME AND COST

| | | | |
|----------------------------------|---------|--------------|------------|
| No. of Acres: | 2.22 | Cost /Acre: | \$1,753.92 |
| Estimated Failure Rate: | 33% | Cost /Acre*: | \$519.59 |
| *Selected Replanting Work Items: | SEEDING | | |

Initial Job Cost: **\$3,893.70**
 Reseeding Job Cost: **\$380.65**
 Total Job Cost: **\$4,274**
 Job Hours: **2.22**

BULLDOZER WORKTask description: Replace Topsoil on D26 ExtensionSite: New Elk MinePermit Action: Permit Renewal 07Permit/Job#: C1981012**PROJECT IDENTIFICATION**Task #: 738State: ColoradoAbbreviation: NoneDate: 11/15/2018County: Las AnimasFilename: C012-738User: JHBAgency 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: | \$110.70 | NA |
| Operating Cost/Hour: | \$95.46 | 100 |
| Ripper own. Cost/Hour: | \$0.00 | NA |
| Ripper op. Cost/Hour: | \$0.00 | 0 |
| Operator Cost/Hour: | \$41.52 | NA |

Total unit Cost/Hour: \$247.68Total Fleet Cost/Hour: \$247.68**MATERIAL QUANTITIES**Initial Volume: 264Swell factor: 1.250Loose volume: 330 LCYSource of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Operator Estimate**HOURLY PRODUCTION**Average push distance: 50 feetUnadjusted hourly production: 2,110.5 LCY/hrMaterials consistency description: Partly consolidated stockpile 1.1Average push gradient: 5 %Average site altitude: 7,500 feetMaterial weight: 2,055 lbs/LCYWeight description: User Provided**Job Condition Correction Factor**

| | | <u>Source</u> |
|-----------------------|-------|---------------|
| Operator Skill: | 0.900 | (AB.AVG.) |
| Material consistency: | 1.100 | (CAT HB) |
| Dozing method: | 1.000 | (GEN.) |
| Visibility: | 1.000 | (AVG.) |

| | | |
|------------------|-------|---------------|
| Job efficiency: | 0.830 | (1 SHIFT/DAY) |
| Spoil pile: | 0.800 | (FND-RF) |
| Push gradient: | 0.903 | (CAT HB) |
| Altitude: | 1.000 | (CAT HB) |
| Material Weight: | 1.119 | (CAT HB) |
| Blade type: | 1.000 | (PAT) |

Net correction: 0.6642

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

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: \$0.177/LCY

Total job time: **0.24** Hours
Total job cost: **\$58**

BULLDOZER WORKTask description: **Backfill and Regrade DWDA Expansion**Site: **New Elk Mine**Permit Action: **Permit Renewal 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **741**State: **Colorado**Abbreviation: **None**Date: **11/15/2018**County: **Las Animas**Filename: **C012-741**User: **JHB**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D9T - 9SU**Horsepower: **405**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

| | | <u>Utilization %</u> |
|------------------------|----------|----------------------|
| Ownership Cost/Hour: | \$110.70 | NA |
| Operating Cost/Hour: | \$95.46 | 100 |
| Ripper own. Cost/Hour: | \$12.36 | NA |
| Ripper op. Cost/Hour: | \$7.88 | 100 |
| Operator Cost/Hour: | \$41.52 | NA |

Total unit Cost/Hour: **\$267.92**Total Fleet Cost/Hour: **\$535.85****MATERIAL QUANTITIES**Initial Volume: **1,936**Swell factor: **1.125**Loose volume: **2,178 LCY**Source of estimated volume: **Division of Reclamation, Mining & Safety**Source of estimated swell factor: **Operator Estimate****HOURLY PRODUCTION**Average push distance: **200 feet**Unadjusted hourly production: **700.0 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **0 %**Average site altitude: **7,500 feet**Material weight: **2,132 lbs/LCY**Weight description: **User Provided****Job Condition Correction Factor****Source**

| | | |
|-----------------------|-------|-----------|
| Operator Skill: | 0.900 | (AB.AVG.) |
| Material consistency: | 0.900 | (CAT HB)) |
| Dozing method: | 1.000 | (GEN.) |
| Visibility: | 1.000 | (AVG.) |

| | | |
|------------------|-------|---------------|
| Job efficiency: | 0.830 | (1 SHIFT/DAY) |
| Spoil pile: | 0.800 | (FND-RF) |
| Push gradient: | 1.000 | (CAT HB) |
| Altitude: | 1.000 | (CAT HB) |
| Material Weight: | 1.079 | (CAT HB) |
| Blade type: | 1.000 | (PAT) |

Net correction: 0.5803

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

JOB TIME AND COST

Fleet size: 2 Dozer(s)
Unit cost: \$0.660/LCY

Total job time: **2.68** Hours
Total job cost: **\$1,437**

BULLDOZER WORKTask description: **Replace Topsoil on Six Drill Pads and Mud Pits**Site: **New Elk Mine**Permit Action: **Permit Renewal 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **747**State: **Colorado**Abbreviation: **None**Date: **11/15/2018**County: **Las Animas**Filename: **C012-747**User: **JHB**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: | \$110.70 | NA |
| Operating Cost/Hour: | \$95.46 | 100 |
| Ripper own. Cost/Hour: | \$0.00 | NA |
| Ripper op. Cost/Hour: | \$0.00 | 0 |
| Operator Cost/Hour: | \$41.52 | NA |

Total unit Cost/Hour: **\$247.68**Total Fleet Cost/Hour: **\$247.68****MATERIAL QUANTITIES**Initial Volume: **2,200**Swell factor: **1.125**Loose volume: **2,475 LCY**Source of estimated volume: **Division Estimate**Source of estimated swell factor: **Operator Estimate****HOURLY PRODUCTION**Average push distance: **125 feet**Unadjusted hourly production: **1,055.6 LCY/hr**Materials consistency description: **Consolidated stockpile 1.0**Average push gradient: **5 %**Average site altitude: **7,600 feet**Material weight: **2,055 lbs/LCY**Weight description: **User Provided****Job Condition Correction Factor**

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

| | | |
|------------------|-------|---------------|
| Job efficiency: | 0.830 | (1 SHIFT/DAY) |
| Spoil pile: | 0.800 | (FND-RF) |
| Push gradient: | 0.903 | (CAT HB) |
| Altitude: | 1.000 | (CAT HB) |
| Material Weight: | 1.119 | (CAT HB) |
| Blade type: | 1.000 | (PAT) |

Net correction: 0.6038

Adjusted unit production: 637.37 LCY/hr
Adjusted fleet production: **637.37** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: \$0.389/LCY

Total job time: **3.88** Hours
Total job cost: **\$962**

DEMOLITION WORKTask description: **Demolish and Remove Structures @ C&W area**Site: **New Elk Mine**Permit Action: Permit Renewal 07Permit/Job#: C1981012**PROJECT IDENTIFICATION**Task #: 750
Date: 11/28/2018
User: JHBState: Colorado
County: Las AnimasAbbreviation: None
Filename: C012-750Agency or organization name: DRMS**UNIT COSTS****Location adjustment: 94.00 %**

| Structure or Item Description | Dimensions | Demolition Menu Selection | Quantity | Unit | Unit Cost | Total Cost |
|-------------------------------|---------------|---|------------|------|-----------|-------------|
| C&W Train Shop | 110 X 70 X 30 | Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 231,000.00 | CF | \$0.19 | \$43,428.00 |
| C&W Train Shop Office | 70 X 24 X 12 | Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 20,160.00 | CF | \$0.19 | \$3,790.08 |
| C&W Train Shop Slab | 134 X 70 | Demo. and on-site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul | 9,380.00 | SF | \$0.83 | \$7,776.02 |
| 10 Stall Garage | 100 X 24 X 20 | Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 48,000.00 | CF | \$0.19 | \$9,024.00 |
| 10 Stall Garage Slab | 100 X 24 | Demo. and on-site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul | 2,400.00 | SF | \$0.83 | \$1,989.60 |
| 10 Stall Garage Apron | 100 X 10 | Demo. and on-site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul | 1,000.00 | SF | \$0.83 | \$829.00 |
| Train Sand Loading Building | 30 X 16 X 20 | Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 9,600.00 | CF | \$0.19 | \$1,804.80 |
| Train Sand Loading Slab | 30 X 16 | Demo. and on-site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul | 480.00 | SF | \$0.83 | \$397.92 |
| Train Sand Loading Apron | 35 X 5.7 | Demo. and on-site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul | 200.00 | SF | \$0.83 | \$165.80 |
| Car Department | 40 X 15 X 12 | Bldg. (SN) | 7,200.00 | CF | \$0.19 | \$1,353.60 |

