



STATE OF
COLORADO

Ebert - DNR, Jared <jared.ebert@state.co.us>

M & G Pit, M-1986-079, SO-03 Application

Environment-Inc <Environment-inc@outdrs.net>

Tue, Jan 9, 2018 at 11:27 AM

To: "Ebert - DNR, Jared" <jared.ebert@state.co.us>

Cc: Andy Blackford <ablackford@ceiconstructors.com>, Joe O'Dea <JODea@ceiconstructors.com>, Clay Carlson <ClayCarlson@carlsonland.net>

Jared,

Talked to Tim Cazier and I think I have the Geotech worked out. Attached is a copy of the revised Geotechnical Analysis and a cover letter to address the SO3 memo. I will mail the originals today.

Thanks,

Steve

Steve O'Brian
Environment, Inc.
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----- Original Message -----

From: Ebert - DNR, Jared

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Environment, Inc.

LARRY E. O'BRIAN
FOUNDER

STEVAN L. O'BRIAN
PRESIDENT

January 9, 2018

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Mr. Jared Ebert
Division of Reclamation, Mining and Safety
1313 Sherman St., Suite 215
Denver, CO 80213

Dear Mr. Ebert

RE M&G Pit - M-1986-079
Revised Geotechnical Analysis

On behalf of my clients Mann Resources LLC and Mann Lakes Holding, LLC, I am submitting a revised Geotechnical Analysis to address the Adequacy review memorandum from Mr. Cazier to Mr. Ebert dated December 14, 2017. Mr. Cazier suggested that the calculations provided in the original submittal were redundant and that analysis was sufficient to address Rule 6.5(3).

If you need more information or have any questions please call me at 303-423-7297.

Respectfully Submitted,
Environment, Inc.



Stevan L. O'Brian
President

attachment

cc Joe O'Dea - CEI Constructors (Mann Lake Holding, LLC)
Andrew Blackford - CEI Constructors (Mann Lake Holding, LLC)
Clay Carlson - Mann Resources, LLC.
file

January 9, 2018

Mann Lake Holding LLC, believes no off site structures will be affected by the reclamation left to be completed at this facility and agrees to not excavate within 200 feet of any structures from this time forward until structure agreements are obtained or a Geotechnical study is completed and approved.

Analysis

All mining operations have ended on this mine and reclamation is nearly complete. No excavation will take place at the mine as it is now actively being reclaimed. The old gravel pit lake on the site is currently being backfilled with clean fill dirt as approved in the reclamation plan. This is allowed in the zone district (Agriculture) and the activity is approved in Adams County under a Conditional Use Permit issued in 2013.

Backfilling operations associated with the site takes place on the surface of the backfilled area that lays from 3 feet above to 10 feet below the surrounding structures. On the areas that are lower then surrounding structures, the slope down from the mining setback is stable and graded 2h to 1v or flatter and reclaimed. In most areas the backfilling activities are more then 200 feet from any structure.

All existing above water slopes were graded 2H to 1V or less except on the fill face and have been stable for at least 10 years. Except where backfilling is taking place the under water slopes are 3h:1v or less. The south perimeter slope is the highest above the filling area and has been graded and revegetated since the 1990's. The closest structure to the most active area is the fence that surrounds the permit area.

The closest point backfilling could take place is in the northwest corner near the stormwater outlet. On the north side, the top of the bank into the lake is approximately 20 feet from the fence and the west side is approximately 45 feet from the fence. The lake surface is 4 feet below the ground surface. The slope from the surface to the waters' edge is approximately 3:1 and is stable. The depth of the lake in this area is approximately 2 feet.

The perimeter of the old lake where backfilling is taking place varies from approximately 225 feet to 740 feet from the fence line. Backfilling is done by piling imported dirt along the edges of the lake and using a loader to push it into the lake. The deepest part of the lake is due east of the main entrance and is approximately 10 feet at this time and ground surface where the lake is the deepest is 4 feet above the water so this means they are filling a 14-foot hole. As the dirt is pushed into the lake it tends to fan out so the underwater slope is 5:1 or less

In the worst case scenario where the 14 foot tall backfill highwall failed and sloughed off at rate of 5:1 the slope failure would still be 157 feet from the closest structure and the safety factor is 3.24:1. This shows, that should any backfill slope fail, the impacts would not affect the closest structure and therefore cannot affect structures outside the limits of the backfilling area.