

STATE OF  
COLORADO

Eschberger - DNR, Amy &lt;amy.eschberger@state.co.us&gt;

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## Response to Inspection April 19, 2022

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Norma Townley &lt;Norma.Townley2@newmont.com&gt;

Tue, May 31, 2022 at 1:01 PM

To: "Amy.Eschberger@state.co.us" &lt;Amy.Eschberger@state.co.us&gt;

Cc: "Michaela.Cunningham@state.co.us" &lt;Michaela.Cunningham@state.co.us&gt;, "Tim.Cazier@state.co.us"

&lt;Tim.Cazier@state.co.us&gt;, "Russell - DNR, Elliott" &lt;elliott.russell@state.co.us&gt;, "Patrick.Lennberg@state.co.us"

&lt;Patrick.Lennberg@state.co.us&gt;, Justin Raglin &lt;Justin.Raglin@newmont.com&gt;, Katie Blake &lt;Katie.Blake@newmont.com&gt;, Johnna Gonzalez &lt;Johnna.Gonzalez@newmont.com&gt;, Norma Townley &lt;Norma.Townley2@newmont.com&gt;

Dear Amy, Attached please find our cover letter and attachments in response to the DRMS Inspection on April 19, 2022. If you have any questions or concerns please reach out to [Johnna.Gonzalez@Newmont.com](mailto:Johnna.Gonzalez@Newmont.com) or [Justin.Raglin@Newmont.com](mailto:Justin.Raglin@Newmont.com). Thank you.



### *Norma Townley*

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Please consider the environment before printing this e-mail

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### 4 attachments

**31May2022\_DRMS04192022InspectionResponse.docx.pdf**  
434K**HGM Ore Slope Tech Memo 20220526 final.pdf**  
1123K**VLF2 ORE SLOPES.pdf**  
2222K**Geotechnical drawings.pdf**  
384K

May 26, 2022

SENT BY ELECTRONIC MAIL

Ms. Amy Eschberger  
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; Cresson Project; –April 19, 2022 Inspection Corrective Action Response**

Dear Ms. Eschberger:

On April 19, 2022, Colorado Division of Reclamation, Mining, and Safety (the Division) completed a routine monthly inspection, accompanied by representatives of Newmont Corporation's Cripple Creek and Victor Gold Mining Company (CC&V). This letter is in response to the inspection report issued by the Division following the inspection.

The inspection report issued to CC&V by the Division following the April 19, 2022 inspection described two issues as below, with Division comments in italic text and CC&V response provided in bold text. Corrective actions for each of these issues are due by 5/31/2022.

- 1. Problem: The remote monitoring of the VLF1 LVSCS Phases I and II/III appear to be reporting using the wrong units (feet vs. inches). If the units are correct, then Phase II/III is out of the compliance.*

**The units for Phase I and 2 on the low volume levels were programmed incorrectly and have been corrected in the system (see snippet below). Phase I and II/III remain in compliance.**

Phase II Low Volume	Phase I Low Volume
LIT-4601A <b>3.66</b> in	LIT-4600 <b>1.12</b> ft
LIT-4601B <b>3.70</b> in	LIT-4600A <b>0.43</b> ft



2. *Problem: The current mine plan related to ore stacking as approved with TR-103 appears not to have been followed above the HGM.*

**See the attached drawings and Newfield's Tech memo regarding CC&V's ore stacking above the Mill Platform. Also, please see the attached drawings of VLF2 that display overall operational ore slope, angle of repose, and crest and toe elevations. Lastly, see the geotechnical monthly and weekly scans of VLF 2 indicating no major displacement.**

Should you require further information please do not hesitate to contact Johnna Gonzalez at 719-851-4190 or [Johnna.Gonzalez@newmont.com](mailto:Johnna.Gonzalez@newmont.com) or me at 719-851-4042 or [Justin.Raglin@newmont.com](mailto:Justin.Raglin@newmont.com).

Sincerely,

DocuSigned by:

*Justin Raglin*

A5AA058117F54C4...

