
Joseph P. McEnaney
President

Ms. Jenn Johnson
Permit Lead
Mining Act Reclamation Program
NM Mining and Minerals Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

October 13, 2020

Re: Responses to Agency Review Comments and Request for Additional Information, Zeolite Mine Modification 20-1 Application, Permit No. SI006RE – Sierra County, New Mexico

Dear Ms. Johnson,

This letter responds to the items listed in your letter of October 5, 2020, referencing the above subject matter.

As before, we will address them in the same order as they were presented in your letter of October 5, 2020. Please note Attachments 1-6 referenced herein are found within the attached "2010.10.14 R2_ SCM_PERM MOD 20-01 ATTMTS" pdf file.

MMD comments:

1. ***St. Cloud's response to the second comment states "Attachment 2 is a quotation from Wagner Equipment Rental" but there is no attachment. Please provide MMD the Wagner Equipment Rental quote.***

Response: The Wagner Equipment Rental quote is attached here as Attachment 1 to this submittal.

2. ***Please provide MMD the Caterpillar specification sheet for the Fuel Burn for the D9 as well as the Winston General Store receipt for diesel fuel which are mentioned in St. Cloud's response to the comment 4.***

Response: The Caterpillar specification sheet for the Fuel Burn for the D9 and well as the Winston General Store receipt for diesel fuel are attached as Attachment 2 to this submittal. [Note: The Fuel Burn rate utilized was 13.2 gallons/hr. (~50 liters/hr.), the mid-range rate as shown on the attached table as 43.1-56.4 liters/hr.]

3. ***There are a few errors with the St. Cloud Mining Revegetation Cost Estimate table that need to be addressed. It appears that the per diems for tasks 1-3 are for two personnel and not for the three proposed earlier in the table. Also, the cost per acre is calculated using 43 acres and not the updated 35.8 acres. Once these changes are made, please make sure to update page 7 of the excel spreadsheet.***

Response: These errors have been identified and corrected

- a.) Per diem costs have been revised to include three personnel.
- b.) The cost per acre has been revised on a 38.5 acre basis and is now \$547.89 per acre.

- c.) The changes have been carried through to the "Reclamation Cost Estimate" (Attachment 3), page 7, Revegetation Costs, and to page 10, Bond Summary. The Total Escalated Bond Amount is revised accordingly to \$189,102.
- d.) In addition, the table "Revegetation Cost Estimate", which was embedded within our August 4, 2020 letter to you in response to Agency comments, has been revised accordingly and is included here as Attachment 6.

The "Reclamation Cost Estimate" Excel spreadsheet is attached hereto as a separate excel file named "20.10.14 REV_UPDATE RECL COST EST WKBK".

4. Please update page 8 of the excel spreadsheet using the \$1,200 cost from St. Cloud's response to comment 10.

Response: Page 8 of the excel spreadsheet has been updated as noted in Attachment 3, and in the attached excel file.

5. Page 6 of the excel spreadsheet is missing the dozer cost for the excavation of the sediment pond spillways. Please include the dozer cost from page 4 on page 6.

Response: Page 6 of the excel spreadsheet has been updated as noted in the attached file and is included in the updated Reclamation Cost Estimate (Attachment 3).

6. Please provide MMD the table from Drawing 7 since it is blurry and unreadable in the pdf we received.

Response: The table from Drawing 7 of the Sediment Ponds has been enlarged and included as Attachment 4.

7. Modification 13-1 vegetation standards require a minimum of 2 species of cool season grasses with at least 0.5% cover each. MMD will require including a second cool season grass in the seed mix to help meet vegetation standards at the time of financial assurance release. In lieu of including Indian ricegrass in the seed mix, MMD suggests either using bottlebrush squirreltail at the same recommended seeding rate as Indian ricegrass or suggesting another native cool season grass to be included in the seed mix.

Response: St. Cloud Mining will substitute Bottlebrush Squirreltail (*Elymus elymoides*) in the St. Cloud Mining Reclamation seed mix. The revised Reclamation Seed Mix Table 1, on page 7 of the original submittal dated April 28, 2020, is replaced with the following:

| <u>COMMON NAME</u> | <u>SCIENTIFIC NAME</u> | <u>RATE</u> <u>(lbs./acre)</u> | <u>Proportion</u> <u>(%)</u> |
|---------------------------|-------------------------------|-----------------------------------|---------------------------------|
| Blue grama grass | <i>Bouteloua gracilis</i> | 1.0 | 6.4 |
| Sideoats grama grass | <i>Bouteloua curtipendula</i> | 4.4 | 27.6 |
| Sand dropseed grass | <i>Sporobolus cryptandrus</i> | 0.1 | 0.7 |
| Bottlebrush Squirreltail | <i>Elymus elymoides</i> | 4.0 | 25.0 |
| Western wheatgrass | <i>Pascopyrum smithii</i> | 0.5 | 3.5 |
| Desert globemallow | <i>Sphaeralcea ambigua</i> | 0.2 | 1.4 |
| Blue flax | <i>Linum perenne</i> | 4.0 | 25.0 |
| Yellow prairie coneflower | <i>Ratibida columnifera</i> | 1.0 | 6.4 |
| Antelope bitterbrush | <i>Purshia tridentata</i> | 0.2 | 1.4 |
| Fourwing saltbush | <i>Atriplex canescens</i> | 0.4 | 2.6 |
| | TOTAL: | 16.0 | 100 |

