



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: Superior S&G Pit	MINE/PROSPECTING ID#: M-1979-189	MINERAL: Sand and gravel	COUNTY: Arapahoe
INSPECTION TYPE: Monitoring	INSPECTOR(S): Jared L. Ebert	INSP. DATE: September 20, 2017	INSP. TIME: 09:00
OPERATOR: City of Aurora	OPERATOR REPRESENTATIVE: Eric Watts, City of Aurora	TYPE OF OPERATION: 112c - Construction Regular Operation	

REASON FOR INSPECTION: Normal I&E Program	BOND CALCULATION TYPE: None	BOND AMOUNT: \$0.00
DATE OF COMPLAINT: NA	POST INSP. CONTACTS: None	JOINT INSP. AGENCY: None
WEATHER: Clear	INSPECTOR'S SIGNATURE: 	SIGNATURE DATE: September 21, 2017

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: Hydrologic Balance

PROBLEM: The Division has no evidence that the operator has a valid well permit, substitute water supply plan, or approved water augmentation plan for the exposed groundwater at the site. This is a problem related to 34-32.5-116(4)(h) of the Colorado Revised Statutes and 3.1.6(1)(a) of the Construction Materials Rules and Regulations governing injury to existing water rights.

CORRECTIVE ACTIONS: The Operator shall demonstrate that the operation is in compliance with the Office of the State Engineer, show evidence that the Operator is taking measures to bring the site into compliance with the SEO, or backfill the pits to at least two feet above the groundwater surface by the corrective action date specified.

CORRECTIVE ACTION DUE DATE: 11/20/17

INSPECTION TOPIC: Gen. Compliance With Mine Plan

PROBLEM: Mining appears to be either complete at the site or has temporarily ceased and the Operator has not initiated reclamation in accordance with Rule 3.1.3 or filed for temporary cessation in accordance with Rule 1.13.5.

CORRECTIVE ACTIONS: By the due date cited below the Operator shall:

1.) If mining is complete, initiate reclamation in accordance with Rule 3.1.3. By the due date, the Operator will submit a notice to the Division with photographic evidence that reclamation has commenced. Or,

- 2.) Reinitiate mining. If this is done, the Operator must submit a notice to the Division with photographic evidence that mining has recommenced. Or,
- 3.) If the Operator does plan to begin mining again but not right away, they must request from the Board a 5 year extension to the Temporary Cessation period per Rule 1.13.5(3) and 1.13.8(b). By the due date, the Operator must submit this request to the Board. Once this request is received the Division will schedule this matter to be considered in a timely fashion before the Board.

CORRECTIVE ACTION DUE DATE: 11/20/17

OBSERVATIONS

This was a monitoring inspection of the Superior S&G Pit, DRMS Permit No. M-1979-189. The permittee for the site is the City of Aurora (Aurora or Operator). I, Jared Ebert of the Colorado Division of Reclamation, Mining and Safety (DRMS or Division) conducted the inspection. Mr. Eric Watts with Aurora accompanied me during the inspection. The weather was sunny and clear at the time of the inspection.

This is a 65.2 acre 112c operation in Arapahoe County. This site was originally permitted by Superior S & G Company. The permit was transferred to Rio Grande Company in 2004. Then in 2015 the permit was transferred to Aurora. The post mine land use approved for the site is primarily recreational centered around wetland/wildlife habitat creation. Based on the January 13, 2013 annual report the last documented mining activity occurred on May 16, 2012.

Backfilling and Grading:

Mining appears to have been completed at the site or has temporarily ceased. A substantial amount of earthwork remains to be completed for final reclamation. It does not appear final grading of the site occurred when mining ceased. The site consists of a patchwork of excavations leaving two small pond excavations on the western side of the site, one large irregularly shaped pond excavation in the center of the site and another large excavation area on the east side of the site. The eastern excavation area consists of a deeper pit area on the southeast end and various previously used dewatering trenches. The deeper pit area and the dewatering trenches have filled in with groundwater.

The pit slopes for these excavations vary significantly throughout the site. The pit slopes range from a steep 1H:1V ratio to a very gentle slope in places; however, the majority of the pit slopes above the waterlines of each of the ponds were between a 1H:1V to 2H:1V slope. The approved reclamation plan for the site calls for leaving the pit slopes at a 3H:1V ratio. Also Rule 3.1.5(7) states "In all cases where a lake or pond is produced as a portion of the Reclamation Plan, all slopes, unless otherwise approved by the Board or Office, shall be no steeper than a ratio of 2H:1V, except from 5 feet above to 10 feet below the expected waterline where slopes shall be not steeper than 3H:1V."

Significant grading work will need to be completed around the pond slopes to comply with the reclamation plan and the performance standard outlined in the above referenced rule. Also there are a number of stockpiles and berms that have been left in place at the site. These piles and berms vary in size and shape, many of their side slopes are steep. These piles could be spread out and used for backfilling and grading work.

Fish and Wildlife:

A bald eagle was observed in a cottonwood tree on the eastern side of the site. Several different species of ducks and other water fowl were observed utilizing the various ponds at the site.

Gen. Compliance With Mine Plan:

Based on a review of the annual reports submitted to the DRMS, the last documented date of excavation at the site was on May 16, 2012. Based on aerial photographs it appears processing and conveyor equipment at the site were removed in 2013 or 2014. It appears that the Operator has either stopped mining or has temporarily ceased production. In accordance with Rule 1.13, an operation may only temporarily cease production for two five year terms. Given the last date of excavation was on May 16, 2012 the first five year term has expired. Given this, the Operator has several options. They may either reinitiate mining, commence reclamation or request from the Colorado Mined Land Reclamation Board (Board) a second five year term of Temporary Cessation. This issue is cited as a problem at the beginning of this report.