Justin Raglin

Suitability and External Relations Manager  
Cripple Creek & Victor Mine

EC    T. Cazier - DRMS  
      M. Cunningham – DRMS  
      A. Eschberger - DRMS  
      E. Russell – DRMS  
      P. Lennberg - DRMS  
      J. Raglin – CC&V  
      K. Blake – CC&V  
      J. Gonzalez – CC&V

Enclosure  
File

## TECHNICAL MEMORANDUM

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**To:** Charles Bissue  
**From:** Jay Janney-Moore, P.E.  
**Reviewed By:** Keith Williams, P.E.  
**Project:** Ore Slope at the Mill Platform  
**Project No:** 475.0106.054  
**Subject:** Review of Ore Slopes at the Mill Platform  
**Date:** May 26, 2022



At the request of Cripple Creek & Victor Gold Mining Company, NewFields has reviewed the as-built ore slopes above the High Grade Mill (HGM) or Mill Platform in response to a Department of Reclamation, Mining and Safety (DRMS) inspection finding on April 19, 2022.

***Problem/Possible Violation No.2 states "The current mine plan related to ore stacking as approved with TR-103 appears not to have been followed above the HGM".***

### 1.0 REVIEW OF TR-103 ORE STACKING GUIDELINES

NewFields has reviewed the stacking VLF2 Ore Stacking Guidelines Rev1 Technical Memorandum, dated April 16, 2020. This document outlines general ore stacking procedures on VLF2. Section 2 of this document outlines the ore placement guidelines under various conditions. The seventh bullet point outlines the overall ore slopes around the pad, and is presented below:



➤ **The overall slopes, which includes the bench width and the slope of the ore, shall have the following operational slopes based on a 100 foot lift thickness:**

- On ore slope against up-sloping ground is 1.6(H):1(V), a bench with a minimum width of 20' is required between the crest of the lower lift and the toe of the new lift.
- Ore Slopes against down-sloping ground is 2.5(H):1(V), a bench with a minimum width of 110' is required between the crest of the lower lift and the toe of the new lift.
- Ore Slopes above the Pregnant Solution Storage Area (PSSA) is 2.5(H):1(V), a bench with a minimum width of 110' is required between the crest of the lower lift and the toe of the new lift.
- Ore slopes above the Mill Platform were designed to be 2.0(H):1(V), a bench with a minimum width of 60' is required between the crest of the lower lift and the toe of the new lift.

As stated in the guideline, the ore slopes above the HGM are to be placed at an overall slope 2.0(H):1(V). The guideline also gives an example of the minimum bench width between the toe of the lift and the crest of the previous lift, assuming a lift height of 100' with an angle of repose slope of 1.4(H):1(V) of the ore. Additionally, all the guidelines are summarized in the Table 1 of the VLF2 Ore Stacking Guidelines Rev1 Technical Memorandum and is presented below:

**TABLE 1**

Parameter	Value
Maximum Ore depth Over Geomembrane Liner	800 feet
Nominal Ore Angle of Repose Slope	1.4H:1V
Overall Operational Ore Slope against Up-sloping Ground	1.6H:1V
Overall Operational Ore Slope against Down-sloping Ground	2.5H:1V
Overall Operational Ore Slope above PSSA Embankment	2.5H:1V
Overall Operational Ore Slope above Mill	2.0H:1V
Maximum Ore Lift Height with Rocks with a Diameters Less Than 3 inches	100 feet (Note 1)
Maximum Ore Lift Height with Rocks with a Diameter Greater Than 3 inches	50 feet
Minimum Ore Lift Height	20 feet
Minimum Distance between the Crest of a Lift and Placement of Tailings	25 feet
Nominal Ratio of Ore to Tailings Mixture	10%



## **2.0 REVIEW OF EXISTING TOPOGRAPHY**

CC&V provided NewFields with a topography file, dated March 2, 2022, of the current as-built ore stacking above the HGM to determine if the stacking was following the guidelines or not. Using AutoCAD Civil3D, NewFields checked the overall slopes of the stacked ore, and checked actual dumped ore angle of repose. As shown on Figure 1, the overall slope of the ore generally varies between 2(H):1(V) and 2.5(H):1(V), except below the Booster Pump building. Based on the southern protrusion in the contours of the upper lift, it appears when the area for the Booster Pump building was regraded, the crest of the slope got pushed out and the overall slope was reduced to 1.6(H):1(V). Additionally, the actual dumped ore angle of repose varied between 1.4(H): and 1.5(H).