We trust this constitutes a complete and sufficient response to your most recent questions and comments regarding our Mine Modification Application 20-1. Please do not hesitate to contact me for any other information that you may require.

We thank you for your consideration and timely response to our submittals, and we appreciate your assistance throughout the process.

Sincerely,

A handwritten signature in black ink, appearing to read "J. P. Murray". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

St. Cloud Mining Company

Permit Modification 20-1

Responses to 2nd MMD Technical Comments

October 5, 2020

Attachment 1

**Rental Quote for D9T Tractor Dozer
Wagner CAT**

El Paso, TX



10501 DYER ST
EL PASO, TX 79924
PHONE: (915)821-7651 FAX: (915)822-7298

ST CLOUD MINING CORP
PO BOX 196
WINSTON, NM 87943 0196

Rental Quote Agreement Q70653

ACCT#: 81101

PO #:
ORDERED BY: AUDIE PADILLA
575-743-5215

JOBSITE INFO: WINSTON
WINSTON, NM
761 ST CLOUD RD
WINSTON, NM, 87943

CONTACT NAME: AUDIE PADILLA
CONTACT PHONE: 575-743-5215
DELIVERED VIA: INTERNAL TRANSPORT
JOBSITE COUNTY: SIERRA NM
DATE OUT: 07/06/2020 Mon 01:37 PM
EST. DATE IN: 08/03/2020 Mon 01:37 PM
DELIVERY DATE: 07/06/2020 Mon 08:00 AM

SALES REP: EUGENE MORA(G-1-227)
WRITTEN BY: CONNIE TARIN

| QTY | DESCRIPTION | DAY | WEEK | 4WEEK | EXTENDED |
|----------------------------|--|------------|---------------|---------------|------------------|
| 1 | DOZER - D9 ID:473839 SERIAL:0REX00719 MODEL:D9T SMM Tag: 20-0018220201 HRS OUT: 194.0 HRS ALLOWED: 8/40/176 METER OUT WILL BE UPDATED AFTER DELIVERY ALL UNITS DELIVERED FULL OF FUEL MUST BE RETURNED FULL OF FUEL OR INCUR A FUEL CHARGE | \$4,050.00 | \$11,330.00 | \$31,720.00 | 31,720.00 |
| Miscellaneous Items | | | | | |
| 1 | PM REVENUE | | 636.00 each | | 636.00 |
| 1 | FREIGHT DEL. T | | 2,660.00 each | | 2,660.00 |
| 1 | FREIGHT RETURN T | | 2,015.00 each | | 2,015.00 |
| 1 | Rental Equipment Protection | | 16.00 % | | 5,075.20 |
| | State 6.25% City 1% County 0.5% Total Tax: 7.75% | | | | 3,263.23 |
| | EL PASO CTD - TX 0.5% | | | | 210.53 |
| | | | | Total: | 45,579.96 |

Rental rates are based on 8 hours in one 24-hour day, 40 hours in 7 days, or 176 hours in 4 weeks. Unless specifically listed, rates do not include fuel, taxes, environmental charge, diesel surcharge, SMM, or Preventive Maintenance Assurance Program (PMAP) charges. Rental Equipment Protection (16% of gross rental charges) will be charged in the absence of proof of insurance greater than or equal to the value of the rental equipment. Rental Equipment Protection may optionally be purchased by customers in lieu of using the customer's existing insurance policy. Additional charges may also apply for shipping, handling, and overtime. Call Wagner for more information. Prices and availability subject to change without notice. Discounts do not apply on re-rented equipment. F.O.B. Wagner unless otherwise noted. Terms and conditions can be viewed at www.wagnerequipment.com/terms/.

