

Department of Natural Resources

Rm 215 1001 E 62nd Ave Denver CO 80216

May 31, 2023

Matthew Welte Summit Brick & Tile Co. 601 East 13th Street Pueblo, CO 81002

RE: Fox #1 Clay Mine, Permit No. # M-1977-219, Technical Revision (TR-2), Adequacy Review-#1

Dear Mr. Welte:

The Division of Reclamation, Mining and Safety (Division) is in the process of reviewing the above referenced Technical Revision in order to ensure that it adequately satisfies the requirements of the Colorado Mined Land Reclamation Act (§ § 34-32.5-101-34-32.5-125) (Act) and the Rules and Regulations for the Extraction of Construction Materials (Rules). During review of the material submitted, the Division determined that the following issue of concern needs to be adequately addressed before the Technical Revision can be considered for approval:

1. The Division has created an updated cost estimate reflecting the reclamation responsibility for the Fox #1 Clay Mine according to the current permit file and the dimensions provided in the TR-2 application. Please review the attached cost estimate and provide any comments or concur with the estimate to the Division by the decision date (June 17, 2023).

Please submit your response(s) to the above listed issue(s) at least three days prior to the decision date in order to allow the Division sufficient time for review. If you cannot address the above issues by this date, please request an extension to the decision due date to ensure adequate time for the Division to review materials. If any adequacy issues remain by the decision due date the Division may deny your request.

The Division will continue to review your Technical Revision and will contact you if additional information is needed.

If you require additional information, or have questions or concerns, please contact me via email at amber.michels@state.co.us or by telephone at (720) 836-0967.

Sincerely,

Amber Michels

Environmental Protection Specialist



Enclosure: DRMS TR-2 Cost Estimate
Ec: Jared Ebert, Senior EPS, DRMS

COST SUMMARY WORK

| Т | ask description: Reclamation work cost esti | mate summary | | | |
|------------|---|----------------------------|---------------|--------------------------|-----------------------|
| Site: | Fox #1 Clay Mine | TR2 and 2023 Inspection | | Permit/. | Job#: <u>M1977219</u> |
| <u>PI</u> | ROJECT IDENTIFICATION | | | | |
| | Task #: 000 State: Colorado Date: 5/30/2023 County: Pueblo User: ANM Agency or organization name: DRMS | | | Abbreviation Filename | |
| <u>T</u> A | ASK LIST (DIRECT COSTS) | | | | |
| Task | Description | Form Used | Fleet Size | Task Hours | Cost |
| 001 | Doze overburden (Zone 1) off highwall | DOZER | 1 | 4.95 | \$1,374 |
| 002 | Backfill remaining highwall | SCRAPER1 | 1 | 94.24 | \$412,253 |
| 003 | Replace root zone material | SCRAPER1 | 1 | 12.74 | \$55,708 |
| 004 | Replace growth medium (topsoil) | SCRAPER1 | 1 | 5.76 | \$25,176 |
| 005 | Revegetate 60 acres | REVEGE | 1 | 60.00 | \$86,270 |
| 006 | Mob/Demob of Reclamation Equipment | MOBILIZE | 1 | 10.18 | \$37,117 |
| | | <u>SUBTO</u> | TALS: | 187. | 87 \$617,898 |
| | DIRECT COSTS /ERHEAD AND PROFIT: | | | | |
| | Liability insurance: 2.02 | | | Total = | \$12,482 |
| | Performance bond: 1.05 | | | Total = | \$6,488 |
| | Job superintendent: 93.94 | | | Total = | \$7,057 |
| | Profit: 10.00 | | тоты | Total = _ | \$61,790 |
| | CONT | RACT AMOUNT | | O & P = | \$87,817 \$705,715 |
| | CONT | KACI AMOUNI | (direct + | 0&F) | \$703,713 |
| LE | GAL - ENGINEERING - PROJECT MANAGEMENT | :: | | | |
| | Financial warranty processing (legal/related costs): | \$500 | | Total = | \$500 |
| | Engineering work and/or contract/bid preparation: | 4.25 | _ | Total = | \$29,993 |
| | Reclamation management and/or administration: | 5.00 | _ | _ | \$35,286 |
| | CONTINGENCY: | 0.00 | | Total = | \$0 |

