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

MINERALS PROGRAM INSPECTION REPORT
PHONE: (303) 866-3567

The Division of Reclamation, Mining and Safety has conducted an inspection of the mining operation noted below. This report documents observations concerning compliance with the terms of the permit and applicable rules and regulations of the Mined Land Reclamation Board.

MINE NAME: Salt Canyon Project	**MINE/PROSPECTING ID#:** M-1997-064	**MINERAL:** Anhydrite, gypsum	**COUNTY:** Fremont
INSPECTION TYPE: Monitoring	**INSPECTOR(S):** Timothy Cazier, P.E.	**INSP. DATE:** March 15, 2022	**INSP. TIME:** 11:30
OPERATOR: GCC Rio Grande, Inc.	**OPERATOR REPRESENTATIVE:** Joseph Joshua & Amy Veek	**TYPE OF OPERATION:** 112c - Construction Regular Operation	

REASON FOR INSPECTION: Normal I&E Program	**BOND CALCULATION TYPE:** Partial Bond	**BOND AMOUNT:** $69,832.00
DATE OF COMPLAINT: NA	**POST INSP. CONTACTS:** None	**JOINT INSP. AGENCY:** None
WEATHER: Clear	**INSPECTOR'S SIGNATURE:**	**SIGNATURE DATE:** April 12, 2022

The following inspection topics were identified as having Problems or Possible Violations. OPERATORS SHOULD READ THE FOLLOWING PAGES CAREFULLY IN ORDER TO ASSURE COMPLIANCE WITH THE TERMS OF THE PERMIT AND APPLICABLE RULES AND REGULATIONS. If a Possible Violation is indicated, you will be notified under separate cover as to when the Mined Land Reclamation Board will consider possible enforcement action.

INSPECTION TOPIC: Gen. Compliance With Mine Plan
PROBLEM/POSSIBLE VIOLATION: Problem: The current mine plan needs to be updated and clarified pursuant to C.R.S. 34-32.5-112 (1)(c)(VI). The operator must update the mine plan to define future mine phases to increase the maximum allowed disturbed area at one time, and submit a blasting plan.
CORRECTIVE ACTIONS: The operator shall submit a Technical Revision, with the required $216 revision fee, to update and clarify the current approved mine plan to reflect existing and proposed maximum allowed disturbed area and blasting related activities by the corrective action date.
CORRECTIVE ACTION DUE DATE: 5/27/22

OBSERVATIONS

This inspection was conducted as part of the regular monitoring program. The Permittee (GCC Rio Grande) was represented by Mr. Joseph Joshua and Ms. Amy Veek during the inspection. The Salt Canyon Project is accessed from State Hwy 115 approximately 10 miles north of Penrose. This is a 112c gypsum mine. It was operating at the time of the inspection. Approved mine and reclamation plan summaries are provided below:

- Mine Plan Summary: After phase 1 was mined, the approved plan (revision CN-1) proposed mining towards the southeast by carving 100-foot wide by 225-foot long cuts in the next phase. Highwalls not in this advancing cut would be sloped to 3H:1V using a dozer to push material down from the crest of the highwall. The approval of TR-1 allowed the total allowed area of disturbance to be no more than 20 acres at one time.
- Reclamation Plan Summary: All slopes will be 3H:1V or flatter. The limited growth media is to be stockpiled for reclamation. Site growth medium will be mixed with gypsum fines to place on slopes and the pit floor concurrent with mining for reclamation growth media. Seeding will be done in accordance with the approved seed mixture via seed drill. Site drainage will be towards the ravine on the south. In the event the sandstone substratum dips below the ravine bottom, the pit floor will be rebuilt to an elevation that allows drainage into the ravine on the south. The access road will not be reclaimed at the request of the Colorado State Land Board (SLB).

Availability of Records: Annual reports are current, having been filed through July 2021. The previous inspection was on March 28, 2018. The approved post-mine land use is rangeland (revision CN-1). There were no open infractions prior to the inspection. Both the surface and minerals are managed by the SLB.

Backfilling and Grading: Sufficient backfill material appeared to be available for push down backfill.

Explosives: Mr. Joshua stated blasting occurs about four to six times per year. GCC employs a contractor (previously Buckley Powder, now Austin Powder) to perform the blasting. He also stated blasting reports are kept on file in GCC's Pueblo office. Other than Hwy 115, the closest structure is approximately 2.7 miles NNE of the active mining area. The active mine is progressing towards Hwy 115 (the active highwall was roughly a half mile from the highway at the time of the inspection). Given the proximity to the highway, a blasting plan should now be filed with the DRMS as informally requested in our November 16, 2009 adequacy letter (reference comment II.c). As discussed below under "Gen. Compliance with Mine Plan", a technical revision is needed to revise the maximum disturbed area allowed at one time. This blasting plan can and should be included in this technical revision. The DRMS's **Key Elements of a Blasting Plan** outline is attached. If there are no structures (buildings) within a half mile of the blasting area, the pre-blast survey section can be ignored.

