



COLORADO DIVISION OF RECLAMATION, MINING AND SAFETY
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: Empire Pit	MINE/PROSPECTING ID#: M-1977-534	MINERAL: Sand and gravel	COUNTY: Clear Creek
INSPECTION TYPE: Monitoring	INSPECTOR(S): Tom Kaldenbach	INSP. DATE: June 4, 2013	INSP. TIME: 13:00
OPERATOR: City of Golden	OPERATOR REPRESENTATIVE:	TYPE OF OPERATION: 112c - Construction Regular Operation	

REASON FOR INSPECTION: Normal I&E Program	BOND CALCULATION TYPE: IT.Bondcalculationtype.CD.Desc	BOND AMOUNT: \$0.00
DATE OF COMPLAINT: NA	POST INSP. CONTACTS: None	JOINT INSP. AGENCY: None
WEATHER: Clear	INSPECTOR'S SIGNATURE: <i>Tom Kaldenbach</i>	SIGNATURE DATE: August 20, 2013

GENERAL INSPECTION TOPICS

This list identifies the environmental and permit parameters inspected and gives a categorical evaluation of each. No problems or possible violations were noted during the inspection. The mine operation was found to be in full compliance with Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board for the Extraction of Construction Materials and/or for Hard Rock, Metal and Designated Mining Operations. Any person engaged in any mining operation shall notify the office of any failure or imminent failure, as soon as reasonably practicable after such person has knowledge of such condition or of any impoundment, embankment, or slope that poses a reasonable potential for danger to any persons or property or to the environment; or any environmental protection facility designed to contain or control chemicals or waste which are acid or toxic-forming, as identified in the permit.

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

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

OBSERVATIONS

This was a monitoring inspection conducted by Tom Kaldenbach of DRMS. The operator was represented by Anne Beierle of the City of Golden Public Works Department. Sally Guanella Buckland, whose family owns the land, also participated in the inspection. The ground was dry and the weather was clear. The site is composed of two areas, the West Side (Guanella Reservoir and dam) and the East Side (Process Area). Guanella Reservoir and the dam are in operation. Mining in the East Side has been largely completed, and regrading was in progress in that area during the inspection. The inspection focused on remaining reclamation in the East Side.

Signs and Markers

A mine i.d. sign was properly displayed at the mine entrance gate. The affected area boundary was evident from surrounding land uses (road, reservoir, and stream), and in places was marked by a fence or metal posts.

Backfilling and Grading

The East Side is located on a terrace above the West Fork of Clear Creek. Asphalt and rock are being stockpiled and processed in the East Side, but mining activities are largely complete. A significant amount of regrading has been done in the East Side since late 2011, as indicated by comparison of the Google Earth image from that time (shown below) and the site conditions observed during this inspection.



Google Earth Image from September 24, 2011. Empire Pit permit area includes the West Side (Guanella Reservoir and dam) on left side of image and East Side (Process Area) in center of image. Town of Empire is on right side of image.

The approved postmining land use in the East Side is pasture land. The area is being regraded to a surface that gently slopes northward toward the creek. The required final topography for the East Side is shown on the reclamation plan map (Exhibit E) that was approved in Amendment 2 (AM-02) to the permit application. The

reclamation plan map shows elevation contours in the East Side/Processing Area of 8,600 ft and 8,610 ft that existed on the site in 2004. The map specifies "East Side reclamation grading will be returned to approximate original contour (pasture)". Page 11 of Amendment 1 (AM-01) also specifies that "final grades will approximate the pre-mining contours". The reclamation plan map in AM-02 shows an unpaved road that is to remain after reclamation along the south margin of the East Side.

All material stockpiles will need to be removed from the site. Debris scattered on the site, including pieces of scrap concrete, must also be removed from the site and not be left in regraded material. While regrading, special attention should be given to creating a stable hydraulic transition area between the gently sloping regraded area in the East Side, and the undisturbed more steeply sloping forested mountainside to the south.

An old silt fence on the slope that extends down to the creek will need to be removed. During the inspection, the landowner requested that the only remaining building on the site and (its concrete pad) be left on the site for supporting the pastureland postmining landuse.

Topsoil

Page 11 of Amendment 1 (AM-01) specifies that approximately 6 inches of on-site topsoil are to be replaced in the East Side. Topsoil stockpiles in the East Side appeared to have adequate volume for covering the site. Replacement of topsoil on regraded areas in the East Side was discussed during the inspection. During reclamation the topsoil may be placed directly on a gravelly regraded surface. The approved reclamation plan did not require segregation of soil horizons during mining operations. After topsoil is placed on a gravelly surface, there is potential over time for infiltrating run-off to cause the fine-grained topsoil to migrate downward into the underlying coarse-grained gravel. Loss of topsoil from the surface in this way may hinder development of grass revegetation that is approved for the postmining pasture land use. To hinder the migration of fine-grained topsoil downward into underlying gravelly regraded material, the operator should not spread screened gravel material as a base for topsoil.

Hydrologic Balance

There were no signs of excessive erosion on the site.

No areas of slope instability were found.

Surface Facilities

Fuel was properly stored within secondary containment structures.

General Compliance with Mine Plan

The operation appeared to be following the mine plan, with reclamation activities in progress soon after mining activities.

Off-site Damage

There did not appear to be any off-site damage around the perimeter of the site.

Financial Warranty

No reclamation bond is required for this site because the permittee is a government entity.

PHOTOGRAPHS



Photo 1 – East Side. Gravelly regraded surface.



Photo 2 – East Side. Stockpiles of recycled asphalt (on left) and concrete (in distance on right).



Photo 3 – Permit boundary on south end of East Side marked by fence. Grassed area is outside permit area.



Photo 4 – East Side. Partially re-graded area.



Photo 5 – East Side. Affected area/undisturbed land boundary in upper half of photo.



Photo 6 – East Side. Fuel tanks, with secondary containment.



Photo 7 – East Side. Partially regraded gravelly material.



Photo 8 – West Side. Guanella Reservoir



Photo 9 – Sign on entrance gate.

Inspection Contact Address

City of Golden
Director of Public Works
Golden, CO 80401

cc:

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