| | | | | | | |
|---------------------------|-----------|---|----------|----|--------|----------|
| Office | | demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | | | | |
| Car Dept. Office Slab | 56 X 20 | Demo. and on-site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul | 1,120.00 | SF | \$0.83 | \$928.48 |
| Car Dept. Office Sidewalk | 50 X 3.5 | Demo. and on-site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul | 175.00 | SF | \$0.83 | \$145.08 |
| Fire Hose Building | 8 X 8 X 8 | Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 512.00 | CF | \$0.19 | \$96.26 |
| Fire Hose Building Slab | 8 X 8 | Demo. and on-site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul | 64.00 | SF | \$0.83 | \$53.06 |
| Fire Hose Propane Tank | 16 X 3 | Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul | 144.00 | CF | \$0.19 | \$27.07 |

Job Hours: 24.00
Subtotal (unadjusted): \$71,808.77
Total Cost (adjusted for location): \$67,500.24

BULLDOZER WORKTask description: **Rip and Regrade C&W Train Shop Area**Site: **New Elk Mine**Permit Action: **Permit Renewal 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **751**State: **Colorado**Abbreviation: **None**Date: **11/15/2018**County: **Las Animas**Filename: **C012-751**User: **JHB**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**

Basic Machine: **Cat D9T - 9SU**
 Horsepower: **405**
 Blade Type: **Semi-Universal**
 Attachment: **3-shank ripper**
 Shift Basis: **1 per day**
 Data Source: **(CRG)**

Cost Breakdown:

| | | <u>Utilization %</u> |
|---------------------------|----------|----------------------|
| Ownership Cost/Hour: | \$110.70 | NA |
| Operating Cost/Hour: | \$95.46 | 100 |
| Ripper own. Cost/Hour: | \$12.36 | NA |
| Ripper op. Cost/Hour: | \$7.88 | 100 |
| Operator Cost/Hour: | \$41.52 | NA |

Total unit Cost/Hour: **\$267.92**Total Fleet Cost/Hour: **\$535.85****MATERIAL QUANTITIES**Initial Volume: **14,520**Swell factor: **1.125**Loose volume: **16,335 LCY**Source of estimated volume: **Map 11, Map 15**Source of estimated swell: **Operator Estimate**

factor:

HOURLY PRODUCTIONAverage push distance: **100 feet**

Unadjusted hourly

production:

1,243.2 LCY/hrMaterials consistency description: **Dry, non-cohesive 0.8**Average push gradient: **0 %**Average site altitude: **7,500 feet**Material weight: **2,132 lbs/LCY**Weight description: **User Provided****Job Condition Correction Factor****Source**

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

Net correction: 0.5158

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

JOB TIME AND COST

Fleet size: 2 Dozer(s)
Unit cost: \$0.418/LCY

Total job time: **12.74** Hours
Total job cost: **\$6,825**

REVEGETATION WORKTask description: **Reseed C&W Facilities Area with Rangeland Mix**Site: **New Elk Mine**Permit Action: **Permit Renewal 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **753**State: **Colorado**Abbreviation: **None**Date: **11/20/2018**County: **Las Animas**Filename: **C012-753**User: **JHB**Agency or organization name: **DRMS****FERTILIZING****Materials**

| Description | Units / Acre | Unit | Cost / Unit | Cost /Acre |
|--------------------------|-----------------|-------|---|----------------|
| 10-34-0, 18-46-0, 5-10-5 | 30.00 | pound | \$0.34 | \$10.20 |
| | | | Total Fertilizer Materials Cost/Acre | \$10.20 |

Application

| Description | Cost /Acre |
|---|----------------|
| Tractor towed spreader (MEANS 32 01 90.13 0120) | \$34.72 |
| Total Fertilizer Application Cost/Acre | \$34.72 |

TILLING

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

SEEDING

| Seed Mix | Rate – PLS LBS / Acre | Seeds per SQ. FT | Cost /Acre |
|----------------------------------|--------------------------------|------------------------|------------|
| Buffalograss - Bison | 0.50 | 0.48 | \$5.90 |
| Blue Grama - Hachita | 0.67 | 10.94 | \$11.16 |
| Little Bluestem - Cimarron | 1.20 | 7.16 | \$17.62 |
| Sideoats Grama - Butte | 2.50 | 8.21 | \$24.75 |
| Milk Vetch, Cicer - Monarch | 0.33 | 1.10 | \$2.77 |
| Streambank Wheatgrass - Sodar | 1.50 | 4.89 | \$9.35 |
| Sainfoin - Remont | 1.67 | 0.73 | \$5.41 |
| Thickspike Wheatgrass - Critana | 0.50 | 1.77 | \$2.94 |
| Western Wheatgrass - Arriba | 2.00 | 5.05 | \$16.56 |
| Rabbitbrush, Rubber | 0.15 | 2.23 | \$9.88 |
| Rose, Wood's | 0.25 | 0.00 | \$5.25 |
| Daisy or Sunflower, Maximillians | 0.11 | 0.62 | \$6.18 |

| | | | |
|---------------------------|-------|-------|-----------------|
| Flax, Lewis Blue | 0.11 | 0.73 | \$1.86 |
| Spike Muhly | 0.33 | 12.12 | \$3.25 |
| Penstemon, Rocky Mountain | 0.11 | 1.72 | \$3.32 |
| Totals Seed Mix | 11.93 | 57.76 | \$126.18 |

Application

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

MULCHING and MISCELLANEOUS**Materials**

| Description | Units / Acre | Unit | Cost / Unit | Cost /Acre |
|---|-----------------|------|-------------|-----------------|
| Straw, delivered {MEANS 31 25 14.16 1200} | 2.00 | TON | \$288.00 | \$576.00 |
| Total Mulch Materials Cost/Acre | | | | \$576.00 |

Application

| Description | Cost /Acre |
|--|-----------------|
| Crimping, with tractor {DMG survey data} | \$68.78 |
| Power mulcher (MEANS 32 91 13.16 0350) | \$92.78 |
| Total Mulch Application Cost/Acre | \$161.56 |

NURSERY STOCK PLANTING

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

JOB TIME AND COST

| | | | |
|----------------------------------|---------|--------------|------------|
| No. of Acres: | 6 | Cost /Acre: | \$1,140.66 |
| Estimated Failure Rate: | 33% | Cost /Acre*: | \$358.18 |
| *Selected Replanting Work Items: | SEEDING | | |

| | |
|---------------------|-------------------|
| Initial Job Cost: | \$6,843.96 |
| Reseeding Job Cost: | \$709.20 |
| Total Job Cost: | \$7,553 |
| Job Hours: | 12.00 |

HYDRAULIC EXCAVATOR WORKTask description: **Replace Topsoil to Zig Zag Road**Site: **New Elk Mine**Permit Action: **Permit Renewal 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**

Task #: 759 State: Colorado Abbreviation: None
 Date: 11/20/2018 County: Las Animas Filename: C012-759
 User: JHB

Agency or organization name: DRMS**HOURLY EQUIPMENT COST**

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

Cost Breakdown:

| | | Utilization % |
|------------------------|----------|---------------|
| Ownership Cost/Hour: | \$33.90 | NA |
| Operating Cost/Hour: | \$36.00 | 100 |
| Operator Cost/Hour: | \$37.79 | NA |
| Total Unit Cost/Hour: | \$107.69 | |
| Total Fleet Cost/Hour: | \$107.69 | |