TOTAL INDIRECT COST = \$153,595

TOTAL BOND AMOUNT (direct + indirect) = \$771,493

BULLDOZER WORK

| Task description: | Doze overburde | en (Zone 1) o | ff highwall | | |
|---|-------------------------------|--------------------|----------------------------|----------------------------|---------------------|
| Site: Fox #1 Clay Mine | Pe | ermit Action: | TR2 and 2023 Inspection | Permit/Jo | b#: <u>M1977219</u> |
| PROJECT IDENTIF | ICATION | | | | |
| Task #: 001 Date: 5/30/2023 | State: | Colorado Pueblo | | Abbreviation: Filename: | None 001 |
| User: ANM | | | | | |
| Agency or orga | nization name: DI | RMS | | | |
| HOURLY EQUIPMI | ENT COST | | | | |
| | at D8T - 8SU | | _ | | |
| Horsepower: 31 | | | - | | |
| | emi-Universal shank ripper | | = | | |
| | per day | | - | | |
| | CRG) | | = | | |
| Cost Breakdown: | | | | | |
| | | | <u>Utilization %</u> | | |
| Ownership Cost/Hour: | | \$124.85 | NA | | |
| Operating Cost/Hour: | | \$97.63 | 100 | | |
| Ripper own. Cost/Hour: | | \$13.10 | NA | | |
| Ripper op. Cost/Hour: | | \$1.83 | 25 | | |
| Operator Cost/Hour: | | \$40.04 | NA | | |
| Total unit Cost/Hour: | \$277.44 | | | | |
| Total Fleet Cost/Hour: | \$277.44 | | | | |
| | | | | | |
| MATERIAL QUANT | <u> </u> | | | | |
| Initial Volume: 3,5 | 60 | | | | |
| Swell factor: 1.3 | | | | | |
| Loose volume: 4,7 | 35 LCY | | | | |
| Source of estimated vo Source of estimated sw factor: | 1 | | 3H:1V and 4,500 l.f (| ΓR2 2023) | |
| HOURLY PRODUC | TION | | | | |
| Average push distance: | 50 feet | | | | |
| Unadjusted hourly production: | 1,400.0 LC | Y/hr | | | |
| Materials consistency description: | Сотра | icted fill or er | mbankment 0.9 | | |
| Average push gradient: | -30 % | | | | |
| Average site altitude: | 6,200 feet | | | | |
| Material weight: | 2,900 lbs/LCY | | | | |

| Weight description: | Decomposed rock - 50% Rock, 50% Earth |
|---------------------|---------------------------------------|
| | |

| Job Condition Correction Factor | | Source |
|---------------------------------|-------|---------------|
| Operator Skill: | 0.750 | (AVG.) |
| Material consistency: | 0.900 | (CAT HB)) |
| Dozing method: | 1.200 | (SLOT) |
| Visibility: | 1.000 | (AVG.) |
| Job efficiency: | 0.830 | (1 SHIFT/DAY) |
| Spoil pile: | 0.800 | (SSD-AC) |
| Push gradient: | 1.601 | (CAT HB) |
| Altitude: | 1.000 | (CAT HB) |
| Material Weight: | 0.793 | (CAT HB) |
| Blade type: | 1.000 | (PAT) |
| | | ` |

Net correction: 0.6828

Adjusted unit production:

Adjusted fleet production:

955.92 LCY/hr

955.92 LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: \$0.290/LCY

Total job time: 4.95 Hours
Total job cost: \$1,374

SCRAPER TEAM WORK

| Task description: | Backfill re | emaining l | highwal | 11 | | | |
|---|--|---------------------------------|-------------------------|------------------------------|---------------------------------------|-----------------------------|---------------|
| Site: Fox #1 Clay Min | ne | Permit | Action | : TR2 and 2023 Inspection | | Permit/Job#: N | И1977219 |
| PROJECT IDENT | <u> TIFICATION</u> | | | | | | |
| Task #: 002 Date: 5/30/2 User: ANM | 2023 Con | unty: P | olorado ueblo | | | viation: None ename: 002 | ; |
| | | Diane | | | | | |
| HOURLY EQUIP | <u>PMENT</u> | | | COSTS | Shift basis: 1 per | <u>day</u> | |
| | rt Equipment -Loa | craper: -Dozer: d Area: p Area: | Cat 637 NA Cat D8 | T - 8SU T - 8SU | | | |
| | -Water | Truck: | Water 7 | Γanker, 2,500 Ga | 1. | | |
| Cost Breakdown: | Scraper Wor | rk Team | | Support Equ | ipment | Maintena | nce Equipment |
| COST DI CHILLO HILL | Scraper | Doze | r | Load Area | Dump Area | Motor Grader | |
| %Utilization-machine: | 100 | | NA | 100 | 100 | 50 | 50 |
| Ownership cost/hour: | \$264.49 | | NA | \$124.85 | \$124.85 | \$75.87 | \$10.28 |
| Operating cost/hour: | \$296.10 | | NA | \$97.63 | \$97.63 | \$26.91 | \$10.16 |
| %Utilization-ripper: | NA | | NA | 25 | 25 | 25 | NA NA |
| Ripper own. cost/hour: | NA | | NA | \$13.10 | \$13.10 | \$2.84 | \$0.00 |
| Ripper op. cost/hour: | NA | | NA | \$1.83 | \$1.83 | \$0.63 | \$0.00 |
| Operator cost/hour: | \$47.07 | | NA | \$40.04 | \$40.04 | \$46.87 | \$0.00 |
| Unit Subtotals: | \$607.66 | | NA | \$277.44 | \$277.44 | \$153.12 | \$20.44 |
| Number of Units: | 6 | | 0 | 1 | 1 | 1 | |
| Group Subtotals: | Work: | \$3,645 | .96 | Support: | \$554.88 | Maint: | \$173.56 |
| Total work team cost MATERIAL QUA | ANTITIES | | | C- 11 C | 1.165 | | |
| Initial volume: Loose volume: | | | CCY LCY | Swell fact | tor: 1.165 | | |
| Sou | rce of estimated vo | olume: 4 | | | ninus 9' (applica | tion) to 3H:1V | |
| HUIDI A DDADI | ICTION | | | | | | |
| HOURLY PRODI | <u>UCTION</u> | | | Scraper F | Bowl (volume) Ba | ocie: | |
| 367 11 11 | 2 000 11 /7 077 | | | • | · · · · · · · · · · · · · · · · · · · | | LOW |
| Material weight: Material description: | 2,900 lbs/LCY Decomposed roo 50% Earth | ck - 50% R | lock, | | Volume: 24.00 Volume: 34.00 | | LCY LCY |
| Rated Payload: | | | | Average | Volume: 29.00 |) | LCY |