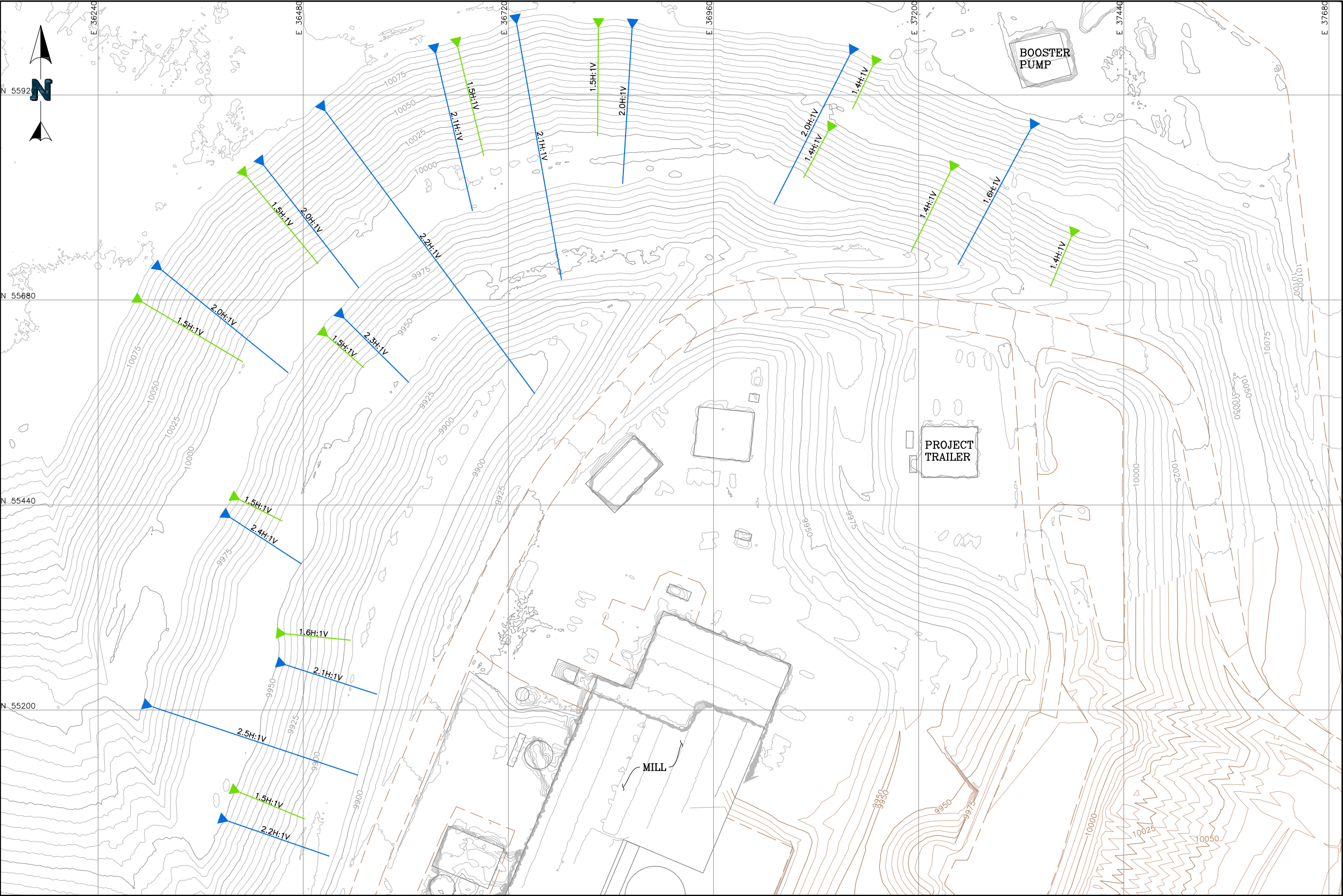
The bench width does vary and in some areas is less than 60 feet. This happened because the actual dumped slopes being flatter than the assumed angle of repose stated in Table 1 and not all lifts dumped are 100' thick. It appears CC&V did offset the crest of the subsequent lift to insure an overall slope of 2(H):1(V).

## **3.0 CONCLUSIONS**

Based upon the reviewing the actual slopes of the ore above the HGM, it is NewFields opinion that CC&V has stacked the ore above the HGM in accordance with the intent of the guidelines outlined in TR-103 and the overall slopes are 2(H):1(V) or flatter. After subsequence lift of ore are placed above the booster pumps building, the overall slope will flatten out to less the 2(H):1(V).