MATERIAL QUANTITIES

Initial volume: 108 CCY Swell factor: 1.000
 Loose volume: 108 LCY

Source of estimated volume: 0.2 ac. X assume 4" topsoil
 Source of estimated swell factor: Operator Estimate

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

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

Load Bucket Capacity

Rated Capacity: 1.54 LCY (heaped) Bucket Size Class: Medium
 Bucket Fill Factor: 1.100 Other - rock/dirt mixtures (100-120%) 1.100
 Adjusted Capacity: 1.69 LCY

Job Condition Correction FactorsSite Altitude: 7700 feet

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

Unadjusted Hourly Unit Production: 314.67 LCY/Hour
 Adjusted Hourly Unit Production: 227.23 LCY/Hour
 Adjusted Hourly Fleet Production: 227.23 LCY/Hour

JOB TIME AND COSTFleet size: 1 Excavator Total job time: 0.47 HoursUnit cost: \$0.474 /LCY Total job cost: \$51

BULLDOZER RIPPING WORKTask description: **Rip Zig Zag Road and Slurry Line Road**Site: New Elk Mine Permit Action: Permit Renewal 07 Permit/Job#: C1981012**PROJECT IDENTIFICATION**

Task #: 760 State: Colorado Abbreviation: None
 Date: 11/19/2018 County: Las Animas Filename: C012-760
 User: JHB

Agency or organization name: DRMS**HOURLY EQUIPMENT COST**

Basic Machine: Cat D9T - 9SU Horsepower: 405
 Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day
 Data Source: (CRG)

Cost Breakdown:

| | | Utilization % |
|-----------------------------|------------------------|---------------|
| Ownership Cost/Hour: | <u>\$110.70</u> | <u>NA</u> |
| Operating Cost/Hour: | <u>\$95.46</u> | <u>100</u> |
| Ripper Ownership Cost/Hour: | <u>\$12.36</u> | <u>NA</u> |
| Ripper Operating Cost/Hour: | <u>\$7.88</u> | <u>100</u> |
| Operator Cost/Hour: | <u>\$41.52</u> | <u>NA</u> |
| Total Unit Cost/Hour: | <u>\$267.92</u> | |
| Total Fleet Cost/Hour: | <u>\$803.77</u> | |

MATERIAL QUANTITIESSelected estimating method: Area**Alternate Methods:**

Seismic: NA Bank Volume: NA BCY NA
 Area: 0.80 acres Rip Depth (ft): 1.00 Volume: 1,291 BCY or CCY

Source of estimated quantity: PAP Page 2.05-7c, Map 12, Map 11-sheet 1**HOURLY PRODUCTION****Seismic:**Seismic Velocity: NA feet/second**Area:**

Average Ripping Depth: 2.63 mph
 Average Ripping Width: 7.67 degrees
 Average Ripping Length: 75.00 feet
 Average Dozer Speed: 88.00 feet
 Average Maneuver Time: 0.25 feet
 Production per unit area: 0.719 acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.719 Acres/hr
 Site Altitude: 7,700 feet
 Altitude Adj: 1.00 (CAT HB)
 Job Efficiency: 0.83 (1 shift/day)
 Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.60 Acres/hr
 Adjusted Hourly Fleet Production: **1.79** Acres/hr

JOB TIME AND COST

Fleet size: 3 Grader(s) Total job time: **0.45** Hours

| | | | | |
|------------|--------------------------|----------|-----------------|-----------------------------|
| Unit cost: | <u> \$449.051 </u> | Per acre | Total job cost: | <u> \$359 </u> |
|------------|--------------------------|----------|-----------------|-----------------------------|

REVEGETATION WORKTask description: **Reseed Zig Zag with Rangeland Mix**Site: **New Elk Mine**Permit Action: **Permit Renewal 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **761**State: **Colorado**Abbreviation: **None**Date: **11/20/2018**County: **Las Animas**Filename: **C012-761**User: **JHB**Agency or organization name: **DRMS****FERTILIZING****Materials**

| Description | Units / Acre | Unit | Cost / Unit | Cost /Acre |
|--------------------------|-----------------|-------|---|----------------|
| 10-34-0, 18-46-0, 5-10-5 | 30.00 | pound | \$0.34 | \$10.20 |
| | | | Total Fertilizer Materials Cost/Acre | \$10.20 |

Application

| Description | Cost /Acre |
|---|---------------|
| NA-fertilizer application incl. with hydroseeding | \$0.00 |
| Total Fertilizer Application Cost/Acre | \$0.00 |

TILLING

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

SEEDING

| Seed Mix | Rate – PLS LBS / Acre | Seeds per SQ. FT | Cost /Acre |
|---------------------------------|--------------------------------|------------------------|------------|
| Buffalograss - Bison | 1.00 | 0.96 | \$11.79 |
| Blue Grama - Hachita | 1.34 | 21.87 | \$22.32 |
| Little Bluestem - Cimarron | 2.40 | 14.33 | \$35.23 |
| Sideoats Grama - Butte | 5.00 | 16.41 | \$49.50 |
| Milk Vetch, Cicer - Monarch | 0.66 | 2.20 | \$5.54 |
| Streambank Wheatgrass - Sodar | 3.00 | 9.78 | \$18.69 |
| Sainfoin - Remont | 3.34 | 1.46 | \$10.82 |
| Thickspike Wheatgrass - Critana | 1.00 | 3.54 | \$5.87 |
| Western Wheatgrass - Arriba | 4.00 | 10.10 | \$33.12 |
| Rabbitbrush, Rubber | 0.30 | 4.47 | \$19.75 |
| Rose, Wood's | 0.50 | 0.00 | \$10.50 |

| | | | |
|----------------------------------|--------------|---------------|-----------------|
| Daisy or Sunflower, Maximillians | 0.22 | 1.25 | \$12.36 |
| Flax, Lewis Blue | 0.22 | 1.46 | \$3.72 |
| Spike Muhly | 0.66 | 24.24 | \$6.51 |
| Penstemon, Rocky Mountain | 0.22 | 3.45 | \$6.65 |
| Totals Seed Mix | 23.86 | 115.51 | \$252.37 |

Application

| Description | Cost /Acre |
|---|-----------------|
| Hydro seeding (MEANS 32 92 19.14 0200) | \$919.12 |
| Total Seed Application Cost/Acre | \$919.12 |

MULCHING and MISCELLANEOUS**Materials**

| Description | Units / Acre | Unit | Cost / Unit | Cost /Acre |
|---|-----------------|------|-------------|-----------------|
| Hydromulch, 1 ton/ac. rate {Materials Only} | 2.00 | ACRE | \$496.58 | \$993.16 |
| Total Mulch Materials Cost/Acre | | | | \$993.16 |

Application

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

NURSERY STOCK PLANTING

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

JOB TIME AND COST

| | | | |
|----------------------------------|---------|--------------|------------|
| No. of Acres: | 0.8 | Cost /Acre: | \$2,174.85 |
| Estimated Failure Rate: | 33% | Cost /Acre*: | \$1,171.49 |
| *Selected Replanting Work Items: | SEEDING | | |

| | |
|---------------------|-------------------|
| Initial Job Cost: | \$1,739.88 |
| Reseeding Job Cost: | \$309.27 |
| Total Job Cost: | \$2,049 |
| Job Hours: | 1.60 |

SCRAPER TEAM WORKTask description: **Replace Topsoil to West DWDA**Site: **New Elk Mine**Permit Action: **Permit Renewal 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **762**State: **Colorado**Abbreviation: **None**Date: **11/16/2018**County: **Las Animas**Filename: **C012-762**User: **JHB**Agency or organization name: **DRMS****HOURLY EQUIPMENT**COSTShift basis: **1 per day**