| Scraper Push Dozer Source | ost Summ | iary workshee | t Cont u | | Tusic III O | 00 | | 1 4 5 0 |
|--|-----------|----------------|-----------|---------------|------------------|--------------------|--------------------|---------------------|
| Anaeuver and Spread Time: Description | Payload | Capacity: 28 | 3.14 LCY | r | | Adjusted Capac | eity: 28.14 | LCY |
| Anaeuver and Spread Time: Description | | | | | | | | |
| Maneuver and Spread Time: 0.60 Minutes | ycle Time | <u>e:</u> | | | | | | |
| Net Correction: 0.830 NA (CAT HB) | | | ime: | | | | | |
| Altitude Adj: 1.000 | b Condit | ion Correction | <u>:</u> | | | | Site | Altitude: 6200 feet |
| Net Correction: 0.830 | | | | | | | | |
| Net Correction: 0.830 | | | | | | | | |
| Road Condition: Hard, smooth, stabilized, surfaced, watered, maintained 2.0 and Route: Seg # Haul Distance (Ft) Grade (%) (%) (%) (fpm) (min) (| JO: | b Efficiency: | 0.0 | 350 | INA | (CAI II | (ط | |
| Road Condition: Hard, smooth, stabilized, surfaced, watered, maintained 2.0 | Ne | t Correction: | 0.8 | 330 | NA | | | |
| Road Condition: Hard, smooth, stabilized, surfaced, watered, maintained 2.0 | ravel Tim | ıe: | | | | | | |
| Haul Distance (Ft) Grade (%) (%) (%) (%) (fpm) (fipm) (min) | | | Hard, s | mooth, stab | ilized, surfaced | , watered, maintai | ned 2.0 | |
| | aul Route | : : | | | | | | |
| Return Time: 0.48 minutes | Seg# | Haul Distan | ce (Ft) | | | | • | |
| Haul Time: 0.48 minutes Haul Distance (Ft) Grade (%) (%) (%) (fpm) (min) | 1 | 800.00 | | | | | | |
| Return Time: O.41 minutes Total Scraper team cycle time: Adjusted single scraper team (unit) hourly production: Adjusted unit production/hour: Optimal Number of Scrapers per push dozer: Seg # Haul Distance (Ft) Grade (%) (%) (%) (%) (fpm) (min) | | 00000 | | 1100 | | | | |
| Haul Distance (Ft) Grade (%) (%) (%) (%) (fpm) (min) 800.00 | _ | | | | | Hauf Time. | 0.40 | minutes |
| Company Comp | | | 00 (Ft) | Crada | Doll Dos | Total Dos | Vologity | Travel Time |
| Return Time: Column | Seg π | Haui Distan | ce (Ft) | | | | • | |
| Total Scraper team cycle time: Adjusted for job conditions: Selected Number of Scrapers: Adjusted single scraper team (unit) hourly production: Adjusted multiple scraper team (fleet) hourly production: Unadjusted unit production/hour: Optimal Number of Scrapers per push dozer: Total Scraper team cycle time: Adjusted for job conditions: 611.91 Scraper(s) 3,671.45 LCY/Hour 4,737.24 LCY/Hour 4,737.24 LCY/Hour 5,737.24 LCY/Hour 611.91 CY/Hour | 1 | 800.00 | | | | | | 0.41 |
| Adjusted for job conditions: Selected Number of Scrapers: Adjusted single scraper team (unit) hourly production: Adjusted multiple scraper team (fleet) hourly production: Unadjusted unit production/hour: Optimal Number of Scrapers per push dozer: Adjusted for job conditions: 611.91 Scraper(s) 3,671.45 LCY/Hour LCY/Hour | | | | | | Return Time: | 0.41 | minutes |
| Selected Number of Scrapers: Adjusted single scraper team (unit) hourly production: Adjusted multiple scraper team (fleet) hourly production: Unadjusted unit production/hour: Optimal Number of Scrapers per push dozer: | | | | | Total Scraper | team cycle time: | 2.29 | minutes |
| Adjusted single scraper team (unit) hourly production: Adjusted multiple scraper team (fleet) hourly production: Unadjusted unit production/hour: Optimal Number of Scrapers per push dozer: Adjusted single scraper team (unit) hourly production: 3,671.45 LCY/Hour LCY/Hour | | | | | | | | |
| Adjusted multiple scraper team (fleet) hourly production: Unadjusted unit production/hour: Optimal Number of Scrapers per push dozer: Adjusted multiple scraper team (fleet) hourly production: 3,671.45 LCY/Hour | | | | | | | | |
| Unadjusted unit production/hour: 737.24 LCY/Hour Optimal Number of Scrapers per push dozer: LCY/Hour | | | | | | | | |
| Optimal Number of Scrapers per push dozer: | | Adju | isted mul | tiple scraper | team (fleet) ho | ourly production: | 3,671.45 | LCY/Hour |
| OR TIME AND COST | Ор | | | ers per push | | LCY/Hour | | |
| | OR TIM | IE AND COS | SТ | | | | | |