AURORA, CO • ALBUQUERQUE, NM • BLOOMFIELD, NM • BURLINGTON, CO • COLORADO SPRINGS, CO • DURANGO, CO • EL PASO, TX
GRAND JUNCTION, CO • HAYDEN, CO • HOBBS, NM • PUEBLO, CO • WINDSOR, CO • YUMA, CO

www.wagnerequipment.com

St. Cloud Mining Company

Permit Modification 20-1

Responses to 2nd MMD Technical Comments

October 5, 2020

Attachment 2

**Caterpillar specification sheet for Fuel Burn for D9T Tractor Dozer
And receipt for diesel fuel purchased at the Winston General Store**

FUEL CONSUMPTION TABLES AND LOAD FACTOR GUIDES

TRACK-TYPE TRACTORS

| Model | Low | | Medium | | High | |
|---------------------|-----------|-----------|------------|-----------|-------------|-----------|
| | liter | U.S. gal | liter | U.S. gal | liter | U.S. gal |
| D3K2 ³ | 7.6 | 2.0 | 8.7 | 2.3 | 15.5 | 4.1 |
| D4K2 ³ | 8.3 | 2.2 | 9.5 | 2.5 | 15.9 | 4.2 |
| D5K2 ³ | 8.7 | 2.3 | 9.9 | 2.6 | 16.7 | 4.4 |
| D3K2 ¹ | 6.8 | 1.8 | 7.6 | 2.0 | 15.2 | 4.0 |
| D4K2 ¹ | 7.6 | 2.0 | 8.3 | 2.2 | 15.5 | 4.1 |
| D5K2 ¹ | 8.0 | 2.1 | 8.7 | 2.3 | 15.9 | 4.2 |
| D6K2 ³ | 9.1-12.0 | 2.4-3.2 | 12.0-16.6 | 3.2-4.4 | 16.6-22.9 | 4.4-6.1 |
| D6K2 ¹ | 7.9-10.4 | 2.1-2.7 | 10.4-14.4 | 2.7-3.8 | 14.4-19.8 | 3.8-5.2 |
| D5R2 ³ | 11.7-14.6 | 3.1-3.9 | 14.6-19.4 | 3.9-5.1 | 19.4-25.6 | 5.1-6.8 |
| D6N ¹ | 8.9-12.0 | 2.4-3.2 | 12.0-15.8 | 3.2-4.2 | 15.8-22.4 | 4.2-5.9 |
| D6R (130 kW/175 hp) | 13.2-18.9 | 3.5-5.0 | 18.9-24.6 | 5.0-6.5 | 24.6-30.3 | 6.5-8.0 |
| D6R (145 kW/195 hp) | 14.8-21.2 | 3.9-5.6 | 21.2-27.3 | 5.6-7.2 | 27.3-33.7 | 7.2-8.9 |
| D6T (138 kW/185 hp) | 15.5-22.3 | 4.1-5.9 | 22.3-28.8 | 5.9-7.6 | 28.8-35.6 | 7.6-9.4 |
| D6T ¹ | 15.0-21.3 | 4.0-5.6 | 21.3-27.7 | 5.6-7.3 | 27.7-34.0 | 7.3-9.0 |
| D7E ¹ | 13.6-19.3 | 3.6-5.1 | 19.3-25.2 | 5.1-6.7 | 25.2-31.8 | 6.7-8.4 |
| D7R | 17.8-24.4 | 4.7-6.5 | 24.4-31.0 | 6.5-8.2 | 31.0-37.6 | 8.2-9.9 |
| D8R | 22.5-32.0 | 6.0-8.5 | 32.0-41.5 | 8.5-11.0 | 41.5-51.0 | 11.0-13.5 |
| D8T ³ | 23.5-33.7 | 6.2-8.9 | 33.7-43.5 | 8.9-11.5 | 43.9-53.7 | 11.6-14.2 |
| D8T ¹ | 23.7-34.3 | 6.3-9.1 | 34.3-44.2 | 9.1-11.7 | 44.1-54.2 | 11.7-14.3 |
| D9T ³ | 30.3-43.1 | 8.0-11.4 | 43.1-56.4 | 11.4-14.9 | 56.4-69.3 | 14.9-18.3 |
| D9T ⁴ | 28.2-40.1 | 7.4-10.6 | 40.1-52.5 | 10.6-13.9 | 52.5-64.4 | 13.9-17.0 |
| D9T ¹ | 31.2-44.4 | 8.2-11.7 | 44.4-58.1 | 11.7-15.3 | 58.1-71.4 | 15.3-18.9 |
| D10T2 ⁶ | 39.5-56.3 | 10.4-14.9 | 56.3-73.3 | 14.9-19.4 | 73.3-90.2 | 19.4-23.9 |
| D10T2 ⁵ | 43.0-61.3 | 11.4-16.3 | 61.3-79.8 | 16.3-21.1 | 79.8-98.2 | 21.1-26.0 |
| D11T ⁶ | 59.6-85.2 | 15.8-22.5 | 85.2-110.7 | 22.5-29.3 | 110.7-136.3 | 29.3-36.0 |
| D11T ⁵ | 60.3-86.1 | 15.9-22.8 | 86.1-112.0 | 22.8-29.6 | 112.0-137.8 | 29.6-36.4 |

¹ Meets U.S. EPA Tier 4 Final/EU Stage IV/Japan 2014 (Tier 4 Final) emission standards — Calculations include DEF.