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

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

| | Scraper | Dozer | Load Area | Dump Area | Motor Grader | Water Truck |
|------------------------|----------------|----------|-----------------|-----------|-----------------|-------------|
| %Utilization-machine: | 100 | 100 | NA | NA | 50 | 50 |
| Ownership cost/hour: | \$108.96 | \$110.70 | NA | NA | \$60.13 | \$25.30 |
| Operating cost/hour: | \$128.41 | \$95.46 | NA | NA | \$25.43 | \$18.30 |
| %Utilization-ripper: | NA | NA | NA | NA | NA | NA |
| Ripper own. cost/hour: | NA | \$0.00 | NA | NA | \$0.00 | \$0.00 |
| Ripper op. cost/hour: | NA | \$0.00 | NA | NA | \$0.00 | \$0.00 |
| Operator cost/hour: | \$31.05 | \$41.52 | NA | NA | \$28.69 | \$21.23 |
| Unit Subtotals: | \$268.41 | \$247.68 | NA | NA | \$114.26 | \$64.83 |
| Number of Units: | 2 | 1 | 0 | 0 | 1 | 1 |
| Group Subtotals: | Work: \$784.50 | | Support: \$0.00 | | Maint: \$179.09 | |

Total work team cost/hour: **\$963.59****MATERIAL QUANTITIES**Initial volume: **39,912**

CCY

Swell factor: **1.125**Loose volume: **44,901**

LCY

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

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

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

Site Altitude: 7600 feet

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

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

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

Haul Time: 0.78 minutesReturn Route:

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

Return Time: 0.41 minutesTotal Scraper team cycle time: 2.69 minutesAdjusted for job conditions: 670.19 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 670.19 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 670.19 LCY/HourUnadjusted unit production/hour: 840.89 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 67.00 HoursUnit cost: \$1.438 /LCYTotal job cost: \$64,558

MOTOR GRADER WORKTask description: **Finish Grade West DWDA Area**Site: **New Elk Mine**Permit Action: **Permit Renewal 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **764**State: **Colorado**Abbreviation: **None**Date: **11/20/2018**County: **Las Animas**Filename: **C012-764**User: **JHB**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **CAT 14M**Horsepower: **259**

Ripper Attachment:

Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

| | | Utilization % |
|-----------------------------|-----------------|---------------|
| Ownership Cost/Hour: | \$60.13 | NA |
| Operating Cost/Hour: | \$50.87 | 100 |
| Ripper Ownership Cost/Hour: | \$0.00 | NA |
| Ripper Operating Cost/Hour: | \$0.00 | |
| Operator Cost/Hour: | \$28.69 | NA |
| Total Unit Cost/Hour: | \$139.69 | |
| Total Fleet Cost/Hour: | \$139.69 | |

MATERIAL QUANTITIESTotal Area to be graded or ripped: **10.20** acresSource of estimated acreage: **NECC****HOURLY PRODUCTION**

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

Job Condition Correction FactorsSite Altitude: **7680** feet

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

Adjusted Hourly Unit Production: **1.2209** acres/HourAdjusted Hourly Fleet Production: **1.2209** acres/Hour**JOB TIME AND COST**Fleet size: **1**

Grader(s)

Total job time:

8.35

Hours

Unit cost: \$114.41 per acre

Total job cost: **\$1,167**

REVEGETATION WORKTask description: **Reseed West DWDA Expansion Area with Rangeland Mix**Site: **New Elk Mine**Permit Action: **Permit Renewal 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **765**State: **Colorado**Abbreviation: **None**Date: **11/20/2018**County: **Las Animas**Filename: **C012-765**User: **JHB**Agency or organization name: **DRMS****FERTILIZING****Materials**

| Description | Units / Acre | Unit | Cost / Unit | Cost /Acre |
|--------------------------|-----------------|-------|---|----------------|
| 10-34-0, 18-46-0, 5-10-5 | 30.00 | pound | \$0.34 | \$10.20 |
| | | | Total Fertilizer Materials Cost/Acre | \$10.20 |

Application

| Description | Cost /Acre |
|---|----------------|
| Tractor towed spreader (MEANS 32 01 90.13 0120) | \$34.72 |
| Total Fertilizer Application Cost/Acre | \$34.72 |

TILLING

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

SEEDING

| Seed Mix | Rate – PLS LBS / Acre | Seeds per SQ. FT | Cost /Acre |
|----------------------------------|--------------------------------|------------------------|------------|
| Buffalograss - Bison | 0.50 | 0.48 | \$5.90 |
| Blue Grama - Hachita | 0.67 | 10.94 | \$11.16 |
| Little Bluestem - Cimarron | 1.20 | 7.16 | \$17.62 |
| Sideoats Grama - Butte | 2.50 | 8.21 | \$24.75 |
| Milk Vetch, Cicer - Monarch | 0.33 | 1.10 | \$2.77 |
| Streambank Wheatgrass - Sodar | 1.50 | 4.89 | \$9.35 |
| Sainfoin - Remont | 1.67 | 0.73 | \$5.41 |
| Thickspike Wheatgrass - Critana | 0.50 | 1.77 | \$2.94 |
| Western Wheatgrass - Arriba | 2.00 | 5.05 | \$16.56 |
| Rabbitbrush, Rubber | 0.15 | 2.23 | \$9.88 |
| Rose, Wood's | 0.25 | 0.00 | \$5.25 |
| Daisy or Sunflower, Maximillians | 0.11 | 0.62 | \$6.18 |

| | | | |
|---------------------------|--------------|--------------|-----------------|
| Flax, Lewis Blue | 0.11 | 0.73 | \$1.86 |
| Spike Muhly | 0.33 | 12.12 | \$3.25 |
| Penstemon, Rocky Mountain | 0.11 | 1.72 | \$3.32 |
| Totals Seed Mix | 11.93 | 57.76 | \$126.18 |

Application

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

MULCHING and MISCELLANEOUS**Materials**

| Description | Units / Acre | Unit | Cost / Unit | Cost /Acre |
|---|-------------------------|-------------|--------------------|-------------------|
| Straw, delivered {MEANS 31 25 14.16 1200} | 2.00 | TON | \$288.00 | \$576.00 |
| Total Mulch Materials Cost/Acre | | | | \$576.00 |

Application

| Description | Cost /Acre |
|--|-------------------|
| Crimping, with tractor {DMG survey data} | \$68.78 |
| Power mulcher (MEANS 32 91 13.16 0350) | \$92.78 |
| Total Mulch Application Cost/Acre | \$161.56 |

NURSERY STOCK PLANTING

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

JOB TIME AND COST

| | | | |
|----------------------------------|---------|--------------|------------|
| No. of Acres: | 10.2 | Cost /Acre: | \$1,140.66 |
| Estimated Failure Rate: | 33% | Cost /Acre*: | \$358.18 |
| *Selected Replanting Work Items: | SEEDING | | |

Initial Job Cost: **\$11,634.73**
 Reseeding Job Cost: **\$1,205.63**
 Total Job Cost: **\$12,840**
 Job Hours: **20.40**

TRUCK/LOADER TEAM WORKTask description: **Replace Topsoil on NW vent Fan Area (TR72)**Site: **New Elk Mine**Permit Action: Permit Renewal 07Permit/Job#: C1981012**PROJECT IDENTIFICATION**Task #: 766State: ColoradoAbbreviation: NoneDate: 11/30/2018County: Las AnimasFilename: C012-766User: JHBAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Shift basis: 1 per day

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

Cost Breakdown:

| | Truck/Loader Team | | Support Equipment | | Maintenance Equipment | |
|------------------------|-------------------|---------|-------------------|-----------|-----------------------|-------------|
| | Truck | Loader | Load Area | Dump Area | Motor Grader | Water Truck |
| %Utilization-machine: | 100 | 45 | NA | 100 | NA | NA |
| Ownership cost/hour: | \$15.87 | \$19.87 | NA | \$93.62 | NA | NA |
| Operating cost/hour: | \$40.15 | \$10.78 | NA | \$73.35 | NA | NA |
| %Utilization-riper: | NA | 0 | NA | NA | NA | NA |
| Ripper own. cost/hour: | NA | \$0.00 | NA | \$0.00 | NA | NA |
| Ripper op. cost/hour: | NA | \$0.00 | NA | \$0.00 | NA | NA |
| Operator cost/hour: | \$0.00 | \$40.90 | NA | \$41.52 | NA | NA |
| Unit Subtotals: | \$56.02 | \$71.56 | NA | \$208.49 | NA | NA |
| Number of Units: | 1 | 1 | 0 | 1 | 0 | 0 |
| Group Subtotals: | Work: \$127.58 | | Support: \$208.49 | | Maint: \$0.00 | |