Fleet size: 1 Team(s) Total job time: 94.24 Hours

Total job cost: \$412,253

Unit cost: \$1.191 /LCY

SCRAPER TEAM WORK

| Task description: | Replace re | Replace root zone material | | | | | | |
|---------------------------------------|---|---------------------------------|----------------------------|--------------------------------|--------------------------|-------------|--|--|
| Site: Fox #1 Clay Mine Permit Action | | | TR2 and 2023 Inspection | | Permit/Job#: <u>M1</u> | 977219 | | |
| DDA IECT IDENT | TEICATION | | | | | | | |
| PROJECT IDENT | <u>IFICATION</u> | | | | | | | |
| Task #: 003 Date: 5/30/2 User: ANM | | State: Colorado unty: Pueblo | | | viation: None ename: 003 | | | |
| Agency or o | rganization name: | DRMS | | | | | | |
| HOURLY EQUIP | MENT_ | | COSTS | Shift basis: 1 per | day | | | |
| | | Equipme | nt Description | | | | | |
| | | craper: Cat 637 | G | | | | | |
| | | Dozer: NA | E OGII | | | | | |
| Suppor | t Equipment -Loa | | | | | | | |
| Road Mai | ntenance –Motor (| | | | | | | |
| | -Water | | Canker, 2,500 Ga | 1. | | | | |
| | | | | | | | | |
| Cost Breakdown: | Scraper Wo | | Support Equ | • | | e Equipment | | |
| | Scraper | Dozer | Load Area | Dump Area | Motor Grader | Water Truck | | |
| %Utilization-machine: | 100 | NA | 100 | 100 | 50 | 50 | | |
| Ownership cost/hour: | \$264.49 | NA | \$124.85 | \$124.85 | \$75.87 | \$10.28 | | |
| Operating cost/hour: | \$296.10 | NA | \$97.63 | \$97.63 | \$26.91 | \$10.16 | | |
| %Utilization-ripper: | NA | NA | 25 | 25 | 25 | NA | | |
| Ripper own. cost/hour: | NA | NA | \$13.10 | \$13.10 | \$2.84 | \$0.00 | | |
| Ripper op. cost/hour: | NA | NA | \$1.83 | \$1.83 | \$0.63 | \$0.00 | | |
| Operator cost/hour: | \$47.07 | NA | \$40.04 | \$40.04 | \$46.87 | \$0.00 | | |
| Unit Subtotals: | \$607.66 | NA | \$277.44 | \$277.44 | \$153.12 | \$20.44 | | |
| Number of Units: | 6 | 0 | 1 | 1 | 1 | 1 | | |
| Group Subtotals: | Work: | \$3,645.96 | Support: | \$554.88 | Maint: | \$173.56 | | |
| Total work team cost/ | hour: \$4,374.40 | | | | | | | |
| MATERIAL QUA | | | a 11.0 | 1 000 | | | | |
| Initial volume: Loose volume: | 48,400 48,400 | CCY LCY | Swell fact | tor: 1.000 | | | | |
| | | | | | | | | |
| | ce of estimated vo f estimated swell f | | on: 6" root zone | TR2: 60 acres | | | | |
| Source o | i estimated swell i | actor: Cat Hanc | ЮООК | | | | | |
| HOURLY PRODU | ICTION | | | | | | | |
| <u>HOURET TRODE</u> | <u>CHON</u> | | Scraper E | Bowl (volume) Ba | ısis: | | | |
| Material weight: | 2,650 lbs/LCY | | • | Volume: 24.00 | | CY | | |
| Material description: | Decomposed roo | ck - 25% Rock. | | Volume: 24.00 Volume: 34.00 | | .CY | | |
| | 75% Earth | | F • • • | | | | | |
| Rated Payload: | 81,600 pounds | | Average | Volume: 29.00 | L | CY | | |

| | J | | | | | | | 8 |
|------------|----------------------------------|------------------|--------------|-------------------|--------------------------|------------------|-------------|------------------|
| Payload | Capacity: 30 |).79 LCY | 7 | | Adjusted Capac | eity: 29 | 0.00 | LCY |
| | | | | | | | | |
| | | | | | | | | |
| Cycle Tim | <u>ie:</u> | | | | | | | |
| | Loading Time: or and Spread T | ima: | | | 80 Minutes 60 Minutes | | | |
| | tion Correction | | | <u>0.</u> | oo winates | | Site Al | titude: 6200 fee |
| | | _ | aper | Push Dozer | Sourc | e | | |
| | Altitude Adj: | | 000 | NA | (CAT H | | | |
| | b Efficiency: | | 830 | NA | (CAT H | | | |
| | • | | | | | , | | |
| Ne | et Correction: | 0.3 | 830 | NA | | | | |
| Travel Tin | ne: | | | | | | | |
| | | Hard, s | smooth, stab | ilized, surfaced, | watered, maintai | ned 2.0 | | |
| Haul Rout | | | | | | | | |
| Seg # | Haul Distan | ce (Ft) | Grade | Roll. Res | Total Res | Velocit | v | Travel Time |
| Seg II | iiuui Distan | | (%) | (%) | (%) | (fpm) | J | (min) |
| 1 | 800.00 | | -1.00 | 2.00 | 1.00 | 2952 | | 0.47 |
| | | | | | Haul Time: | n | 47 | minutes |
| _ | | | | | Hauf Hille. | | | iiiiiucs |
| Return Ro | | 22 (E4) | Can I | Dall Dan | Total Des | Val · | | Travel Time |
| Seg# | Haul Distan | ce (Ft) | Grade (%) | Roll. Res (%) | Total Res (%) | Velocit (fpm) | . y | (min) |
| 1 | 800.00 | | 1.00 | 2.00 | 3.00 | 2949 | | 0.41 |
| | 1 34 | | 1 | | | | 41 | |
| | | | | | Return Time: | 0. | 41 | minutes |
| | | | | | team cycle time: | | .28 | minutes |
| | | | | • | r job conditions: | | 3.42 | _ LCY/Hour |
| | | | | | ber of Scrapers: | | 6 | Scraper(s) |
| | | | | | urly production: | | 00.53 | _ LCY/Hour |
| | Adju | istea mul | upie scrapei | team (fleet) ho | urly production: | 3,8 | 00.53 | _ LCY/Hour |
| | Unadjusted ı | ınit prod | uction/hour: | 763.16 | LCY/Hour | | | |
| O_1 | ptimal Number | of Scrap | | | | | | |
| | | | dozer: | | | | | |
| JOB TIN | ME AND COS | ST_ | | | | | | |
| Fleet | | 1 | Team(s) | To | tal job time: | 12. | 74 | Hours |
| 1 1001 | 51Z.C. | • | _ 1 vaiii(3) | 10 | joo iiiic. | 14 | , , | 110015 |