² Meets Tier 4 Interim/Stage IIIB/Japan 2011 (Tier 4 Interim) equivalent emission standards.

³ Meets Tier 3/Stage IIIA/Japan 2006 (Tier 3) equivalent emission standards.

⁴ Meets Tier 2/Stage II/Japan 2001 (Tier 2) equivalent emission standards.

⁵ Meets Tier 4 Final emission standards.

⁶ Meets Tier 2 equivalent emission standards.

Typical Application Description

(relative to work application)

Low Pulling scrapers, most agricultural drawbar, stockpile, coal pile and finish grade applications. No impact. Intermittent full throttle operation.

Medium Production dozing in clays, sands, gravels. Push loading scrapers, borrow pit ripping, most land clearing applications. Medium impact conditions. Production landfill work.

High Heavy rock ripping. Push loading and dozing in hard rock. Working on rock surfaces. Continuous high impact conditions.

Load Factor Guide

(average engine load factor based on application description for each range)

Low 35%-50%

Medium 50%-65%

High 65%-80%

Product Link™ Information — Product link measured over hundreds of Track-Type Tractors shows that more than 90% of the machines experience an average fuel consumption equal to or lower than those shown in the Medium Application profile.

RECEIVED MAY 27 2020

Winston General Store

PO Box 143
Winston, NM 87943

Invoice

| Date | Invoice # |
|-----------|-----------|
| 5/23/2020 | 16319 |

| |
|---|
| Bill To |
| St. Cloud Mining Company C/o Linda Arnett PO Box 196 Winston, NM 87943 |

| |
|---|
| Ship To |
| St. Cloud Mining Company C/o Linda Arnett PO Box 196 Winston, NM 87943 |

| P.O. Number | Terms | Rep | Ship | Via | F.O.B. | Project |
|------------------------------|----------------|---|------------|----------|------------|---------|
| | Due on receipt | | 5/23/2020 | | | |
| Quantity | Item Code | Description | Price Each | Amount | | |
| 2,483 | Dyed diesel | Dyed Diesel: includes freight, federal taxes, fees & pump | 1.28984 | 3,202.67 | | |
| | Sales Tax | Sales Tax- NM Sierra County | 160.20 | 160.20 | | |
| | | (\$1.35/gallon with tax) | | | | |
| Thank you for your business. | | | Total | | \$3,362.87 | |

| | |
|---------|--------------------|
| Date | 5/27/2020 |
| Recd: | |
| Cost | |
| Center: | 14140 - diesel INV |
| Acct | |
| Chgd: | WIN |
| Apvd | |
| By: | LA |

St. Cloud Mining Company

Permit Modification 20-1

Responses to 2nd MMD Technical Comments

October 5, 2020

Attachment 3

Revised and Updated Reclamation Cost Estimate Excel Spreadsheet

St. Cloud Mining Company Zeolite Operation

Page 1

BOND AMOUNT CALCULATION

New Mexico Mining and Minerals Division

General Information

Permit No. SI006RE

Permit Modification 20-1

South Side 1 Project

September 1, 2020

REV 1 - Sept 2020

| | | |
|----------------------------------|---------------------------------|------------------|
| Applicant | St. Cloud Mining Company | Contact: |
| | PO Box 198 | Joe McEnaney |
| | Winston, New Mexico 87943 | (575) 743-5215 |
| Permit Number | SI006RE | |
| Number of Acres | 35.8 | |
| Type of Operation | Existing Surface Mine / Zeolite | |
| Location | Sierra County, New Mexico | |
| Cost Estimate Calculation | | \$168,779 |
| Escalated Estimate | | \$189,102 |

BOND AMOUNT CALCULATION
New Mexico Mining and Minerals Division

Reclamation Description

Page 2

St. Cloud Mining Co.

Permit No. SI006RE
Permit Modification 20-1
South Side 1 Project
September 1, 2020

| | <u>Area/Acres</u> |
|--|-------------------|
| Earthmoving | |
| Backfill South Side 1 Project Pit Areas | 24.5 |
| Excavate Sediment Ponds Spillways | 2 |
| Ripping | |
| Rip 1,575 x 100 feet of project access road | 3.61 |
| Grading | |
| Regrade reclaimed South Side 1 Project Pit Areas | 24.5 |
| Regrade overburden/interburden stockpile areas | 9.3 |
| Regrade Sediment Ponds Spillways (3) | 2 |
| Regrade Total: | 35.8 |
| Revegetation | |
| Revegetation of Pit area, overburden/interburden stockpile area, sediment ponds and ditches and swales | 35.8 |
| Other | |

BOND AMOUNT CALCULATION
New Mexico Mining and Minerals Division

St. Cloud Mining Co.

