

September 14, 2021

ELECTRONIC DELIVERY

Mr. 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

RE: Permit No. M-1980-244; Cripple Creek & Victor Gold Mining Company; Cresson Project; Adequacy Review Response to Technical Revision 128 – Ironclad Facilities Access Road Re-Alignment

Mr. Russell,

On July 30, 2021, Newmont Corporation's Cripple Creek and Victor Gold Mining Company (CC&V) received the Division of Reclamation, Mining, and Safety (DRMS) adequacy review of Technical Revision (TR) 128 to Permit M-1980-244, proposing the realignment of the access road from County Road (CR) 821 to the Ironclad Facilities. Below are DRMS comments in **bold** followed by CC&V's responses in *italics*.

- 1. In 2016, the Operator submitted but then withdrew a proposed re-alignment of a similar access road route across Grassy Valley in TR84. The Operator included a map as a part of TR84 which delineated wetlands within Grassy Valley. Please revise Drawing A05 to include the delineated wetlands to demonstrate the TR128 access road avoids these wetlands.**

A map depicting the spatial relationship between the access road and the non-jurisdictional wetlands is enclosed in Attachment 1. The 2019 Approved Jurisdictional Delineation affirms the USACE's acceptance of the 2018 delineation report findings: no jurisdictional waters exist in the Grassy Valley project area, due to a lack of significant nexus to downstream waters. Therefore, no Section 404 permitting applies to any activity in the area, and no compliance and mitigation measures are necessary. As shown in Attachment 1, the proposed access road does not impact the non-jurisdictional wetlands.

- 2. Drawing A14 appears to depict material from Growth Medium Storage Area 6 which will need to be cut to facilitate the construction of the access road. Please confirm if this material is growth medium and if it is, please address the following:**
 - a. Please provide the approximate amount of material that will be removed. Please confirm this quantity is not included in the 24,500 CY calculation of cut material that will be used as fill for the access road construction.**
 - b. Discuss how the growth media will be handled and where it will be placed.**

GM06 is not anticipated to intersect the access road footprint of the proposed access road. Figures 1 & 2 in Attachment 2 depict the spatial relationship between GM06 and the access road footprint. In the event growth media from GM06 is encountered during construction, material will be removed, placed back onto the GM06 stockpile, graded, and seeded for stabilization purposes.

- 3. Drawing A14 shows two small squares at Station 59+00 within the footprint of the access road. Upon review of aerial images, these appear to be two old buildings. Are these two buildings of any historical significance? Please provide details of CC&V's plans with these two structures.**

From 1993 to 1996, several Class III Cultural Resource Inventories were conducted on 298 BLM-administered parcels to meet National Historic Preservation Act Section 106, Antiquities Act, National Environmental Policy Act (NEPA) and Archaeological Resources Protection Act requirements for the land exchange between the BLM and CC&V. All collections were conducted under the terms and conditions of BLM Cultural Resources Use Permits. At this time, land ownership was transferred from the BLM to CC&V. Today, Newmont privately owns the majority of the land within the affected land boundary, as detailed in Amendment 13 and prior amendments, approved by DRMS.

As such, CC&V is not legally obligated to preserve or document any cultural resources on private, Newmont-owned land, however, CC&V works with third-party experts and relevant stakeholders to comply with our standards and values; documenting, preserving, and relocating cultural historic resources where practicable through a risk-based process.

It has been confirmed by ground survey that at least one of these structures, if not both, will be impacted by the access road footprint. CC&V is working with third-party experts to complete a survey of the structures for incorporation into the site historic inventory, and will engage with local stakeholders to evaluate options for the structures prior to access road construction as appropriate.