Total work team cost/hour: **\$336.07****MATERIAL QUANTITIES**Initial volume: 694

CCY

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

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: 1,600

Pounds/LCY

Description: Top SoilRated Payload: 27,280

Pounds

Payload Capacity: 17.05

LCY

Truck Bed (volume) Basis:

| | | |
|------------------|-------|-----|
| Struck Volume: | 8.00 | LCY |
| Heaped Volume: | 10.00 | LCY |
| Average Volume: | 9.00 | LCY |
| Adjusted Volume: | 10.00 | LCY |

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

Loading Tool Capacity

Bucket Size Class: NA

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

Job Condition Corrections:

Site Altitude (ft.): 7350 feet

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

Loading Tool Cycle Time:

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

Excavators and Front Shovels:

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

Track Loaders – Material Description: _____

Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100

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

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

Truck Cycle Time:

| | | | | | |
|-------------------------------|-------|---------|-----------------------------|-------|---------|
| Truck Exchange Time: | 0.50 | Minutes | Adjusted for site altitude: | 0.500 | Minutes |
| Truck Load Time: | 0.970 | Minutes | Adjusted for site altitude: | 0.970 | Minutes |
| Truck Maneuver and Dump Time: | 0.80 | Minutes | Adjusted for site altitude: | 0.800 | Minutes |

Truck Travel (Haul & Return) Time:

Road Condition: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0

Haul Route:

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

Haul Time: **0.854** minutes

Return Route:

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

Return Time: **0.355** minutesTotal Truck Cycle Time: **3.479** minutes

Loading Tool unit

Production 404.08 LCY/Hour Adjusted for job efficiency: 335.39 LCY/HourTruck Unit Production 170.74 LCY/Hour Adjusted for job efficiency: 141.71 LCY/HourOptimal No. of Trucks: 2 Truck(s) Selected Number of Trucks: 1 Truck(s)

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

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: **5.95** HoursUnit cost: \$2.371 /LCY Total job cost: **\$2,000**

BULLDOZER WORKTask description: **Regrade Access Road to NW Vent Shaft (TR72)**Site: **New Elk Mine**Permit Action: Permit Renewal 07Permit/Job#: C1981012**PROJECT IDENTIFICATION**Task #: 767State: ColoradoAbbreviation: NoneDate: 11/30/2018County: Las AnimasFilename: C012-767User: JHBAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D8T - 8SUHorsepower: 310Blade Type: Semi-UniversalAttachment: 3-shank ripperShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

| | | <u>Utilization %</u> |
|---------------------------|---------|----------------------|
| Ownership Cost/Hour: | \$93.62 | NA |
| Operating Cost/Hour: | \$73.35 | 100 |
| Ripper own. Cost/Hour: | \$8.93 | NA |
| Ripper op. Cost/Hour: | \$1.17 | 15 |
| Operator Cost/Hour: | \$41.52 | NA |

Total unit Cost/Hour: \$218.59Total Fleet Cost/Hour: **\$218.59****MATERIAL QUANTITIES**Initial Volume: 1,111Swell factor: 1.165Loose volume: **1,294 LCY**Source of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell
factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 50 feetUnadjusted hourly
production: 1,400.0 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: -5 %Average site altitude: 7,300 feetMaterial weight: 2,900 lbs/LCYWeight description: Decomposed rock - 50% Rock, 50% Earth**Job Condition Correction Factor****Source**

| | | |
|-----------------------|-------|---------------|
| Operator Skill: | 0.750 | (AVG.) |
| Material consistency: | 0.900 | (CAT HB)) |
| Dozing method: | 1.000 | (GEN.) |
| Visibility: | 1.000 | (AVG.) |
| Job efficiency: | 0.830 | (1 SHIFT/DAY) |
| Spoil pile: | 0.800 | (FND-RF) |
| Push gradient: | 1.115 | (CAT HB) |
| Altitude: | 1.000 | (CAT HB) |
| Material Weight: | 0.793 | (CAT HB) |
| Blade type: | 1.000 | (PAT) |

Net correction: 0.3963

Adjusted unit production: 554.82 LCY/hr

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

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.394/LCY

Total job time: **2.33** Hours

Total job cost: **\$510**

REVEGETATION WORKTask description: Seed NW Vent Fan and Access Road (TR72)Site: New Elk MinePermit Action: Permit Renewal 07Permit/Job#: C1981012**PROJECT IDENTIFICATION**Task #: 768State: ColoradoAbbreviation: NoneDate: 11/30/2018County: Las AnimasFilename: C012-768User: JHBAgency 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 |
|---------------------------------|--------------------------------|------------------------|------------|
| Blue Grama - Native | 0.67 | 10.94 | \$9.95 |
| Buffalograss - Native/Plains | 0.50 | 0.48 | \$6.06 |
| Little Bluestem - Native | 1.20 | 7.16 | \$19.36 |
| Sideoats Grama - Vaughn | 2.50 | 8.21 | \$25.60 |
| Smooth Brome - Lincoln | 1.00 | 3.33 | \$4.36 |
| Kleingrass - Select 75 | 0.33 | 3.77 | \$3.27 |
| Milk Vetch, Cicer - Monarch | 0.33 | 1.10 | \$2.77 |
| Streambank Wheatgrass - Sodar | 1.50 | 4.89 | \$9.35 |
| Sainfoin - Remont | 1.67 | 0.73 | \$5.41 |
| Thickspike Wheatgrass - Critana | 0.50 | 1.77 | \$2.94 |

| | | | |
|-----------------------------|-------|-------|-----------------|
| Western Wheatgrass - Native | 2.00 | 5.05 | \$14.34 |
| Totals Seed Mix | 12.20 | 47.42 | \$103.40 |

Application

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

MULCHING and MISCELLANEOUS**Materials**

| Description | Units / Acre | Unit | Cost / Unit | Cost /Acre |
|---|-----------------|------|-------------|-----------------|
| Straw, delivered {MEANS 31 25 14.16 1200} | 2.00 | TON | \$288.00 | \$576.00 |
| Total Mulch Materials Cost/Acre | | | | \$576.00 |

Application

| Description | Cost /Acre |
|--|----------------|
| Crimping, with tractor {DMG survey data} | \$68.78 |
| Total Mulch Application Cost/Acre | \$68.78 |

NURSERY STOCK PLANTING

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

JOB TIME AND COST

| | | | |
|----------------------------------|------------------|--------------|----------|
| No. of Acres: | 1.55 | Cost /Acre: | \$980.18 |
| Estimated Failure Rate: | 40% | Cost /Acre*: | \$980.18 |
| *Selected Replanting Work Items: | SEEDING,MULCHING | | |

| | |
|---------------------|-------------------|
| Initial Job Cost: | \$1,519.28 |
| Reseeding Job Cost: | \$607.71 |
| Total Job Cost: | \$2,127 |
| Job Hours: | 1.55 |