Permit No. SI006RE
Permit Modification 20-1
South Side 1 Project
September 1, 2020

Material volumes

Page 3

≤ 3H : 1V Final Reclamation Slopes

| South Side 1 Project Pit | | Dozer/ Backfill Volume | Origin | Destination | ave. Haul/Push Distance | Grade | Equipment |
|----------------------------|--|------------------------------|----------------------------|----------------|-------------------------------|-------|-----------|
| Item | Description | (lcy) | | | (ft) | | |
| 1 | NW area of Pit _ backfill/final grade | 56,296 | E, W & S OB/IB + Stockpile | pit | 150 | -30% | D9T |
| 2 | Mid area of Pit _ backfill/final grade | 42,963 | E, W & S OB/IB + Stockpile | pit | 150 | -30% | D9T |
| 3 | SE area of Pit _ backfill/final grade | 53,611 | E, W & S OB/IB + Stockpile | pit | 200 | -30% | D9T |
| 4 | Sediment Ponds Spillway Excation | 150 | Pond Spillways | adjacent areas | 100 | -30% | D9T |
| Earth volume to move (lcy) | | 153,020 | | | | | |

| | | | | | |
|--|---|---|---------------------|------------------------|--------------------------|
| | BOND AMOUNT CALCULATION | | | St. Cloud Mining Co. | Permit No. SI006RE |
| | New Mexico Mining and Minerals Division | | | | Permit Modification 20-1 |
| | Page 4 | | | | South Side 1 Project |
| | Bulldozer Performance | | | | September 1, 2020 |
| | Description: | Backfill NW Area of Pit with advancement of Pit to SE | | | |
| | Equipment: | D9T | | | |
| | | Adjacent areas + OB/IB stockpile; 200' average push downhill | | | |
| | Volume | 56,296 cy | Time | 66.44 hours | |
| | | | Productivity | 847 cy/hr-dozer | |
| | PERFORMANCE FACTORS | | | | |
| | material | 1.20 | operator | 0.75 | |
| | grade | 1.60 | work hour | 50 | min/hr |
| | soil weight correction | 2,606 lb/cy | visibility | 1.00 | |
| | prod. method/blade | 1.00 | elevation | 1.00 | |
| | normal production | 800 cy/hr | direct drive trans. | 1.00 | |
| | | | | | |
| | Description: | Backfill Mid Area of Pit with continued advancement of Pit to SE | | | |
| | Equipment: | D9T- | | | |
| | | Adjacent material + OB/IB stockpile; 200' average push downhill | | | |
| | Volume | 42,963 cy | Time | 51 hours | |
| | | | Productivity | 847 cy/hr-dozer | |
| | PERFORMANCE FACTORS | | | | |
| | material | 1.20 | operator | 0.75 | |
| | grade | 1.60 | work hour | 50 | min/hr |
| | soil weight correction | 2,606 lb/cy | visibility | 1.00 | |
| | prod. method/blade | 1.00 | elevation | 1.00 | |
| | normal production | 800 cy/hr | direct drive trans. | 1.00 | |
| | | | | | |
| | Description: | Backfill SE Pits (N + S) with advancement of Pit to SE | | | |
| | Equipment: | D9T- | | | |
| | | Adjacent material + OB/IB stockpile; 250' average push downhill | | | |
| | Volume | 53,611 cy | Time | 63 hours | |
| | | | Productivity | 847 cy/hr-dozer | |
| | PERFORMANCE FACTORS | | | | |
| | material | 1.20 | operator | 0.75 | |
| | grade | 1.60 | work hour | 50 | min/hr |
| | soil weight correction | 2,606 lb/cy | visibility | 1.00 | |
| | prod. method/blade | 1.00 | elevation | 1.00 | |
| | normal production | 800 cy/hr | direct drive trans. | 1.00 | |

BOND AMOUNT CALCULATION
 New Mexico Mining and Minerals Division
Grading & Ripping - Productivity and Hours for Dozer Use
 Page 5

St. Cloud Mining Co.
 Zeolite Operations

Permit No. SI006RE
 Worksheet #6
 September 1, 2020

Description: Recontour all disturbed areas
 Rip / scarify compacted soils

Equipment: D9T-Grade reclaimed slopes at -30% grade
 or flat at pit bottom

| | | | |
|----------------------------|----------------|---------------------|-------------------------|
| Area | 35.8 ac | Time | 13.5 hours |
| | | Productivity | 2.66 ac/hr-dozer |
| PERFORMANCE FACTORS | | | |
| material | 1.00 | operator | 0.75 |
| grade | 1.40 | work hour | 50 min/hr |
| soil weight correction | 2606 lb/cy | visibility | 1.00 |
| prod. method/blade | 1.00 | elevation | 1.00 |
| effective blade width | 14.2 feet | direct drive trans. | 1.00 |
| speed | 2 miles/hr | | |