- 4. The Operator has included details of four drainage culverts associated with the new access road. Please address the following:**
- a. Drawing A40 shows the four culverts are proposed as 24" diameter in size, however Note 1 states that the size of the culvert may be changed at the discretion of the owner. Please provide a demonstration on what is the minimum sized culvert that would convey stormwater safely, considering the allowable headwater height available.**
 - b. Please revise Drawing A40 to specify the length of the four proposed culverts.**
 - c. Please provide details on the path of stormwater after being conveyed by culverts 1-3. Do these convey stormwater to existing ditches that report to EMP 018?**
 - d. The Stormwater Controls section states the culverts and riprap aprons were designed to manage "approved surface water calculations". We assume this refers to the approval of TR-101 in November 2018. The proposed re-aligned access road and accompanying safety berms modify and redirect runoff such that those calculations should be revisited.**

Stormwater will be conveyed by culverts through existing and/or improved channels to EMP 18. The Stormwater Management Plan will be updated to include culverts and reflect changes to stormwater controls and conditions in the access road footprint. Stormwater controls such as culverts and riprap aprons will be designed to specifications required under the existing SWMP in

Table 2 (Design Criteria Summary). Culvert capacities, assuming one foot of freeboard (measured from the edge of the road), are included in the Culvert Calculation Reports. Please find Culvert Calculation Reports attached in Attachment 3.

5. Please describe how stormwater runoff is controlled on the access road.

Stormwater runoff on the proposed access road will be managed under the Cresson Project Stormwater Management Plan. Section 4.2.8 of the SWMP states that:

“...roads are surfaced with gravel and constructed with drainage ditches that lead to road sump BMPs that detain stormwater to settle sediments, or to filters such as erosion logs, silt fences, vegetative filters, and engineered stormwater management ponds (EMPs). Administrative areas, such as the security offices, parking lots, access roads, and delivery docks, are monitored for potential “track-out” of mud and sediment onto public roads nearby. Site entrance/exit access points are equipped with “track-out” pads to prevent the movement of sediment from trucks and delivery vehicles on to public roadways.”

6. Please describe what stormwater and sediment control measures are proposed along the eastern side of the access road segment in Drawing A14 to minimize the disturbance to the prevailing hydrologic balance within Grassy Valley.

Stormwater runoff on the eastern side of the proposed access road will be managed in accordance with Section 4.2.8 (referenced above) and Section 4.3.3 Sediment and Erosion Prevention within the Cresson Project Stormwater Management Plan.

Structural BMPs will include straw bales, silt fences, rock check dams, swales, and small detention depressions, road-side detention sumps or basins, sediment control ponds, stormwater diversions and channels, channel revetment protection such as vegetation and riprap, benches to interrupt flow on slopes, and/or other BMPs as deemed suitable.

7. Please provide the total acreage of the disturbance associated with new access road, including the cut/fill footprint.

The new roadway alignment is approximately 7,000 feet long (1.3 miles) in total and 26 feet wide. The amount of material required to place for structural fill to create the desired road alignment will be approximately 25,600 cubic yards. Cut material from construction will be utilized for approximately 24,500 cubic yards of the desired fill, with approximately 1,100 cubic yards of fill material purchased and delivered to site by a third party contractor. This information was provided to DRMS in CC&V's initial submission of TR 128 under the Access Road Construction section. The total surface area of the access road footprint, accounting for the areas to be cut and filled, is 407,927-ft².

Please provide the anticipated volume of growth media to be salvaged as a part of the proposed access road and please specify which growth medium storage area this material will be stockpiled at.

The total surface area of the access road footprint, accounting for the areas to be cut and filled, is 407,927-ft². Topsoil is estimated to be an average of 6-inches in depth across the area of the footprint. Approximately 7,550-yd³ of topsoil will be stripped for the construction of the access

road and is anticipated to be hauled to GM06; however, other stockpiles may be utilized. Topsoil will be removed, placed onto the GM06 stockpile, graded, and seeded for stabilization purposes.

- 8. It appears that some of the access road construction between Station 49+00 and 53+00 may involve the redisturbance of a historical mining disturbance which may be waste rock or tailings. Please address how this material will be handled if it is encountered.**

A field survey has been performed to evaluate the footprint of the design for access road construction; voids have been identified and will be remediated and mitigated prior to construction in accordance with the site's void mitigation plan. Historic waste rock and/or tailings were not identified in the survey and are not anticipated to be encountered. In the event that waste rock is encountered unexpectedly, it will be managed in accordance with the Site's Waste Rock and Ore Stockpile Management Plan.