P:\Projects\0106.054 Stormwater Improvements\A-CAD\FIGS\Slope\0106.054.008F.dwg-5/24/2022 4:18 PM



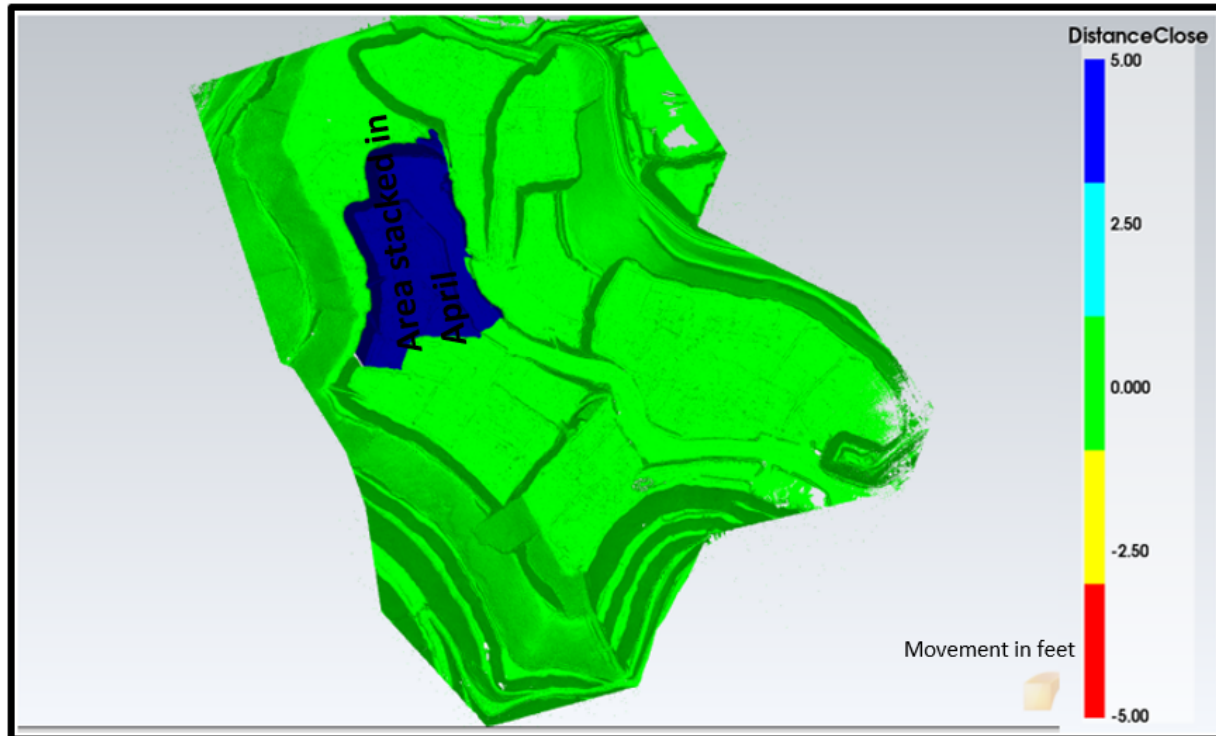
- LEGEND:**
- MARCH 2, 2022 MILL TOPO
  - AUG 2020 FLYOVER TOPO
  - 2.2H:1V OVERALL OPERATIONAL ORE SLOPE
  - 1.5H:1V ANGLE OF REPOSE SLOPE (DUMPED ORE SLOPE)



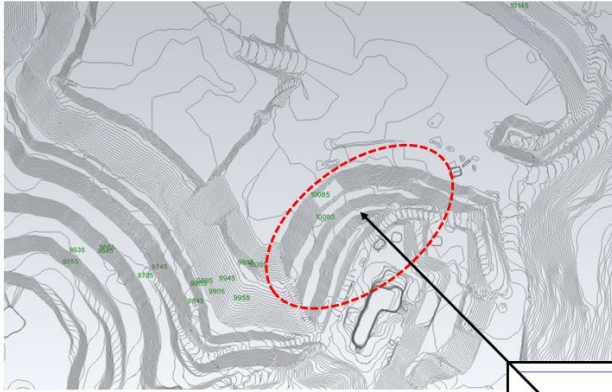
		CLIENT CRIPPLE CREEK & VICTOR GOLD MINING COMPANY	
PROJECT		VLF2 HEAP ORE SLOPES	
TITLE HEAP ORE COMPOSITE SLOPES ABOVE MILL		FILENAME 0106.054.008F	
		FIGURE NO. 1	REVISION A







- A march flight of the VLF2 was compared to an April flight to detect displacements in feet
- NO major displacements were detected.



- Weekly scans were compared from April 5<sup>th</sup> to May 9<sup>th</sup>.
- Displacements are calculated in feet
- No major displacements are detected