Includes grading of mine pit areas after backfilling

| | | | | | | | | | |
|---|--|--|------------------------------------|--------------------|------------------|--------------------------|------------------|------------|---------------------|
| BOND AMOUNT CALCULATION | | | St. Cloud Mining Co. | | | Permit SI006RE | | | |
| New Mexico Mining and Minerals Division | | | Zeolite Operations | | | Permit Modification 20-1 | | | |
| Summary Calculation of Earthmoving Costs | | | | | | South Side 2 Project | | | |
| Page 6 | | | | | | | | | |
| | | | Total Cost \$57,714 | | | September 1, 2020 | | | |
| | | | | | | | | | |
| Equipment Type | | | Ownership / Operating Cost (\$/hr) | Labor Cost (\$/hr) | Time Req'd (hrs) | Total Cost (\$) | Total Production | Prod. Unit | Unit Cost (\$/unit) |
| Dozers-Earthmoving - Cross Section Area A- A' | | | | | | | | | |
| | D9T | | \$274.35 | \$34.17 | 66.4 | \$20,499 | 56,296 | cy | \$0.36 |
| | | | | | | | | | |
| Dozers-Earthmoving - Cross Section B - B' | | | | | | | | | |
| | D9T- | | \$274.35 | \$34.17 | 50.7 | \$15,644 | 42,963 | cy | \$0.36 |
| | | | | | | | | | |
| Dozers-Earthmoving - Cross Section C ' C' | | | | | | | | | |
| | D9T- | | \$274.35 | \$34.17 | 63.3 | \$19,522 | 53,611 | cy | \$0.36 |
| | | | | | | | | | |
| Dozers-Grading & Ripping | | | | | | | | | |
| | D9T - Grade Pit, Stockpiles + Pond Spillways | | \$274.35 | \$34.17 | 5.4 | \$1,662 | 150.0 | cy | \$11.08 |
| | Rip interior roads | | \$274.35 | \$34.17 | 1.3 | \$387 | 1,210.0 | bcy | \$0.32 |
| | | | | | | | | | |
| | TOTALS | | | | 187.1 | \$57,714 | | | |
| | | | | | | | | | |

BOND AMOUNT CALCULATION
New Mexico Mining and Minerals Division
Revegetation Costs
Page 7

St. Cloud Mining Co.
Zeolite Operations

Permit No. SI006RE
Permit Modification 20-1
South Side 1 Project

Description:

September 1, 2020

Apply seed mix and mulch to areas

Area (acres): 35.8

| | |
|--------------------------------|-----------------|
| No Location Adjustments | 100.0% |
| Total Cost | \$31,607 |

| Area | Area (acres) | Unit Cost (\$/acre) | Subtotal Cost (\$) |
|--|-----------------|---------------------------|--------------------------|
| Zeolite Pit areas | 24.5 | \$883 | \$21,631 |
| Stockpiles, Sed Ponds, interior roads, misc. | 11.3 | \$883 | \$9,977 |
| | 35.8 | | \$31,607 |

Revegetation Materials Costs:

Cost/acre

Revegetation Seed Mix (Table 1)

\$163.00

September 1, 2020

| | | | | |
|-----------------------|----------|----------|---------------------------|----------------------|
| Revegetated Area | | 35.8 | | |
| | | | Unit Cost (\$/unit) | Item Cost (\$) |
| Activity | Quantity | Unit | | |
| Vegetation monitoring | | 12 years | \$1,200 | \$14,400 |
| Total | | | | \$14,400 |

Reclamation Costs
Page 9

Pits Backfill Volume Calculations - South Side 1 Project Pit

Cross Section Area Calculations

Northwest Section (Scale 1"=50')

Area conversion: 1 inch = 50 feet

Material Volume determine by plotting cross sections on graph paper at a scale of 1" = 50', with cells measuring 5 cells per inch = each cell equaling 10 square feet. Cells falling within geologic units were manually tabulated to determine volumes within area of cross sections.

Backfill volume requirements were determined by calculating average pit length x average pit width x average pit backfill depth to achieve $\leq 3H : 1V$ final reclamation ground slope.

Zeolite ore shown as cross hatch in cross sections.

Pit benches ≤ 25 feet

All non-zeolite geologic material left unshaded and categorized as Overburden/Interburden

Overburden/Interburden mined materials volume is given in loose cubic yards (lcy), with a 20% swell factor.

