




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

The Division of Reclamation, Mining and Safety 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: Parcel 122 - Resource Development Project	MINE/PROSPECTING ID#: M-2015-033	MINERAL: Gravel and sand	COUNTY: Weld
INSPECTION TYPE: Monitoring	INSPECTOR(S): Peter Hays	INSP. DATE: December 12, 2019	INSP. TIME: 11:30
OPERATOR: Varra Companies, Inc.	OPERATOR REPRESENTATIVE: Brad Janes	TYPE OF OPERATION: 112c - Construction Regular Operation	
REASON FOR INSPECTION: Normal I&E Program		BOND CALCULATION TYPE: Partial Bond	BOND AMOUNT: \$118,575.00
DATE OF COMPLAINT: NA		POST INSP. CONTACTS: None	JOINT INSP. AGENCY: None
WEATHER: Clear	INSPECTOR'S SIGNATURE: 		SIGNATURE DATE: December 30, 2019

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/: The perimeter slopes were benched at an estimated overall 1.5H:1V slope to an estimated depth of 50 feet in Mining Tract A. The approved Geotechnical Stability Exhibit states the lower half of the mine slope (below 20 feet) will be maintained at 3H:1V and the remaining mine slope (from the surface to 20 feet in depth) at 1.25H:1V to allow for maximum material extraction while maintaining an adequate safety factor.

CORRECTIVE ACTIONS: The Operator must demonstrate the perimeter highwall profile is in accordance with the approved Mining Plan and Geotechnical Stability Analysis or submit a technical revision with an updated Stability Analysis to demonstrate a uniform 1.25:1V slope will not pose a hazard to structures 10 feet or greater from the extraction limit boundary. 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 activities by the corrective action date.

CORRECTIVE ACTION DUE DATE: 2/28/20

OBSERVATIONS

The Parcel 122 – Resource Development Project was inspected by Peter Hays and D.J. Cunningham with the Division of Reclamation, Mining and Safety (Division/DRMS) as part of the Division's monitoring inspection program. The site was previously inspected by the Division on October 22, 2015 for the required pre-operational inspection. Mr. Brad Janes with Varra Companies, Inc. (Varra) was present during the inspection. An inspection map based on the observations from this inspection and the latest available Google Earth image is attached for reference.

The site is an 112c operation permitted for 156.78 total acres with two extraction areas; Tract A – West Basin and Tract B – East Basin. A total of 101.97 acres of land will be disturbed by the mining excavation operation. The site is located in Firestone, Colorado in Weld County and east of the Heintzelman mine site operated by Varra. The required permit boundaries markers and mine sign were observed as required by Rule 3.1.12.

Tract A:

Mining activities have commenced in Tract A. The tract was generally being mined from north to south in accordance with the approved Mining Plan. The perimeter of the tract was excavated to establish dewatering trenches in the underlying bedrock. The mining excavation is progressing to the east from the western boundary. All mined material is conveyed to the Kurtz Resource site for processing. The perimeter slopes were benched at an estimated overall 1.5H:1V slope to an estimated depth of 50 feet. The approved Geotechnical Stability Exhibit states the lower half of the mine slope (below 20 feet) will be maintained at 3H:1V and the remaining mine wall (from the surface to 20 feet in depth) sloped at 1.25H:1V to allow for maximum material extraction while maintaining an adequate safety factor. **As cited as a problem, the Operator must demonstrate the perimeter highwall profile is in accordance with the approved Mining Plan and Geotechnical Stability Analysis or submit a technical revision with an updated Stability Analysis to demonstrate a uniform 1.25:1V slope will not pose a hazard to structures 10 feet or greater from the extraction limit boundary.** A revised Geotechnical Analysis must conform to the requirements of Section 30 or the Policies of The Mined Land Reclamation Board effective May 26, 2018.

Tract B:

Tract B is undisturbed by mining activities and is used for agricultural purposes.

Mineral Reserve Areas:

Two mineral reserve areas, a 10 acre area (Area 1) and a 24 acre area (Area 2) are located in the center and along the southern portion of the site, respectively. Mining disturbance will not occur in these areas unless the Mining and Reclamation Plans are revised in the future. No mining activity has occurred in the Mineral Reserve Area 1 and the planned wash pond has not been constructed by the Operator, since all processing is occurring off-site. Mineral Reserve Area 2 is being used for topsoil storage. During the inspection, an excavator was stripping an estimated 10 feet of topsoil from the peninsula area in the center of Tract A. The excavated topsoil was being transported and placed in the Mineral Reserve Area 2 by haul trucks.

Mining Offsets:

A mining disturbance offset of 125 feet from the residence and 10 feet from all other structures, property boundary, right-of-way or easement without a structure agreement was established by the Operator. A mining offset of 25 feet was established for wellheads and facilities. The wellheads will be backfilled to create a 100+ foot radius around the wellhead. The wellhead offsets were estimated at a minimum 100 foot radius of

undisturbed land from the wellheads located in Tract A during the inspection. The top of the mining excavation appeared greater than the required 10 feet from the permit boundary.

Reclamation Plan:

The approved post-mining land use for the site is developed water resource. The site reclamation will create two (2) clay lined reservoirs with 89.37 acres of water surface. No reclamation activity has occurred at the site. No noxious weeds were observed during the inspection. The site appeared stable with no erosion features observed during the inspection. The Operator was reminded of the requirement to stabilize topsoil stockpiles with the approved seed mixture to establish vegetation, once the topsoil salvaging operation concludes for Tract A. A stockpile of overburden was observed in the southwest corner of the pit floor in Tract A.

Financial Warranty:

The Division holds a financial warranty in the amount of \$118,575.00. The warranty amount was reviewed following the inspection and found to be adequate to complete reclamation of the existing disturbance.

If you need additional information or have any questions, please contact me at Division of Reclamation, Mining and Safety, 1313 Sherman Street, Room 215, Denver, CO 80203, by telephone at 303.866.3567 x 8124, or by email at peter.hays@state.co.us

Inspection Contact Address

Brad Janes
Varra Companies, Inc.
8120 Gage St.
Frederick, CO 80516

Enclosure – Inspection Map

Ec: Jared Ebert, DRMS

PHOTOGRAPHS



Parcel 122 mine sign



View of Tract A from the northwest corner of the tract looking south



View of Tract A from the northwest corner of the tract looking southeast



View of Tract A from the southwest corner of the tract looking north



View of topsoil profile being salvaged from the peninsula of Tract A



View of mining activity in the western portion of Tract A looking west from the center of Tract A



View of overburden stockpile located on the pit floor in the southwest corner of Tract A



View of the mining activity in the northern portion of Tract A east of the oil well



View of topsoil stockpile in the Mineral Reserve Area 2 from Tract A looking south



View of Tract A from the southeast corner looking north



View of Tract A from the southeast corner looking northwest



View of Tract B from the south side looking north

GENERAL INSPECTION TOPICS

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

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

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

Parcel 122

M-2015-033

December 12, 2019 Inspection Map

Legend

- Excavated Area
- Mineral Reserve Area 1
- Mineral Reserve Area 2
- Mining Tract A
- Mining Tract B
- Overburden Stockpile
- Parcel 122 Permit Boundary
- Topsoil Stockpile
- Varra

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Varra - Parcel 122

Google Earth

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1000 ft