Financial Warranty: The $69,832 bond held by the DRMS was last updated in 2009. This amount is not considered inadequate for the observed mine disturbance as the bond only included 10 acres of revegetation and 20 acres of total disturbance. As discussed below under "Gen. Compliance with Mine Plan", a technical revision is needed to revise the maximum disturbed area allowed at one time. A surety increase will be issued as part of, or shortly after the DRMs reviews this TR.

Fish and Wildlife: No impact to wildlife was observed.

Hydrologic Balance: No standing water was observed in the pit and no exposed groundwater was observed.

Gen. Compliance with Mine Plan: The operation appears to have exceeded the maximum allowed disturbance of 20 acres at one time. During an onsite discussion, it became clear GCC was not including: the roughly 3.1-acre area disturbed by the previous Permittee (see **Photo 1**) prior to GCC's submittal of the conversion application in 2009; nor the five-acre area designated as reclaimed in their 2021 annual report, as part of the total disturbed area. Mr. Joshua asked about the DRMS definitions for affected, disturbed and reclaimed areas. I emailed these definitions to him on March 22nd. Based on these definition questions, site observations and the 2021 annual report map, the DRMS understands the discrepancies in the reported mine disturbance. However, I explained to GCC while onsite that all past and present disturbed areas are considered disturbed by the DRMS until a formal request for release is received and approved by the DRMS. Mr. Joshua agreed during the inspection to re-measure the disturbed area soon after the inspection, which was provided to the DRMS on April 11th. Based on 2019 Google Earth imagery, the DRMS estimates 15.6 acres had been disturbed by GCC in the northwest and about 3.1 acres (*2.5 acres measured by GCC, which did not include the two access roads into the previously disturbed area*) were disturbed by the previous Permittee just southeast of where newly disturbed area by GCC (*estimated to be 4.9 acres based on a KML file provided by GCC on April 11th and comparing that with the DRMS disturbed area based on 2019 Google Earth imagery*). This totals between 23.2 and 23.8 acres of disturbance. As GCC now understands how the DRMS defines disturbed and reclaimed areas, a technical revision is required to update the mine plan, and subsequently the financial warrantee to account for all current and planned near future disturbance. **The need for an updated mine plan is cited as a problem on p. 1 of this report.**

Highwalls were estimated to vary between 8 and 12 feet in height. Some segments were crumbling/sloughing (see **Photo 2**) while others appeared stable (see **Photo 3**).

Off-site Damage: The operation appeared to be confined to the permit boundary, based on Google Earth review and site observations.

Roads: Haul and access roads did not appear to be a source of sediment that could be tracked offsite.

Right of Entry: GCC has a lease with the SLB, which was current at the time of the inspection.

Reclamation Success: Reclamation is well underway in the northwest portion of the affected area. Grading, topsoil replacement and seeding has been completed (see **Photos 4** and **5**).

Revegetation: The vegetation in the reseeded northwest area is becoming well established (see **Photo 5**). No noxious weeds were observed.

Sediment Control: No erosion problems were observed and no BMPs were needed at the time of the inspection.

Support Facilities On-site: A grizzly screen, loaders, and dump trucks were observed on site (see **Photo 6**).

Signs and Markers: The permit sign was properly posted (see **Photo 7**), however the permit number was incorrectly displayed as M-19**7**7-064. It should be M-19**9**7-064. Mr. Joshua emailed the DRMS on March 25th stating a new sign was being procured.

Permit Stipulations: There are no permit stipulations.

Storm Water MGT Plan: No oil or fuel spills observed. Representatives stated the stormwater management plan is kept in the Pueblo office. Stormwater drains to the pit and infiltrates.

Topsoil: As topsoil is intermittent and thin at the site, it is not distinguished from overburden. This condition is discussed in the conversion application (CN-1).

Structures: No structures were observed within 200 feet of the affected area.

Close-out Meeting: The affected area being greater than the allowed maximum of 20 acres was discussed prior to leaving the site, as was the error on the permit sign. The need for a blasting plan submittal was not discussed during the inspection but was relayed to Mr. Joshua via email after further review of the permit file.

Please contact Tim Cazier (303)328-5229 or email at tim.cazier@state.co.us if you have any questions regarding this report.

PHOTOGRAPHS

Photo 1. Area disturbed by previous Permittee (looking east from edge of current disturbance).

PHOTOGRAPHS (cont.)

Photo 2. Active southern highwall (partially crumbling – looking south).

Photo 3. Active eastern highwall (nearly vertical – looking SE from pit floor).

PHOTOGRAPHS (cont.)

Photo 4. Northwest reclaimed area (looking south from north side).