NW AREA _ Upper and Lower Pits

| | Upper Pit | Lower Pit |
|---------------------------------|-----------|-----------|
| Pit area average length | 150 ft | 250 ft |
| Pit area average width | 200 ft | 200 ft |
| Average Backfill material deptl | 19 ft | 19 ft |

Pit backfill volume to achieve final Reclamation Ground Slope = 56,296 lcy

MID AREA _ Upper and Lower Pits

| | Upper Pit | Lower Pit |
|---------------------------------|-----------|-----------|
| Pit average length | 150 ft | 200 ft |
| Pit area average width | 200 ft | 200 ft |
| Average Backfill material deptl | 24 ft | 11 ft |

Pit backfill volume to achieve final Reclamation Ground Slope = 42,963 lcy

SW AREA _ Upper and Lower Pits

| | Upper Pit | Lower Pit |
|---------------------------------|-----------|-----------|
| Pit average length | 150 ft | 120 ft |
| Pit average width | 250 ft | 250 ft |
| Average Backfill material deptl | 29 ft | 12 ft |

Pit backfill volume to achieve final Reclamation Ground Slope = 53,611 lcy

TOTAL: 152,870

Material Weight Calculations for Reclamation Cost Estimate

loose overburden/interburden weight = 97 lbs / cu ft
2,606 lbs / cu yd

BOND AMOUNT CALCULATION
New Mexico Mining and Minerals Division
Reclamation Bond Summary
Page 10

Permit No. SI006RE
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South Side 1 Project
September 1, 2020

DIRECT

| | | | |
|--------------|--------------------------------------|------|------------------|
| COSTS | 1st time revegetation | | \$31,607 |
| | Earthmoving | | \$57,714 |
| | Revegetation @ 5%/yr failure rate | 25% | \$8,950 |
| | Other (vegetation monitoring, etc) | | \$14,400 |
| | Subtotal | | \$112,671 |
| | Cost Escalation Period (years) | 0 | |
| | Cost Escalation Rate | 0.0% | |
| | Adjusted Actual Cost Subtotal | | \$112,671 |

INDIRECT

| | | | |
|--------------|--|------|-----------------|
| COSTS | Mobilization and Demobilization (1%-10%) | 5% | \$5,634 |
| | Contingencies (2%-10%) | 6% | \$6,760 |
| | Engineering Redesign Fee (2%-10%) | 4% | \$4,507 |
| | Contractor Profit and Overhead | 15% | \$16,901 |
| | Project Management Fee | 10% | \$11,267 |
| | MMD Procurement Cost (2%-10%) | 5% | \$5,634 |
| | Bonding and Insurance | 4% | \$3,931 |
| | Labor Liability Cost | 1.5% | \$1,474 |
| | Subtotal | | \$56,107 |

TOTAL

BOND

| | | |
|---------------|-----|------------------|
| AMOUNT | 51% | \$168,779 |
|---------------|-----|------------------|

| | |
|------------------------|---------|
| Cost Escalation Period | 5 years |
| Cost Escalation Rate | 2.3 % |

TOTAL ESCALATED BOND AMOUNT **\$189,102**

(Escalation applied to both direct and indirect costs.)

St. Cloud Mining Company

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Responses to 2nd MMD Technical Comments

