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SENT CERTIFIED, RETURN RECEIPT REQUESTED
7017-2400-000-4077-8555

28 March 2018

Mr. Timothy Cazier, P.E.
Environmental Protection Specialist
Colorado Department of Natural Resources
Division of Reclamation, Mining and Safety
Office of Mined Land Reclamation
1313 Sherman Street, Room 215
Denver, Colorado 80203

Re: Permit No. M-1980-244; Cripple Creek & Victor Gold Mining Company ("CC&V"); Cresson Project; – VLF2 Corrective Action Plan TR#99

Dear Mr. Cazier:

Newmont Cripple Creek and Victor Gold Mine (CC&V) hereby submits the following Technical Revision (TR) 99 proposing to conduct a liner integrity investigation in the immediate area impacted by the December 16, 2017 Squaw Gulch Valley Leach Facility (VLF2) slough. The investigative plan, developed by a third party consultant, is presented in Attachment 1.

Background

On Saturday, December 16, 2017 a small internal portion of the VLF2 ore slope sloughed during loading. Although this event posed no danger to human health, property or the environment, and through an abundance of caution, CC&V initiated an investigation to confirm VLF2 liner integrity.

During the February site-wide inspection, a DRMS representative observed equipment removing ore from the slope in the area of the slide. CC&V advised DRMS of the slide and the subsequent liner integrity investigation. On March 15, 2018, DRMS issued CC&V a Reason to Believe a Violation Exists letter and February inspection report. Within the inspection report, DRMS requested CC&V submit a Technical Revision on or before March 29, 2018 outlining the process by which the VLF2 liner would be inspected and recertified. This TR is timely submitted and satisfies this request by providing the liner inspection and recertification plan described below.

VLF2 Liner Investigation

CC&V has contracted NewField's, a third-party consulting firm, to develop a non-invasive approach to determine the integrity of the VLF2 liner (Attachment 1). This plan employs two sophisticated electrical resistivity analyses which will be used to identify the presence of any liner perforations. These analyses will utilize the ASTM G57-Standard Test Method for Field Measurement of Soil Resistivity Using the Wenner Four Electrode Method, and the ASTM

D7007-Standard Practices for Electrical Methods for Locating Leaks in Geomembrane Covered with Water or Earthen Materials.

This method of investigation is a widely accepted industry practice, creating an understanding of liner conditions with a high level of confidence. Similar tests have been used during construction activities at the Arequa Gulch Valley Leach Facility and VLF2. Historically, DRMS has accepted the results of these analyses at CC&V, certifying the construction of the VLFs as Environmental Protection Facilities (EPF).

Additionally, daily leak detection monitoring will continue while the test is being performed. Results from this test will be provided in writing to DRMS. If the test results conclude the liner has been compromised, the impacted portion of the liner will be exposed and repairs will be made to the damaged sections. These repairs will be observed and documented by a NewFields' certified engineer. A Quality Assurance Monitoring Test Report will be submitted to the Division for acceptance and recertification of the VLF2 liner as an EPF.

If the results of the resistivity test confirm the slide did not compromise the liner integrity, NewFields will document the backfilling of drain cover material over the exposed liner and prepare a certified report summarizing the work and leak detection survey results. This certification report will be provided to the Division at the conclusion of the survey.

Schedule

CC&V anticipates initiating the liner integrity investigation in early April, 2018. Depending on the test results, and if any liner repairs are required, the liner investigation and recertification process will likely take several weeks to complete. Additionally, weather conditions and equipment availability may impact project schedule. CC&V commits to providing status updates to DRMS as necessary.

Financial Warranty

Newmont has determined the investigative work described in this TR will not affect the financial warranty carried with the state.

Enclosed please find check no. 200033739 in the amount of \$1,006 for the technical revision fee. Should you require further information please do not hesitate to contact me at (719) 689-4046 or Meg.Burt@newmont.com.

Sincerely,

Meg Burt
Environmental Manager

MB/cs

Attachments

ec: T. Cazier – DRMS
File

Attachment 1:
NewFields Technical Memorandum:
Leak Detection Recommendations

TECHNICAL MEMORANDUM

9400 Station Street
Suite 300
Lone Tree, CO 80124

T: 720.508.3300
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To: Cripple Creek and Victor Mining Company

From: Jay Janney-Moore, P.E.

Reviewed By: Nicholas T. Rocco, Ph.D, P.E.

Project: Liner Integrity Engineering Support

Project No: 475.0106.023

Subject: Leak Detection Recommendations

Date: 27 March 2018

NewFields Mining Design & Technical Services (NewFields) is pleased providing the following recommendations to Cripple Creek and Victor Gold Mining Company (CC&V) to determine the integrity of the geomembrane liner along the southern side of the Squaw Gulch Valley Leach Facility (VLF2) between the 9860-foot and 9650-foot benches.