BOREHOLE SEALING WORKTask description: **Seal Additional Wells**Site: **New Elk Mine**Permit Action: **Permit Renewal 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **772**State: **Colorado**Abbreviation: **None**Date: **11/20/2018**County: **Las Animas**Filename: **C012-772**User: **JHB**Agency or organization name: **DRMS****UNIT COSTS**

| Borehole Description | Sealing/Item Method | Diameter | Length | Quantity | Unit | Unit Cost | Total Cost |
|----------------------|--|----------|--------|----------|------|-----------|------------|
| Seal SF2 | Portland cement grout (Bag, material cost only...94 lb. bag) | 7.625 | 700.6 | 122.28 | bag | \$13.80 | \$1,687.46 |
| Plug Hole | PVC plug - 8 in. diameter borehole | 8 | NA | 1.00 | EA | \$79.19 | \$79.19 |
| Marker | Borehole location/identification marker (EA, material cost only) | NA | NA | 1.00 | EA | \$3.67 | \$3.67 |
| Cut Casing | Exposed casing removal - Calculate Circumference in Linear Feet | 7.625 | NA | 1.00 | LF | \$1.83 | \$1.83 |
| Seal NM20 | Portland cement grout (Bag, material cost only...94 lb. bag) | 7.625 | 507 | 88.48 | bag | \$13.80 | \$1,221.02 |
| Plug Hole | PVC plug - 8 in. diameter borehole | 8 | NA | 1.00 | EA | \$79.19 | \$79.19 |
| Cut Casing | Exposed casing removal - Calculate Circumference in Linear Feet | 7.625 | NA | 1.00 | LF | \$1.83 | \$1.83 |
| Mark Hole | Borehole location/identification marker (EA, material cost only) | NA | NA | 1.00 | EA | \$3.67 | \$3.67 |
| Seal NM21 | Portland cement grout (Bag, material cost only...94 lb. bag) | 7.625 | 1244.5 | 217.21 | bag | \$13.80 | \$2,997.50 |
| Plug Hole | PVC plug - 8 in. diameter borehole | 8 | NA | 1.00 | EA | \$79.19 | \$79.19 |
| Cut Casing | Exposed casing removal - Calculate Circumference in Linear Feet | 7.625 | NA | 1.00 | LF | \$1.83 | \$1.83 |
| Mark Hole | Borehole location/identification marker (EA, material cost only) | NA | NA | 1.00 | EA | \$3.67 | \$3.67 |
| Seal NM22 | Portland cement grout (| 7.625 | 562.7 | 98.21 | bag | \$13.80 | \$1,355.30 |

| | | | | | | | |
|-------------------------|--|-------|---------|--------|-----|----------|------------|
| | Bag, material cost only...94 lb. bag) | | | | | | |
| Plug Hole | PVC plug - 8 in. diameter borehole | 8 | NA | 1.00 | EA | \$79.19 | \$79.19 |
| Cut Casing | Exposed casing removal - Calculate Circumference in Linear Feet | 7.625 | NA | 1.00 | LF | \$1.83 | \$1.83 |
| Mark Hole | Borehole location/identification marker (EA, material cost only) | NA | NA | 1.00 | EA | \$3.67 | \$3.67 |
| Seal NM23 | Portland cement grout (Bag, material cost only...94 lb. bag) | 7.625 | 1388.91 | 242.41 | bag | \$13.80 | \$3,345.26 |
| Plug Hole | PVC plug - 8 in. diameter borehole | 8 | NA | 1.00 | EA | \$79.19 | \$79.19 |
| Cut Casing | Exposed casing removal - Calculate Circumference in Linear Feet | 7.625 | NA | 1.00 | LF | \$1.83 | \$1.83 |
| Mark Hole | Borehole location/identification marker (EA, material cost only) | NA | NA | 1.00 | EA | \$3.67 | \$3.67 |
| Drill Rig | Atlas Capco DM45/HP - 9.0" | 7.625 | NA | 36.00 | EA | \$244.31 | \$8,795.16 |
| Flatbed Equipment Truck | Flatbed Truck, 4x2, 15K GVW | NA | NA | 36.00 | EA | \$20.88 | \$751.68 |
| Water Truck | Water Tanker, 5,000 Gal. | NA | NA | 36.00 | EA | \$61.90 | \$2,228.40 |

Job Hours: 36.00Total Cost: \$22,805.00

SITE MAINTENANCETask description: Site Maintenance during the 10 year liability periodSite: New Elk MinePermit Action: Permit Renewal 07Permit/Job#: C1981012PROJECT IDENTIFICATIONTask #: 773State: ColoradoAbbreviation: NoneDate: 11/28/2018County: Las AnimasFilename: C012-773User: JHBAgency or organization name: DRMSUNIT COSTS

| Maintenance Item | Hours per Year | Menu Selection | Quantity | Unit | Unit Cost | Total Cost |
|-----------------------|----------------|------------------|----------|------|-----------|-------------|
| Rill and gully repair | 400.00 | Cat D3K LGP - 3P | 400.00 | EA | \$86.35 | \$34,540.00 |

Job Hours: 400.00Total Cost: \$34,540.00

TRUCK/LOADER TEAM WORKTask description: **Import Topsoil for RDA**Site: **New Elk Mine**Permit Action: **Permit Renewal 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **774**State: **Colorado**Abbreviation: **None**Date: **11/19/2018**County: **Las Animas**Filename: **C012-774**User: **JHB**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Shift basis: **1 per day**

| Equipment Description | |
|---------------------------------|-----------------------|
| Truck Loader Team -Truck: | Generic 15-18 cy, 6x4 |
| -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 | 0 | NA | NA | NA | NA |
| Ownership cost/hour: | \$27.28 | \$87.28 | NA | NA | NA | NA |
| Operating cost/hour: | \$50.67 | \$0.00 | 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: | \$30.37 | \$40.90 | NA | NA | NA | NA |
| Unit Subtotals: | \$108.31 | \$128.18 | NA | NA | NA | NA |
| Number of Units: | 4 | 1 | 0 | 0 | 0 | 0 |
| Group Subtotals: | Work: \$561.42 | | Support: \$0.00 | | Maint: \$0.00 | |

Total work team cost/hour: **\$561.42****MATERIAL QUANTITIES**Initial volume: **14,563**

CCY

Swell factor: **1.000**Loose volume: **14,563**

LCY

Source of estimated volume: **Division of Reclamation, Mining & Safety**Source of estimated swell factor: **Cat Handbook**Material Purchase Cost: **\$10.00**Total Cost: **\$145,630.00****HOURLY PRODUCTION****Truck Capacity:****Truck Payload (weight) Basis:**Material weight: **1,600**

Pounds/LCY

Description: **Top Soil**Rated Payload: **63,980**

Pounds

Payload Capacity: **39.99**

LCY

Truck Bed (volume) Basis:

| | | |
|------------------|-------|-----|
| Struck Volume: | 15.00 | LCY |
| Heaped Volume: | 18.00 | LCY |
| Average Volume: | 16.50 | LCY |
| Adjusted Volume: | 18.00 | LCY |

Final Truck Volume Based on Number of Loader Passes: 9.66 LCY

Loading Tool Capacity

Bucket Size Class: NA

| | | |
|---------------------|--------------|-------------------------------------|
| Rated Capacity: | 9.200 | LCY (heaped) |
| Bucket Fill Factor: | 1.050 | Other - moist loam (100-110%) 1.050 |
| Adjusted Capacity: | 9.660 | LCY |

Job Condition Corrections:

Site Altitude (ft.): 5000 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: 1 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: | Material 1/8" to 3/4" diameter -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: | | -0.090 | minutes |
| Adjusted Loader Cycle Time: | | 0.485 | minutes |
| Net Load Time per Truck: | | 0.100 | minutes |

Truck Cycle Time:

| | | | | | |
|-------------------------------|-------|---------|-----------------------------|-------|---------|
| Truck Exchange Time: | 0.50 | Minutes | Adjusted for site altitude: | 0.500 | Minutes |
| Truck Load Time: | 0.100 | Minutes | Adjusted for site altitude: | 0.100 | 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 | 500.00 | 10.00 | 3.00 | 13.00 | 710 | 0.714 |

Haul Time: **0.714** minutes

Return Route:

| Seg # | Haul Distance (Ft) | Grade (%) | Roll. Res (%) | Total Res (%) | Velocity (fpm) | Travel Time (min) |
|-------|-----------------------|-----------|------------------|------------------|-------------------|-------------------------|
| 1 | 500.00 | -10.00 | 3.00 | -7.00 | 2972 | 0.226 |