- 9. Please submit a geotechnical stability analysis showing the addition of the road along the crest of the WHEX Pit highwalls does not affect the stability of the highwalls. The analysis will need to specifically cover the portions of the road from Station 2+00 to 10+00 and 32+00 to 42+00. The analyses should account for two simultaneously passing semi-trucks (H-20 loading) within these designated sections of the proposed road.**

CC&V manages geotechnical risks through implementation of the Site's Ground Control Management Plan (GCMP). The primary purpose of the GCMP is to provide the guidance necessary to implement geotechnical practices for safe mining at the CC&V Mine Operation. The plan offers direction specifically related to pit slope design, pit slope performance monitoring, and geotechnical risk management.

The GCMP ensures requirements set forth for mandatory safety and health standards as a means to eliminate fatal accidents, reduce the frequency and severity of nonfatal incidents; to minimize health hazards and to promote improved safety and health conditions in the nation's mines under 30 CFR Part 56, Subpart B are met at CC&V.

A Stability Analysis has been performed for the Proposed Access Road. Findings from this analysis are summarized in Memo EG21-11 in Attachment 4.

Should you require further information please do not hesitate to contact Katie Blake at 719-689-4048 or Katie.Blake@Newmont.com or myself at Justin.Raglin@Newmont.com.

Regards,



Justin Raglin
Sustainability & External Relations Manager
Cripple Creek and Victor Gold Mining Company

EC: E. Russell – DRMS
M. Cunningham – DRMS

M. Crepeau – Teller County
L. Morgan – Teller County
J. Raglin – CC&V
K. Blake – CC&V
J. Ratcliff – CC&V
M. Bujenovic – CC&V
J. Gillen – Geosyntec

Attachment 1: Proposed Access Road & Non-jurisdictional Wetlands Map
Attachment 2: GM06 Stockpile & Proposed Access Road Figures
Attachment 3: Culvert Calculation Reports
Attachment 4: Memo EG21-11 Geotechnical Analysis

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**ATTACHMENT 1:
PROPOSED ACCESS ROAD & NON-
JURISDICTIONAL WETLANDS MAP**



NewmontTM
CRIPPLE CREEK & VICTOR

NEWMONT

Cripple Creek & Victor

Proposed Access Road & Non-Jurisdictional
Wetlands Map

Author: M. Buijenovic




Date Prepared:
09/10/2021

Preparer Signature:

M. Buijenovic

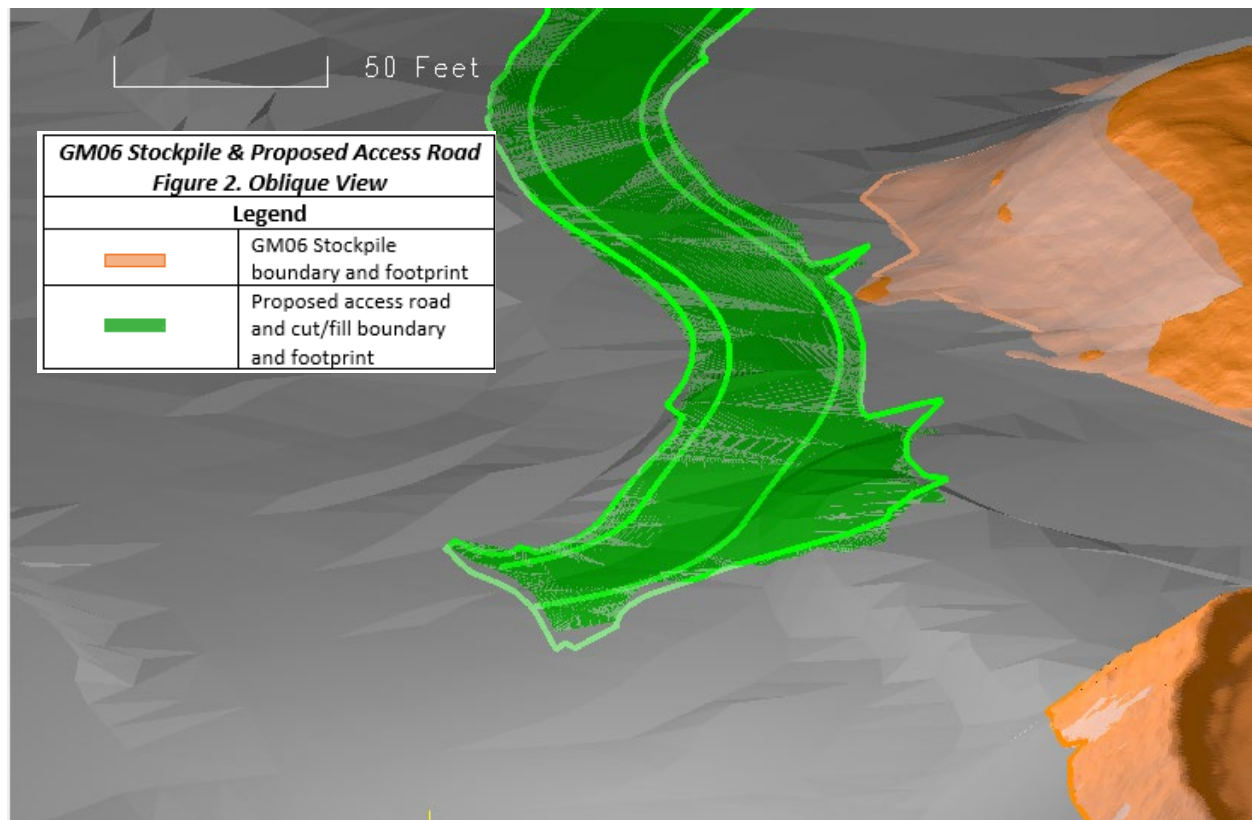
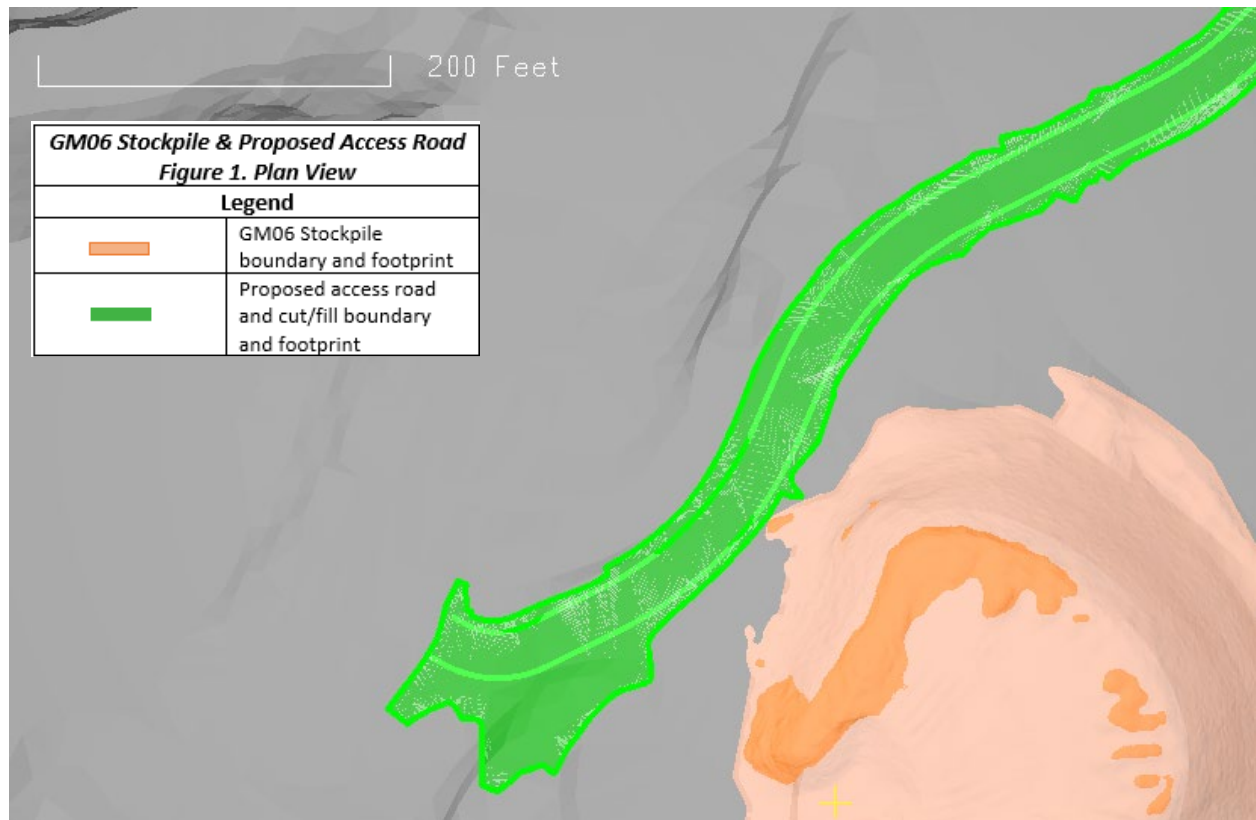
Attachment 1
File: 20210914
TR128 Adequacy
Review Response