Unit cost: \$1.151 /LCY

Total job cost: \$55,708

Payload Capacity: 51.00 LCY

SCRAPER TEAM WORK

Task # 000

| Task description: | Replace gi | rowth medium (to | psoil) | | | |
|--|---|------------------------------|----------------------------|--------------------------------|--------------------------|--------------|
| Site: Fox #1 Clay Mino | 2 | Permit Action: | TR2 and 2023 Inspection | | Permit/Job#: M1 | 1977219 |
| PROJECT IDENT | <u>IFICATION</u> | | | | | |
| Task #: 004 Date: 5/30/20 User: ANM | | tate: Colorado Pueblo DRMS | | Abbrev | viation: None ename: 004 | |
| Agency of o | rgamzanon name. | DKWS | | | | |
| HOURLY EQUIPM | MENT_ | | COSTS | Shift basis: 1 per | day | |
| | | | nt Description | | | |
| | | craper: Cat 6370 | <u>J</u> | | | |
| Suppor | t Equipment -Load | Dozer: NA d Area: Cat D8T | ' - 8SU | | | |
| | | Area: Cat D8T | | | | |
| Road Mair | ntenance – Motor (| | | | | |
| | -Water | Truck: Water T | anker, 2,500 Ga | ıl. | | |
| Cost Breakdown: | Scraper Wor | ·k Team | Support Equ | inment | Maintenanc | ce Equipment |
| | Scraper | Dozer | Load Area | Dump Area | Motor Grader | Water Truck |
| %Utilization-machine: | 100 | NA | 100 | 100 | 50 | 50 |
| Ownership cost/hour: | \$264.49 | NA | \$124.85 | \$124.85 | \$75.87 | \$10.28 |
| Operating cost/hour: | \$296.10 | NA | \$97.63 | \$97.63 | \$26.91 | \$10.16 |
| %Utilization-ripper: | NA | NA | 25 | 25 | 25 | NA |
| Ripper own. cost/hour: | NA | NA | \$13.10 | \$13.10 | \$2.84 | \$0.00 |
| Ripper op. cost/hour: | NA | NA | \$1.83 | \$1.83 | \$0.63 | \$0.00 |
| Operator cost/hour: | \$47.07 | NA | \$40.04 | \$40.04 | \$46.87 | \$0.00 |
| Unit Subtotals: | \$607.66 | NA | \$277.44 | \$277.44 | \$153.12 | \$20.44 |
| Number of Units: | 6 | 0 | 1 | 1 | 1 | 1 |
| Group Subtotals: | Work: | \$3,645.96 | Support: | \$554.88 | Maint: | \$173.56 |
| Total work team cost/l | nour: \$4,374.40 | | | | | |
| MATERIAL OUA | | | | | | |
| MATERIAL QUA | NITTIES | | | | | |
| Initial volume: Loose volume: | 22,264 22,264 | CCY LCY | Swell fact | tor: 1.000 | | |
| | ce of estimated vo f estimated swell f | | | 2.7" root zone TR | 22: 60 acres | |
| HOURLY PRODU | CTION | | | | | |
| HOURDITRODU | | | С Т | Povil (volume) D- | vaia: | |
| | | | • | Bowl (volume) Ba | | |
| Material weight: Material description: | 1,600 lbs/LCY Top Soil | | | Volume: 24.00 Volume: 34.00 | | .CY .CY |
| Rated Payload: | 81,600 pounds | | Average | | | CY CY |