Photo 5. Northwest reclaimed area (looking SE from west side).

PHOTOGRAPHS (cont.)

Photo 6. Loaders, trucks and grizzly screen on pit floor (looking east).

Photo 7. Permit sign at entrance with incorrect ID.

GENERAL INSPECTION TOPICS

The following list identifies the environmental and permit parameters inspected and gives a categorical evaluation of each

(AR) RECORDS---------- Y	**(FN) FINANCIAL WARRANTY-------- Y**	**(RD) ROADS---------- Y**
(HB) HYDROLOGIC BALANCE---------- Y	**(BG) BACKFILL & GRADING---------- Y**	**(EX) EXPLOSIVES--------- Y**
(PW) PROCESSING WASTE/TAILING---- Y	**(SF) PROCESSING FACILITIES------- Y**	**(TS) TOPSOIL---------- Y**
(MP) GENL MINE PLAN COMPLIANCE- PB	**(FW) FISH & WILDLIFE---------- Y**	**(RV) REVEGETATION---- Y**
(SM) SIGNS AND MARKERS---------- Y	**(SP) STORM WATER MGT PLAN---- N**	**(RS) RECL PLAN/COMP-- Y**
(ES) OVERBURDEN/DEV. WASTE--------- Y	**(SC) EROSION/SEDIMENTATION--- Y**	**(ST) STIPULATIONS------- Y**
(AT) ACID OR TOXIC MATERIALS------- N	**(OD) OFF-SITE DAMAGE---------- Y**	

Y = Inspected / N = Not inspected / NA = Not applicable to this operation / PB = Problem cited / PV = Possible violation cited

Inspection Contact Address
Joseph Joshua
GCC Rio Grande, Inc.
3372 Lime Road
Pueblo, CO 81004

Enclosure: Attachment A - Key Elements of a Blasting Plan

ec: DRMS file
Joseph Joshua, GCC
Amy Veek, GCC
Ben Teschner, SLB

ATTACHEMENT A

Key Elements of a Blasting Plan

I. Blast Schedule Notification:
   a. Name, address & phone number of Operator;
   b. Identify where blasting will occur;
   c. Day(s) and time(s) of blasting;
   d. Methods used to control access;
   e. Outline warning signals (e.g., sirens, horns, etc.);
   f. Schedule distribution (who is notified: e.g., workers, residents, local governments, etc.).

II. Pre-Blast Surveys – where agreed to and approved by structure owners:
   a. Generally for structures within one half mile of the blast area;
   b. Establish a pre-blasting record of existing structure(s) condition;
   c. ID structures or contents sensitive to blasting.

III. Blast Plan:
   a. Limits on ground vibration;
   b. Limits on airblast;
   c. Methods used to control adverse effects of blasting;
   d. Description of monitoring systems to be used and where to be set up;
   e. Blasting protocol/procedure;
   f. Anticipated typical blast design (this information can have a range so as not to require a specific design for each blast:
      i. Blast purpose – what product is expected (e.g., riprap, crushed aggregate, etc.);
      ii. Number, spacing, diameter and depth of holes;
      iii. Type and amount of stemming material;
      iv. Blasting agent and amount per hole; and
      v. Type of delay detonator and delay periods expected.
   g. Location(s) of blast monitoring.

IV. Commit to Generating and Filing a Blast Report - The DRMS requires all Operators using explosives to complete a blasting report for each shot. The report must be retained by the Operator for at least 3 years and be available for inspection by the DRMS on demand. The record shall contain the following data, but should not be submitted as part of the Blasting Plan:
   a. Location date and time of blast;
   b. Name, signature and license number of blaster-in-charge;
   c. Identification, direction and distance in feet from the nearest blast hole to the nearest potentially affected structure, such as any dwelling, school, church, or community or institutional building either:
      i. not located in the permit area; or
      ii. Not owned nor leased by the person who conducts the mining operations.
   d. Weather conditions, including: temperature, wind direction, and approximate velocity;
   e. Type of material blasted;
   f. Sketches of the blast pattern including number of holes, burden spacing, and delay pattern. Sketches shall also show decking, if holes are decked to achieve different delay times within a hole;

g. Diameter and depth of holes;
h. Types of explosives used;
i. Total weight of explosives used per hole and maximum weight of explosives used per 8-millisecond period;
j. Initiation system;
k. Type and length of stemming;
l. Mats or other protections used;
m. Type of delay detonator and delay periods used;
n. Number of persons in the blasting crew; and
o. Seismographic records where required including:
    i. Type of instrument sensitivity and the calibration signal of the gain setting or certification of annual calibration;
    ii. Exact location of instrument, the blast date and time, and the instrument distance from the blast;
    iii. Name of the person and firm taking the reading;
    iv. Name of the person and firm analyzing the seismographic record; and
    v. The vibration level recorded