1.0 BACKGROUND

In December 2017, CC&V was loading ore on VLF2, along the southern side below the Mill between benches 9850' and 9650'. As the operators were advancing ore placement to the west along the edge of the pad, the ore slope unexpectedly shifted. At that moment, CC&V stopped work in this area, and shifted ore placement to another section of the pad.

Soon after the movement occurred, CC&V requested a third party to inspect the integrity of the geomembrane liner. NewFields completed a site visit in January to observe the general area. At that time, NewFields recommended contracting a leak detection survey company to evaluate the geomembrane without need to expose the entire geomembrane surface. This method of evaluation has been successfully implemented previously at CC&V during the construction and certification of VLF2. Upon arrival to observe the area of concern, site conditions were not favorable to complete the survey. In order to get a successful leak detection survey, NewFields recommended CC&V to carefully remove as much of the ore as safely possible and expose a two foot wide isolation strip of geomembrane around the perimeter of concern.



In March, 2018, NewFields completed a second site visit to assess the area after removal of some of the ore and discuss the path forward with CC&V. At this time, the majority of the ore had been removed, to an average thickness of 10-12' above the geomembrane, and it appeared that an isolating strip of geomembrane could be exposed to facilitate the leak detection survey.

2.0 RECOMMENDATIONS AND PATH FORWARD

At this time, NewFields recommends performing a leak detection survey in the area of concern to determine the integrity of the existing geomembrane. Prior to the arrival of the leak location survey company, TRI-Environmental (TRI), the following steps need to be completed.

- Isolate the area of concern by exposing geomembrane around the entire perimeter of the area. During this work, NewFields will continuously observe and document the removal of remaining ore and drain cover material to create the isolation strip of geomembrane liner. Any potential tears or punctures of the geomembrane will be documented with coordinates and photos for future repair; as necessary.
- Test in in-situ resistivity of the ore along the perimeter of the survey area following the ASTM G57- Standard Test Method for Field Measurement of Soil Resistivity Using the Wenner Four Electrode Method. The results will be used to create a baseline for the leak location survey results.
- Moisture condition the area to be surveyed. This is needed to ensure that any leaks in the survey area are adequately wetted. This can be accomplished by first adding fresh water along the top of the slope, making sure that the water reports to the toe of the slope so that the surface of the geomembrane under the survey area is completely wetted. Then, the surface of the entire survey area can be wetted by sprinklers or with a water hose in order to decrease overall resistivity in the survey area. At this time, we anticipate this will take three days to accomplish, and should be completed several days before the arrival of TRI. The perimeter isolation trench must be dry before beginning the leak detection survey.

After these steps are completed, TRI will perform the leak detection survey utilizing industry standard procedures from ASTM D7007-Standard Practices for Electrical Methods for Locating Leaks in Geomembrane Covered with Water or Earthen Materials. This procedure will determine:

- If the ore movements observed in December resulted in a defect in the geomembrane liner and;
- The location of the hole, if present.

The above standard also outlines procedures to simulate a hole in the geomembrane to add confidence in the survey results.



Upon completion of the leak location survey, NewFields will inform CC&V the results and provide additional recommendations for repair of the defects (if necessary) and backfilling of the drain cover fill.

If no defects are located, NewFields will document the backfilling of drain cover material over the exposed geomembrane liner. A certified report will be developed summarizing all the work completed and the leak detection survey results.

If defects are located, NewFields will document the repair of the holes and the backfilling of the drain cover material over the exposed geomembrane liner. A certified report will be developed summarizing all the work completed and the leak detection survey results.

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STATE OF
COLORADO

Russell - DNR, Elliott <elliott.russell@state.co.us>

CC&V TR 99 Correct Action Plan

Justin Bills <Justin.Bills@newmont.com>

Wed, Mar 28, 2018 at 11:45 AM

To: "Cazier - DNR, Tim" <tim.cazier@state.co.us>, Elliott Russell - DNR <elliott.russell@state.co.us>, Amy Eschberger - DNR <amy.eschberger@state.co.us>

Cc: Meg Burt <Margaret.Burt@newmont.com>, Clara Steward <Clara.Steward@newmont.com>, "Erickson - DNR, Wally" <wally.erickson@state.co.us>

All,

Attached, please find TR99 submitted by hard copy March 28, 2018. This TR satisfies the request made by the Division in the February Inspection Report addressing the process whereby the liner is recertified as an EPF.

Thank you,



Justin Bills

Senior Environmental Specialist

Cripple Creek and Victor Gold Mining Co.

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Newmont Mining Corporation

Cripple Creek and Victor Gold Mining Co.

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TR 99_DRMS_VLF2 Corrective Action Plan.pdf
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