October 5, 2020

Attachment 4

Sediment Ponds Design

Drawing 7

Table of 25-year Hydraulic Calculations Sediment Ponds

25-YEAR HYDROLOGIC CALCULATIONS USING THE RATIONAL FORMULA FOR ST. CLOUD MINING SITE

| BASIN # | AREA (acre) | HYDROLOGIC SOIL GROUP | | | | WEIGHTED C | 25-YEAR PRECIPITATION | | | | | | | |
|--|-------------|-----------------------|--------|-------|--------|------------|-----------------------|------------------|--------------------|------------------|----------------|--------------|---------|-------------|
| | | A (%) | B (%) | C (%) | D (%) | | V (6-hr) (acre-ft) | V (6-hr) (cu-ft) | V(24-hr) (acre-ft) | V(24-hr) (cu-ft) | BULKING FACTOR | V+Vs (cu-ft) | Q (cfs) | Q+ Qs (cfs) |
| CONSTRUCTED CONDITIONS | | | | | | | | | | | | | | |
| BASIN 110 | 8.0950 | 0.00 | 100.00 | 0.00 | 0.00 | 0.20 | 0.324 | 14,105 | 0.409 | 17,807 | 1.11 | 19,766 | 8.14 | 9.04 |
| BASIN 120 | 4.8690 | 0.00 | 67.00 | 0.00 | 33.00 | 0.30 | 0.291 | 12,683 | 0.368 | 16,013 | 1.11 | 17,774 | 7.32 | 8.13 |
| BASIN 130 | 2.3870 | 0.00 | 0.00 | 0.00 | 100.00 | 0.50 | 0.239 | 10,398 | 0.301 | 13,127 | 1.11 | 14,571 | 6.00 | 6.66 |
| BASIN 210 | 1.7390 | 0.00 | 100.00 | 0.00 | 0.00 | 0.20 | 0.070 | 3,030 | 0.088 | 3,825 | 1.11 | 4,246 | 1.75 | 1.94 |
| BASIN 220 | 8.3030 | 0.00 | 100.00 | 0.00 | 0.00 | 0.20 | 0.332 | 14,467 | 0.419 | 18,265 | 1.11 | 20,274 | 8.35 | 9.27 |
| BASIN 230 | 3.9010 | 0.00 | 100.00 | 0.00 | 0.00 | 0.20 | 0.156 | 6,797 | 0.197 | 8,581 | 1.11 | 9,525 | 3.92 | 4.36 |
| BASIN 310 | 24.4490 | 0.00 | 75.00 | 0.00 | 25.00 | 0.28 | 1.345 | 58,575 | 1.698 | 73,951 | 1.11 | 82,085 | 33.82 | 37.54 |
| BASIN 320 | 3.4120 | 0.00 | 100.00 | 0.00 | 0.00 | 0.20 | 0.136 | 5,945 | 0.172 | 7,506 | 1.11 | 8,331 | 3.43 | 3.81 |
| BASIN 330 | 2.6820 | 0.00 | 0.00 | 0.00 | 100.00 | 0.50 | 0.268 | 11,683 | 0.339 | 14,750 | 1.11 | 16,372 | 6.75 | 7.49 |
| BASIN 410 | 4.0370 | 0.00 | 0.00 | 0.00 | 100.00 | 0.50 | 0.404 | 17,585 | 0.510 | 22,201 | 1.11 | 24,643 | 10.15 | 11.27 |
| BASIN 420 | 2.6970 | 0.00 | 0.00 | 0.00 | 100.00 | 0.50 | 0.270 | 11,748 | 0.340 | 14,832 | 1.11 | 16,464 | 6.78 | 7.53 |
| BASIN 510 | 5.1780 | 0.00 | 0.00 | 0.00 | 100.00 | 0.50 | 0.518 | 22,555 | 0.654 | 28,476 | 1.11 | 31,609 | 13.02 | 14.46 |
| BASIN 520 | 6.9530 | 0.00 | 100.00 | 0.00 | 0.00 | 0.20 | 0.278 | 12,115 | 0.351 | 15,295 | 1.11 | 16,978 | 6.99 | 7.76 |
| BASIN 600 | 4.1990 | 0.00 | 20.00 | 0.00 | 80.00 | 0.44 | 0.370 | 16,096 | 0.467 | 20,321 | 1.11 | 22,556 | 9.29 | 10.32 |
| TOTAL RUNOFF | 82.9010 | | | | | | 5.000 | 217,782 | 6.312 | 274,950 | | 305,195 | 125.74 | 139.57 |
| RATIONAL COEFFICIENT | | 0.2 | 0.2 | 0.26 | 0.5 | C | | | | | | | | |
| WEIGHTED C = (C _A)(%A) + (C _B)(%B) + (C _C)(%C) + (C _D)(%D) V _{6-HR} (acre-ft) = (WEIGHTED C)(AREA)(P _{6-HR}) ¹² V _{24-HR} (acre-ft) = (WEIGHTED C)(AREA)(P _{24-HR}) ¹² Q (cfs) = (WEIGHTED C)(U)(A) | | | | | | | | | | | | | | |
| INTENSITY (I) = 5.03 P _{6-HR} (in.) = 2.40 P _{24-HR} (in.) = 3.03 | | | | | | | | | | | | | | |

St. Cloud Mining Company

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Responses to 2nd MMD Technical Comments

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Attachment 5

Revised Reclamation Seed Mix

Substituting Bottlebrush Squirreltail grass for Indian Rice grass

Revised

Table 1. St. Cloud Zeolite Operation reclamation seed mix

| <u>COMMON NAME</u> | <u>SCIENTIFIC NAME</u> | <u>RATE</u> <u>(lbs./acre)</u> | <u>Proportion</u> <u>(%)</u> |
|---------------------------|-------------------------------|-----------------------------------|---------------------------------|
| Blue grama grass | <i>Bouteloua gracilis</i> | 1.0 | 6.4 |
| Sideoats grama grass | <i>Bouteloua curtipendula</i> | 4.4 | 27.6 |
| Sand dropseed grass | <i>Sporobolus cryptandrus</i> | 0.1 | 0.7 |
| Bottlebrush Squirreltail | <i>Elymus elymoides</i> | 4.0 | 25.0 |
| Western wheatgrass | <i>Pascopyrum smithii</i> | 0.5 | 3.5 |
| Desert globemallow | <i>Sphaeralcea ambigua</i> | 0.2 | 1.4 |
| Blue flax | <i>Linum perenne</i> | 4.0 | 25.0 |
| Yellow prairie coneflower | <i>Ratibida columnifera</i> | 1.0 | 6.4 |
| Antelope bitterbrush | <i>Purshia tridentata</i> | 0.2 | 1.4 |
| Fourwing saltbush | <i>Atriplex canescens</i> | 0.4 | 2.6 |
| | TOTAL: | 16.0 | 100 |

St. Cloud Mining Company

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Attachment 6

Revised Revegetation Cost Estimate

REV 1: 10/09/2020

Note: Wages and Equipment Rates include base wage, fringes and contractor profit