Reclamation Success:

As discussed above, mining appears to have either been completed at the site or has temporarily ceased. Vegetation has volunteered into the site and wetland vegetation has densely developed around each of the ponds. Unfortunately final backfilling and grading has not occurred at the site and a large amount of vegetation will likely be affected by the final reclamation activities. Given this, it is premature to evaluate reclamation success.

Topsoil:

A large number of stockpiles of material exist around the pit excavations. It is likely these piles are the growth media piles.

PHOTOGRAPHS



Figure 1. Near the entrance to the site looking north. Old processing/stockpile yard.



Figure 2. From the south end of the center excavation looking east.



Figure 3. South end of the southernmost pond on the west side of the site.



Figure 4. From the south end of the center excavation/pond looking northeast.



Figure 5. From the south end of the center pit/pond looking north.



Figure 6. From the south end of the eastern excavation looking north east.



Figure 7. From the southeast end of the eastern excavation looking northwest.



Figure 8. From the southeast end of the eastern excavation looking north.



Figure 9. From the north central portion of the site looking east. Steep 2:1 slopes near the north boundary.



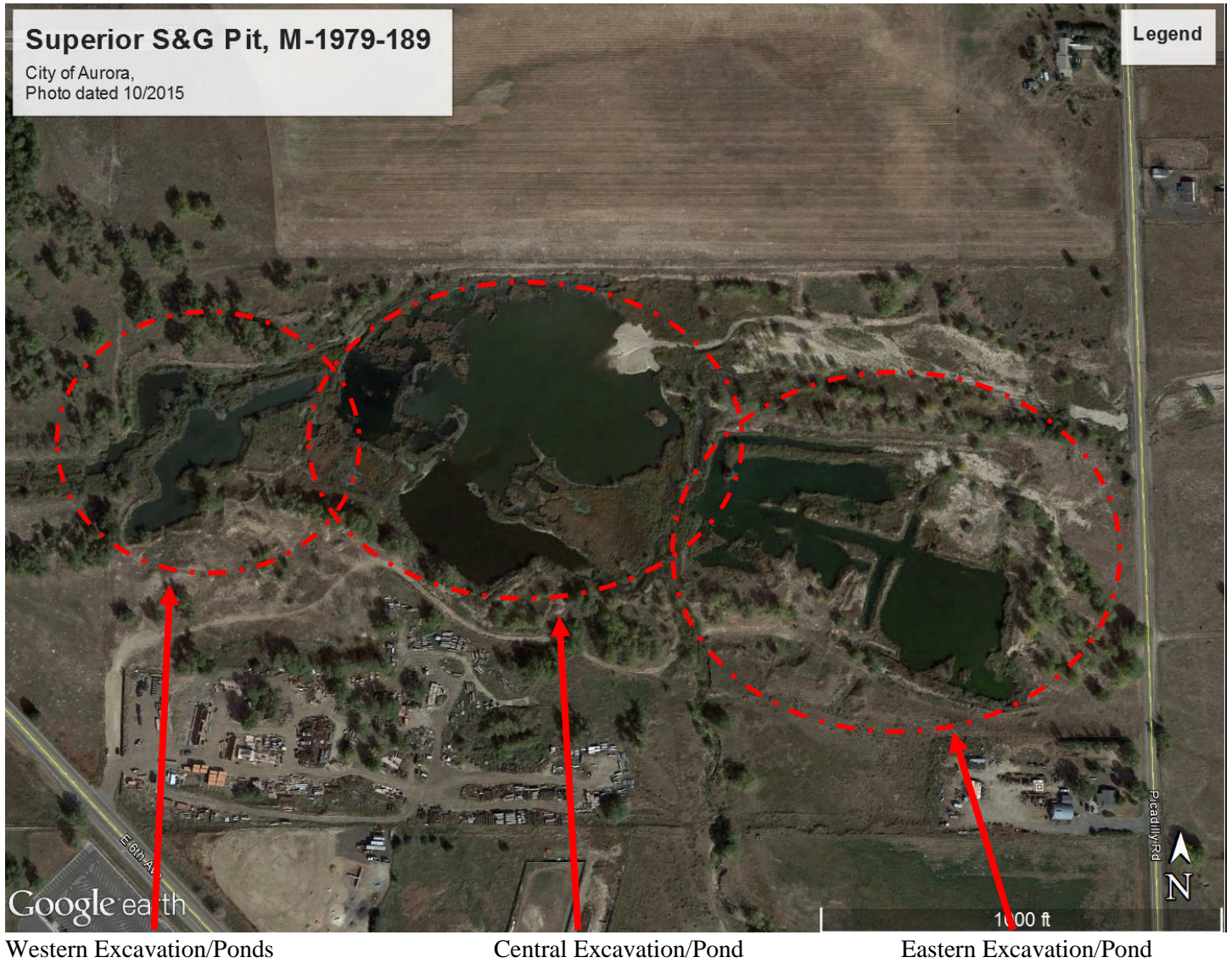
Figure 10. From the north central portion of the site looking west. Steep 2:1 slopes near the north boundary.



Figure 11. Northernmost excavation/pond on the west side of the site. From the north end looking south.



Figure 12. Pond slopes on the southernmost pond/excavation on the west side of the site. Steep 1H:1V slopes into the pond.



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>NA</u>	(RD) ROADS----- <u>NA</u>
(HB) HYDROLOGIC BALANCE----- <u>PB</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>PB</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>	(CI) 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

Inspection Contact Address

Tom Barrett
City of Aurora
15151 E. Alameda Parkway
Aurora, CO 80012

Enclosure

EC: Eric Watts, City of Aurora, ewatts@auroragov.org
Pat Schuler, City of Aurora, pschuler@auroragov.org