Legend

-  A12 Permit Boundary
-  Non-Jurisdictional Wetland
-  Proposed Access Road

**ATTACHMENT 2:
GM06 STOCKPILE & PROPOSED ACCESS
ROAD FIGURES**

ATTACHMENT 2: GM06 STOCKPILE & PROPOSED ACCESS ROAD FIGURES



ATTACHMENT 3: CULVERT CALCULATION REPORTS

Culvert Calculator Report

Culvert 1

Solve For: Discharge

Culvert Summary			
Allowable HW Elevation	10,268.44 ft	Headwater Depth/Height	1.47
Computed Headwater Elev.	10,268.44 ft	Discharge	22.15 cfs
Inlet Control HW Elev.	10,268.37 ft	Tailwater Elevation	10,265.22 ft
Outlet Control HW Elev.	10,268.44 ft	Control Type	Outlet Control
Grades			
Upstream Invert	10,265.51 ft	Downstream Invert	10,265.22 ft
Length	57.72 ft	Constructed Slope	0.5024 %
Hydraulic Profile			
Profile	Composite M2 Pressure Profile	Depth, Downstream	1.68 ft
Slope Type	Mild	Normal Depth	N/A ft
Flow Regime	Subcritical	Critical Depth	1.68 ft
Velocity Downstream	7.86 ft/s	Critical Slope	0.7837 %
Section			
Section Shape	Circular	Mannings Coefficient	0.012
Section Material	Corr. Material HDPE (Smooth Interior)	Span	2.00 ft
Section Size	24 inch	Rise	2.00 ft
Number Sections	1		
Outlet Control Properties			
Outlet Control HW Elev.	10,268.44 ft	Upstream Velocity Head	0.77 ft
Ke	0.20	Entrance Loss	0.15 ft
Inlet Control Properties			
Inlet Control HW Elev.	10,268.37 ft	Flow Control	Submerged
Inlet Type	Beveled ring, 33.7° bevels	Area Full	3.1 ft²
K	0.00180	HDS 5 Chart	3
M	2.50000	HDS 5 Scale	B
C	0.02430	Equation Form	1
Y	0.83000		

Culvert Calculator Report

Culvert 2

Solve For: Discharge

Culvert Summary			
Allowable HW Elevation	10,214.37 ft	Headwater Depth/Height	1.13
Computed Headwater Elev.	10,214.37 ft	Discharge	16.18 cfs
Inlet Control HW Elev.	10,214.27 ft	Tailwater Elevation	0.00 ft
Outlet Control HW Elev.	10,214.37 ft	Control Type	Entrance Control

Grades			
Upstream Invert	10,212.10 ft	Downstream Invert	10,208.37 ft
Length	56.81 ft	Constructed Slope	6.5657 %

Hydraulic Profile			
Profile	S2	Depth, Downstream	0.76 ft
Slope Type	Steep	Normal Depth	0.69 ft
Flow Regime	Supercritical	Critical Depth	1.45 ft
Velocity Downstream	14.82 ft/s	Critical Slope	0.5682 %

Section			
Section Shape	Circular	Mannings Coefficient	0.012
Section Material	Corr. Material HDPE (Smooth Interior)	Span	2.00 ft
Section Size	24 inch	Rise	2.00 ft
Number Sections	1		

Outlet Control Properties			
Outlet Control HW Elev.	10,214.37 ft	Upstream Velocity Head	0.68 ft
Ke	0.20	Entrance Loss	0.14 ft

Inlet Control Properties			
Inlet Control HW Elev.	10,214.27 ft	Flow Control	Transition
Inlet Type	Beveled ring, 33.7° bevels	Area Full	3.1 ft²
K	0.00180	HDS 5 Chart	3
M	2.50000	HDS 5 Scale	B
C	0.02430	Equation Form	1
Y	0.83000		

