



Elliott Russell
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

April 14, 2025

**Re: Permit No. M-1980-244; Cripple Creek & Victor Gold Mining Company; Cresson Project;
Technical Revision 146 – Adequacy Review Response**

Dear Mr. Russell,

On April 2, 2025, Cripple Creek and Victor Gold Mining Company (CC&V) received the Division of Reclamation, Mining and Safety (DRMS) Adequacy Review of Technical Revision (TR) 146 to permit M-1980-244, regarding the VLF2, Phase 3 Stage B Subgrade and Leak Detection Record of Construction Report. Below is DRMS comment in bold and CC&V's response in *Italics*.

Appendix J - PROJECT DEVIATION LETTERS

- 1. Within the *Leak Detection Trench Geomembrane Substitution letter*, it is stated that “All physical property values, other than the lower elongation break percentage (ASTM D6693, Type IV) for the 40 mil HDPE Micro-Spike meet or exceed the current specified values for 40mil LLDPE Smooth”. However, upon review of the attached Geomembrane Materials Comparison Table, there is also a lower tensile break psi. Please update the Leak Detection Trench Geomembrane Substitution letter accordingly.**

The project deviation letter included within Appendix J has been revised (Revision 3, enclosed as Attachment 1) to include mention of the lower tension break psi.

Should you require further information, please do not hesitate to contact Johnna Gonzalez at 719-313-0447 or Johnna.Gonzalez@ccvmining.com myself at Katie.Blake@ccvmining.com.

Sincerely,

DocuSigned by:
A stylized signature of Katie Blake in black ink, enclosed in a blue DocuSign signature box.
5A3D013B629844B...

Katie Blake
Sustainability & External Relations
Manager Cripple Creek & Victor Gold
Mining Co

Attachment 1 – Appendix J

Ec: Z. Trujillo - DRMS
J. McBride – Teller County
K. Blake – CC&V
J. Gonzalez – CC&V
N. Townley – CC&V

File:Discovery/Correspndence/DNR/DRMS/Outgoing/April 2025

Date: 04/08/2025

NewFields Project 475.0106.069

Cripple Creek & Victor Gold Mining Company
100 N. 3rd St.
Victor, CO 80860

Attention: Kristyn Suto
Interim Projects Manager
CC&V

Antonio Matarrese
Environmental Superintendent
CC&V

RE: Leak Detection Trench Geomembrane Substitution

Dear Kristyn,

CC&V has requested that NewFields review the substitution of 40-millimeter HDPE Micro-Spike geomembrane (40mil HDPE Micro-Spike) for 40-millimeter LLDPE Smooth geomembrane (40mil LLDPE Smooth) in the construction of the VLF2 Phase 3 Stage B Leak Detection Trenches.

Currently only the 40mil LLDPE Smooth is called out on the approved drawings and in the specifications, see attachments 3, 4, and 5. CC&V is requesting that 40mil HDPE Micro-Spike allowed as a suitable geomembrane liner alternative in the construction of the Leak Detection Trench.

In NewFields opinion, it is acceptable to install 40mil HDPE Micro-Spike geomembrane in the Leak Detection Trench for the following reasons:

- All physical property values, other than the lower tensile break psi and lower elongation break percentage (ASTM D6693, Type IV) for the 40 mil HDPE Micro-Spike meet or exceed the current specified values for 40mil LLDPE Smooth, and
- The geomembrane will be installed shingled with a minimum of a 5-foot overlap per panel within the trench and the length of each liner panel is maximized to minimize the number of shingles in the trench. Additionally, the liner panels will not be welded to each other. This greatly reduces the potential risk of the liner panels from being exposed to the elongation stress caused by ore loading or foundation settlement as the liner is free to move inches.
- Leak Detection Trench is designed to be a gravity drain system. If any fluids should reach the trench due to an upset condition in the primary liner system, the fluids will drain down towards the sump for recovery. For fluids to travel uphill around the shingles would require the trench to be plugged.



Previously, 40mil HDPE Smooth geomembrane and 80mil LLDPE Double Sided Micro-spike geomembrane have been substituted and installed in the Leak Detection Trench in 2020 and 2023. The substitution was documented in the approved Certification Reports.

Attached are the AGRU Data Sheets for comparison of the 40mil LLDPE Smooth and 40mil HDPE Micro-Spike products and the Technical Specification No. 02776-0 Geomembrane. Additionally, a table has been provided for comparison of physical properties between products.

If you have any questions or require additional information, please contact the undersigned.

Sincerely,
NewFields Mining Design & Technical Services

Tyler Wendlandt
Project Resident

TW/tw/jnm

Reviewed by:

Jay Janney-Moore, P.E.
Engineer of Record

Attachments:

1. Geomembrane Materials Comparison Table¹
2. AGRU Data Sheets²
3. VLF2 Phase 3 Stage B and C Leak Detection Details Drawing A420
4. VLF2 Phase 3 Stage B and C Leak Detection Details Drawing A421
5. VLF2 Phase 3 Technical Specification No. 02776-0

¹ Source – AGRU Data Sheets

² Source - <https://agruamerica.com/product/geomembranes/>