Return Time: **0.226** minutesTotal Truck Cycle Time: **2.440** minutes

Loading Tool unit
 Production 966.00 LCY/Hour Adjusted for job efficiency: 801.78 LCY/Hour
 Truck Unit Production
237.54 LCY/Hour Adjusted for job efficiency: 197.16 LCY/Hour

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

Adjusted hourly truck team production: 788.64 LCY/Hour
 Adjusted single truck/loader team production: 788.64 LCY/Hour
 Adjusted multiple truck/loader team production: **788.64** LCY/Hour

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: **18.47** HoursUnit cost: \$0.712 /LCY Total job cost: **\$155,997**

EQUIPMENT MOBILIZATION/DEMobilIZATIONTask description: **Mobilize/Demobilize Equipment for Initial Reclamation**Site: **New Elk Mine**Permit Action: **Permit Renewal 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **790**State: **Colorado**Abbreviation: **None**Date: **11/29/2018**County: **Las Animas**Filename: **C012-790**User: **JHB**Agency or organization name: **DRMS****EQUIPMENT TRANSPORT RIG COST**Shift basis: **1 per day**Cost Data Source: **CRG Data**Truck Tractor Description: **GENERIC ON-HIGHWAY TRUCK TRACTOR, 6X4, DIESEL POWERED,
400 HP (2ND HALF, 2006)**Truck Trailer Description: **GENERIC FOLDING GOOSENECK, DROP DECK EQUIPMENT TRAILER
(25T, 50T, AND 100T)****Cost Breakdown:**

| Available Rig Capacities | 0-25 Tons | 26-50 Tons | 51+ Tons |
|---------------------------------|------------------|-------------------|-----------------|
| Ownership Cost/Hour: | \$16.63 | \$18.37 | \$22.33 |
| Operating Cost/Hour: | \$44.38 | \$46.13 | \$50.07 |
| Operator Cost/Hour: | \$27.66 | \$27.66 | \$27.66 |
| Helper Cost/Hour: | \$0.00 | \$25.39 | \$25.39 |
| Total Unit Cost/Hour: | \$88.67 | \$117.55 | \$125.45 |

NON ROADABLE EQUIPMENT:

| Machine Description | Weight/ Unit (TONS) | Owner ship Cost/hr/ unit | Haul Rig Cost/hr/unit | Fleet Size | Haul Trip Cost/hr/ fleet | Return Trip Cost/hr/ fleet | DOT Permit Cost/ fleet |
|-------------------------------|---------------------------|-----------------------------|--------------------------|---------------|--------------------------------|-------------------------------|---------------------------|
| Cat D9T - 9SU | 60.01 | \$110.70 | \$125.45 | 3 | \$708.45 | \$376.35 | \$750.00 |
| CAT 14M | 23.57 | \$60.13 | \$88.67 | 1 | \$148.80 | \$88.67 | \$250.00 |
| Cat 627G | 41.80 | \$102.39 | \$117.55 | 2 | \$439.88 | \$235.10 | \$500.00 |
| Water Tanker, 5,000 Gal. | 15.00 | \$25.30 | \$88.67 | 1 | \$113.97 | \$88.67 | \$250.00 |
| Atlas Capco DM45/HP - 9.0" | 0.00 | \$101.20 | \$88.67 | 1 | \$189.87 | \$88.67 | \$250.00 |
| CAT 950H | 20.13 | \$26.14 | \$88.67 | 1 | \$114.81 | \$88.67 | \$250.00 |

Subtotals: **\$1,715.78 \$966.13 \$2,250.00****ROADABLE EQUIPMENT:**

| Machine Description | Total Cost/hr/ unit | Fleet Size | Haul Trip Cost/hr/ fleet | Return Trip Cost/hr/ fleet |
|--------------------------|---------------------|------------|-----------------------------|-------------------------------|
| Generic 10-12 cy, 6x4 | \$90.91 | 3 | \$272.73 | \$272.73 |
| Fuel Tanker, 4x2, 170 HP | \$24.48 | 1 | \$24.48 | \$24.48 |
| Lube Truck, 4x2, 190 HP | \$29.35 | 1 | \$29.35 | \$29.35 |

Subtotals: **\$326.56 \$326.56**

EQUIPMENT HAUL DISTANCE and Time

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

| | |
|-------------------------------------|-------------|
| Total Non-Roadable Mob/Demob Cost * | \$11,579.60 |
| '* two round trips with haul rig: | |
| Total Roadable Mob/Demob Cost ** | \$653.12 |
| '** 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): | 0.25 | NA |
| Unloading Time (Hours): | 0.25 | NA |
| Subtotals: | 2.50 | 2.00 |

JOB TIME AND COST

| | | |
|-----------------|------|-------|
| Total job time: | 5.00 | Hours |
|-----------------|------|-------|

| | |
|-----------------|----------|
| Total job cost: | \$12,233 |
|-----------------|----------|

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Mobilize/Demobilize Equipment for Pond Cleaning**Site: **New Elk Mine**Permit Action: **Permit Renewal 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **791**State: **Colorado**Abbreviation: **None**Date: **11/29/2018**County: **Las Animas**Filename: **C012-791**User: **JHB**Agency or organization name: **DRMS****EQUIPMENT TRANSPORT RIG COST**Shift basis: **1 per day**Cost Data Source: **CRG Data**Truck Tractor Description: **GENERIC ON-HIGHWAY TRUCK TRACTOR, 6X4, DIESEL POWERED,
400 HP (2ND HALF, 2006)**Truck Trailer Description: **GENERIC FOLDING GOOSENECK, DROP DECK EQUIPMENT TRAILER
(25T, 50T, AND 100T)****Cost Breakdown:**

| Available Rig Capacities | 0-25 Tons | 26-50 Tons | 51+ Tons |
|---------------------------------|------------------|-------------------|-----------------|
| Ownership Cost/Hour: | \$16.63 | \$18.37 | \$22.33 |
| Operating Cost/Hour: | \$44.38 | \$46.13 | \$50.07 |
| Operator Cost/Hour: | \$27.66 | \$27.66 | \$27.66 |
| Helper Cost/Hour: | \$0.00 | \$25.39 | \$25.39 |
| Total Unit Cost/Hour: | \$88.67 | \$117.55 | \$125.45 |

NON ROADABLE EQUIPMENT:

| Machine Description | Weight/ Unit (TONS) | Owner ship Cost/hr/ unit | Haul Rig Cost/hr/unit | Fleet Size | Haul Trip Cost/hr/ fleet | Return Trip Cost/hr/ fleet | DOT Permit Cost/ fleet |
|----------------------------|---------------------------|-----------------------------|--------------------------|---------------|--------------------------------|-------------------------------|---------------------------|
| Cat 336D L 10'-6" Stick | 32.23 | \$50.81 | \$117.55 | 1 | \$168.36 | \$117.55 | \$250.00 |

Subtotals: **\$168.36** **\$117.55** **\$250.00****ROADABLE EQUIPMENT:**

| Machine Description | Total Cost/hr/ unit | Fleet Size | Haul Trip Cost/hr/ fleet | Return Trip Cost/hr/ fleet |
|----------------------|---------------------|------------|-----------------------------|-------------------------------|
| Generic 8-10 cy, 6x4 | \$85.75 | 3 | \$257.25 | \$257.25 |

Subtotals: **\$257.25** **\$257.25**

EQUIPMENT HAUL DISTANCE and Time

| | | |
|--|-----------------|-------|
| Nearest Major City or Town within project area region: | <u>TRINIDAD</u> | |
| Total one-way travel distance: | <u>40.00</u> | miles |
| Average Travel Speed: | <u>40.00</u> | mph |

| | |
|-------------------------------------|-------------------|
| Total Non-Roadable Mob/Demob Cost * | <u>\$1,240.18</u> |
| '* two round trips with haul rig: | |
| Total Roadable Mob/Demob Cost ** | <u>\$514.50</u> |
| '** one round trip, no haul rig: | |