LCY

Adjusted Capacity: 29.00

Site Altitude: 6200 feet

| \sim | 1 | _ | |
|--------|------|----------|-----|
| 7) | /cle | 1 11 | ne: |
| | CIC | 1 11 | m. |

Scraper Loading Time: <u>0.80 Minutes</u>
Maneuver and Spread Time: <u>0.60 Minutes</u>

Job Condition Correction:

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

Travel Time:

Road Condition: Hard, smooth, stabilized, surfaced, watered, maintained 2.0

Haul Route:

| Seg # | Haul Distance (Ft) | Grade (%) | Roll. Res (%) | Total Res (%) | Velocity (fpm) | Travel Time (min) |
|-------|--------------------|--------------|------------------|------------------|-------------------|-------------------|
| 1 | 800.00 | -1.00 | 2.00 | 1.00 | 2952 | 0.43 |

Haul Time: **0.43** minutes

Return Route:

| Seg # | Haul Distance (Ft) | Grade (%) | Roll. Res (%) | Total Res (%) | Velocity (fpm) | Travel Time (min) |
|-------|--------------------|--------------|------------------|---------------|-------------------|-------------------|
| 1 | 800.00 | 1.00 | 2.00 | 3.00 | 2949 | 0.41 |

Return Time: **0.41** minutes

Total Scraper team cycle time:2.24minutesAdjusted for job conditions:644.73LCY/HourSelected Number of Scrapers:6Scraper(s)

Adjusted single scraper team (unit) hourly production:

Adjusted multiple scraper team (fleet) hourly production:

3,868.39

LCY/Hour

LCY/Hour

Unadjusted unit production/hour: 776.79 LCY/Hour Optimal Number of Scrapers per push dozer:

JOB TIME AND COST

| Fleet size: | 1 | Team(s) | Total job time: | 5.76 | Hours |
|-------------|---------|---------|-----------------|----------|-------|
| Unit cost: | \$1.131 | /LCY | Total job cost: | \$25,176 | |

REVEGETATION WORK

| ite: <u>Fox #1 (</u> | Clay Mine | Permit Action: | TR2 and 2023 Inspection | Permit/Jo | b#: <u>M1977219</u> |
|------------------------------|-------------------------|--|----------------------------|----------------------------|---------------------|
| PROJECT Task #: Date: User: | 005 5/30/2023 ANM | CATION State: Colorado County: Pueblo | | Abbreviation: Filename: | None 005 |
| Ag <u>FERTILIZ</u> Materials | | ization name: DRMS | | | |

| Description | Units / Acre | Unit | Cost / Unit | Cost /Acre |
|-------------------------------|-----------------|-------|--|------------|
| Ammonium nitrate, 33-0-0 | 121.00 | pound | \$0.37 | \$44.77 |
| Triple superphosphate, 0-46-0 | 87.00 | pound | \$0.47 | \$40.89 |
| | | | Total Fertilizer Materials Cost/Acre | \$85.66 |

Application

| Description | | Cost /Acre |
|---|---|------------|
| Tractor towed spreader (MEANS 32 01 90.13 0120) | | \$39.64 |
| | | |
| | Total Fertilizer Application Cost/Acre | \$39.64 |

SEEDING

| Seed Mix | Rate – PLS LBS / Acre | Seeds per SQ. FT | Cost /Acre |
|-----------------------------|--------------------------------|------------------------|------------|
| Blue Grama - Hachita | 0.25 | 4.08 | \$3.99 |
| Sand Dropseed | 0.03 | 3.58 | \$0.29 |
| Sideoats Grama - Butte | 3.19 | 10.47 | \$28.71 |
| Western Wheatgrass - Arriba | 7.20 | 18.18 | \$46.80 |
| Needlegrass, Green - Lodorm | 0.48 | 1.99 | \$5.65 |
| Totals Seed Mix | 11.15 | 38.31 | \$85.45 |

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 | \$421.36 | \$842.72 |
| Total Mulch Materials Cost/Acre | | | | \$842.72 |

Application

| Description | | Cost /Acre |
|--|--|------------|
| Crimping, with tractor {DMG survey data} | | \$73.00 |
| | | |
| | Total Mulch Application Cost/Acre | \$73.00 |