Transportation Cycle Time:

| | Non-Roadable Equipment | Roadable Equipment |
|-------------------------|---------------------------|-----------------------|
| Haul Time (Hours): | <u>1.00</u> | <u>1.00</u> |
| Return Time (Hours): | <u>1.00</u> | <u>1.00</u> |
| Loading Time (Hours): | <u>0.25</u> | <u>NA</u> |
| Unloading Time (Hours): | <u>0.25</u> | <u>NA</u> |
| Subtotals: | <u>2.50</u> | <u>2.00</u> |

JOB TIME AND COST

| | | |
|-----------------|-------------|-------|
| Total job time: | <u>5.00</u> | Hours |
|-----------------|-------------|-------|

| | |
|-----------------|----------------|
| Total job cost: | <u>\$1,755</u> |
|-----------------|----------------|

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Mobilize/Demobilize Equipment for Pond Removal**Site: **New Elk Mine**Permit Action: **Permit Renewal 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **792**State: **Colorado**Abbreviation: **None**Date: **11/29/2018**County: **Las Animas**Filename: **C012-792**User: **JHB**Agency or organization name: **DRMS****EQUIPMENT TRANSPORT RIG COST**Shift basis: **1 per day**Cost Data Source: **CRG Data**Truck Tractor Description: **GENERIC ON-HIGHWAY TRUCK TRACTOR, 6X4, DIESEL POWERED,
400 HP (2ND HALF, 2006)**Truck Trailer Description: **GENERIC FOLDING GOOSENECK, DROP DECK EQUIPMENT TRAILER
(25T, 50T, AND 100T)****Cost Breakdown:**

| Available Rig Capacities | 0-25 Tons | 26-50 Tons | 51+ Tons |
|---------------------------------|------------------|-------------------|-----------------|
| Ownership Cost/Hour: | \$16.63 | \$18.37 | \$22.33 |
| Operating Cost/Hour: | \$44.38 | \$46.13 | \$50.07 |
| Operator Cost/Hour: | \$27.66 | \$27.66 | \$27.66 |
| Helper Cost/Hour: | \$0.00 | \$25.39 | \$25.39 |
| Total Unit Cost/Hour: | \$88.67 | \$117.55 | \$125.45 |

NON ROADABLE EQUIPMENT:

| Machine Description | Weight/ Unit (TONS) | Owner ship Cost/hr/ unit | Haul Rig Cost/hr/unit | Fleet Size | Haul Trip Cost/hr/ fleet | Return Trip Cost/hr/ fleet | DOT Permit Cost/ fleet |
|---------------------|---------------------------|-----------------------------|--------------------------|---------------|--------------------------------|-------------------------------|---------------------------|
| Cat D9T - 9SU | 60.01 | \$110.70 | \$125.45 | 1 | \$236.15 | \$125.45 | \$250.00 |
| Subtotals: | | | | | \$236.15 | \$125.45 | \$250.00 |

ROADABLE EQUIPMENT:

| Machine Description | Total Cost/hr/ unit | Fleet Size | Haul Trip Cost/hr/ fleet | Return Trip Cost/hr/ fleet |
|-----------------------------|---------------------|------------|-----------------------------|-------------------------------|
| Flatbed Truck, 6x4, 45K GVW | \$45.37 | 1 | \$45.37 | \$45.37 |
| Subtotals: | | | \$45.37 | \$45.37 |

EQUIPMENT HAUL DISTANCE and Time

| | | |
|--|------------|-------|
| Nearest Major City or Town within project area region: | TRINIDAD | |
| Total one-way travel distance: | 40.00 | miles |
| Average Travel Speed: | 40.00 | mph |
| Total Non-Roadable Mob/Demob Cost * | | |
| '* two round trips with haul rig: | \$1,459.35 | |
| Total Roadable Mob/Demob Cost ** | | |
| '** one round trip, no haul rig: | \$90.74 | |

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): | 0.25 | NA |
| Unloading Time (Hours): | 0.25 | NA |
| Subtotals: | 2.50 | 2.00 |

JOB TIME AND COST

| | | |
|-----------------|---------|-------|
| Total job time: | 5.00 | Hours |
| Total job cost: | \$1,550 | |

EQUIPMENT MOBILIZATION/DEMobilIZATIONTask description: **Mobilize/Demobilize Equipment for Site Maintenance**Site: **New Elk Mine**Permit Action: **Permit Renewal 07**Permit/Job#: **C1981012****PROJECT IDENTIFICATION**Task #: **793**State: **Colorado**Abbreviation: **None**Date: **11/29/2018**County: **Las Animas**Filename: **C012-793**User: **JHB**Agency or organization name: **DRMS****EQUIPMENT TRANSPORT RIG COST**Shift basis: **1 per day**Cost Data Source: **CRG Data**Truck Tractor Description: **GENERIC ON-HIGHWAY TRUCK TRACTOR, 6X4, DIESEL POWERED,
400 HP (2ND HALF, 2006)**Truck Trailer Description: **GENERIC FOLDING GOOSENECK, DROP DECK EQUIPMENT TRAILER
(25T, 50T, AND 100T)****Cost Breakdown:**

| Available Rig Capacities | 0-25 Tons | 26-50 Tons | 51+ Tons |
|---------------------------------|------------------|-------------------|-----------------|
| Ownership Cost/Hour: | \$16.63 | \$18.37 | \$22.33 |
| Operating Cost/Hour: | \$44.38 | \$46.13 | \$50.07 |
| Operator Cost/Hour: | \$27.66 | \$27.66 | \$27.66 |
| Helper Cost/Hour: | \$0.00 | \$25.39 | \$25.39 |
| Total Unit Cost/Hour: | \$88.67 | \$117.55 | \$125.45 |

NON ROADABLE EQUIPMENT:

| Machine Description | Weight/ Unit (TONS) | Owner ship Cost/hr/ unit | Haul Rig Cost/hr/unit | Fleet Size | Haul Trip Cost/hr/ fleet | Return Trip Cost/hr/ fleet | DOT Permit Cost/ fleet |
|---------------------|---------------------------|-----------------------------|--------------------------|---------------|--------------------------------|-------------------------------|---------------------------|
| Cat D3K LGP - 3P | 9.20 | \$22.85 | \$88.67 | 10 | \$1,115.20 | \$886.70 | \$0.00 |
| Subtotals: | | | | | \$1,115.20 | \$886.70 | \$0.00 |

ROADABLE EQUIPMENT:

| Machine Description | Total Cost/hr/ unit | Fleet Size | Haul Trip Cost/hr/ fleet | Return Trip Cost/hr/ fleet |
|---------------------|---------------------|------------|-----------------------------|-------------------------------|
| Subtotals: | | | \$0.00 | \$0.00 |

EQUIPMENT HAUL DISTANCE and Time

| | | |
|--|-----------------|-------|
| Nearest Major City or Town within project area region: | <u>TRINIDAD</u> | |
| Total one-way travel distance: | <u>40.00</u> | miles |
| Average Travel Speed: | <u>55.00</u> | mph |

| | |
|-------------------------------------|-------------------|
| Total Non-Roadable Mob/Demob Cost * | <u>\$4,027.05</u> |
| '* two round trips with haul rig: | |
| Total Roadable Mob/Demob Cost ** | <u>\$0.00</u> |
| ** one round trip, no haul rig: | |

Transportation Cycle Time:

| | Non-Roadable Equipment | Roadable Equipment |
|-------------------------|---------------------------|-----------------------|
| Haul Time (Hours): | <u>0.73</u> | <u>0.73</u> |
| Return Time (Hours): | <u>0.73</u> | <u>0.73</u> |
| Loading Time (Hours): | <u>0.25</u> | <u>NA</u> |
| Unloading Time (Hours): | <u>0.25</u> | <u>NA</u> |
| Subtotals: | <u>1.95</u> | <u>1.45</u> |

JOB TIME AND COST

| | | |
|-----------------|-------------|-------|
| Total job time: | <u>3.91</u> | Hours |
|-----------------|-------------|-------|

| | |
|-----------------|----------------|
| Total job cost: | <u>\$4,027</u> |
|-----------------|----------------|