JOB TIME AND COST

| No. of Acres: | 60 | Cost /Acre: | \$1,358.47 |
|----------------------------------|---------|--------------|------------|
| Estimated Failure Rate: | 25% | Cost /Acre*: | \$317.45 |
| *Selected Replanting Work Items: | SEEDING | | |

Initial Job Cost: \$81,508.20

Reseeding Job Cost: \$4,761.75

Total Job Cost: \$86,270

Job Hours: 60.00

EQUIPMENT MOBILIZATION/DEMOBILIZATION

| Task description: | | Mob/Demob of l | Mob/Demob of Reclamation Equipment | | | |
|-------------------|------------------|----------------|------------------------------------|----------------------------|----------------------------|---------------------|
| Fox #1 C | lay Mine | Per | rmit Action: | TR2 and 2023 Inspection | Permit/Jo | b#: <u>M1977219</u> |
| | | | | | | |
| | IDENTIFIC | <u>CATION</u> | | | | |
| ROJECT Task #: | IDENTIFIC 006 | CATION State: | Colorado | | Abbreviation: | None |
| | | | Colorado Pueblo | | Abbreviation: Filename: | None 006 |

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: | \$15.25 | \$23.06 | \$37.58 |
| Operating Cost/Hour: | \$25.26 | \$30.83 | \$51.41 |
| Operator Cost/Hour: | \$27.71 | \$27.71 | \$27.71 |
| Helper Cost/Hour: | \$0.00 | \$20.22 | \$20.22 |
| Total Unit Cost/Hour: | \$68.22 | \$101.82 | \$136.92 |

NON ROADABLE EQUIPMENT:

| Machine | Weight/ | Owner ship | Haul Rig | Fleet | Haul Trip | Return Trip | DOT Permit |
|-----------------|---------|---------------|--------------|-------|------------|----------------|-------------|
| Description | Unit | Cost/hr/ unit | Cost/hr/unit | Size | Cost/hr/ | Cost/hr/ fleet | Cost/ fleet |
| | (TONS) | | | | fleet | | |
| Cat D8T - 8SU | 53.08 | \$137.95 | \$136.92 | 2 | \$549.74 | \$273.84 | \$250.00 |
| Cat 637G | 57.28 | \$264.49 | \$136.92 | 6 | \$2,408.46 | \$821.52 | \$1,500.00 |
| CAT 140M | 16.68 | \$78.71 | \$68.22 | 1 | \$146.93 | \$68.22 | \$250.00 |
| Drill/Broadcast | 25.00 | \$6.25 | \$68.22 | 2 | \$148.94 | \$136.44 | \$250.00 |
| Seeder with | | | | | | | |
| Tractor | | | | | | | |
| Power Mulcher | 6.00 | \$14.79 | \$68.22 | 1 | \$83.01 | \$68.22 | \$250.00 |
| (Bowie LD-90) | | | | | | | |

Subtotals: \$3,337.08 \$1,368.24 \$2,500.00

ROADABLE EQUIPMENT:

| Machine Description | Total Cost/hr/ unit | Fleet Size | Haul Trip Cost/hr/ fleet | Return Trip Cost/hr/ fleet |
|--------------------------------|------------------------|------------|-----------------------------|-------------------------------|
| Water Tanker, 2,500 Gal. | \$30.60 | 1 | \$30.60 | \$30.60 |
| Light Duty Pickup, 4x4, 3/4 T. | \$87.03 | 1 | \$87.03 | \$87.03 |
| Lube Truck, 4x2, 190 HP | \$76.19 | 1 | \$76.19 | \$76.19 |
| Fuel Tanker, 4x2, 170 HP | \$69.51 | 1 | \$69.51 | \$69.51 |

Subtotals: \$263.33 \$263.33

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:

Total one-way travel distance:

Average Travel Speed:

PUEBLO, CO

miles

55.00

mph

Transportation Cycle Time:

| | Non- | |
|-------------------------|-----------|-----------|
| | Roadable | Roadable |
| | Equipment | Equipment |
| Haul Time (Hours): | 0.55 | 0.55 |
| Return Time (Hours): | 0.55 | 0.55 |
| Loading Time (Hours): | 2.00 | NA |
| Unloading Time (Hours): | 2.00 | NA |
| Subtotals: | 5.09 | 1.09 |
| · | | |

JOB TIME AND COST

| Total job time: | 10.18 | Hours |
|-----------------|----------|-------|
| Total job cost: | \$37,117 | |