Culvert Calculator Report

Culvert 3

Solve For: Discharge

Culvert Summary			
Allowable HW Elevation	10,244.80 ft	Headwater Depth/Height	1.35
Computed Headwater Elev.	10,244.80 ft	Discharge	20.36 cfs
Inlet Control HW Elev.	10,244.79 ft	Tailwater Elevation	0.00 ft
Outlet Control HW Elev.	10,244.80 ft	Control Type	Outlet Control
Grades			
Upstream Invert	10,242.11 ft	Downstream Invert	10,241.83 ft
Length	55.32 ft	Constructed Slope	0.5061 %
Hydraulic Profile			
Profile	M2	Depth, Downstream	1.62 ft
Slope Type	Mild	Normal Depth	N/A ft
Flow Regime	Subcritical	Critical Depth	1.62 ft
Velocity Downstream	7.47 ft/s	Critical Slope	0.7059 %
Section			
Section Shape	Circular	Mannings Coefficient	0.012
Section Material	Corr. Metal HDPE (Smooth Interior)	Span	2.00 ft
Section Size	24 inch	Rise	2.00 ft
Number Sections	1		
Outlet Control Properties			
Outlet Control HW Elev.	10,244.80 ft	Upstream Velocity Head	0.70 ft
Ke	0.20	Entrance Loss	0.14 ft
Inlet Control Properties			
Inlet Control HW Elev.	10,244.79 ft	Flow Control	Submerged
Inlet Type	Beveled ring, 33.7° bevels	Area Full	3.1 ft²
K	0.00180	HDS 5 Chart	3
M	2.50000	HDS 5 Scale	B
C	0.02430	Equation Form	1
Y	0.83000		

Culvert Calculator Report

Culvert 4

Solve For: Discharge

Culvert Summary			
Allowable HW Elevation	10,048.48 ft	Headwater Depth/Height	2.72
Computed Headwater Elev.	10,048.48 ft	Discharge	39.54 cfs
Inlet Control HW Elev.	10,048.48 ft	Tailwater Elevation	0.00 ft
Outlet Control HW Elev.	10,047.98 ft	Control Type	Inlet Control
Grades			
Upstream Invert	10,043.04 ft	Downstream Invert	10,037.64 ft
Length	78.89 ft	Constructed Slope	6.8450 %
Hydraulic Profile			
Profile	S2	Depth, Downstream	1.26 ft
Slope Type	Steep	Normal Depth	1.14 ft
Flow Regime	Supercritical	Critical Depth	1.95 ft
Velocity Downstream	19.02 ft/s	Critical Slope	2.3089 %
Section			
Section Shape	Circular	Mannings Coefficient	0.012
Section Material	Corr. Metal HDPE (Smooth Interior)	Span	2.00 ft
Section Size	24 inch	Rise	2.00 ft
Number Sections	1		
Outlet Control Properties			
Outlet Control HW Elev.	10,047.98 ft	Upstream Velocity Head	2.49 ft
Ke	0.20	Entrance Loss	0.50 ft
Inlet Control Properties			
Inlet Control HW Elev.	10,048.48 ft	Flow Control	Submerged
Inlet Type	Beveled ring, 33.7° bevels	Area Full	3.1 ft²
K	0.00180	HDS 5 Chart	3
M	2.50000	HDS 5 Scale	B
C	0.02430	Equation Form	1
Y	0.83000		

**ATTACHMENT 4:
MEMO EG21-11 GEOTECHNICAL
ANALYSIS**

Memo EG21-11

TO : Alyson Boye, Tige Brown, Justin Raglin, Melissa Harmon
CC : Ryan Meany, Vivek Galla, Marian Boatemaa
DATE : Wednesday September 8, 2021
SUBJECT : Access Road Re-alignment Stability Analysis

The present document summarizes the findings of a stability analysis of the re-alignment of the site access road. The new alignment will place the access road in close proximity to the pit edge of the Gold Bug and Grassy Valley pits. This analysis was performed at the request of the Colorado Division of Reclamation, Mining and Safety (DRMS) and the site leadership of Cripple Creek and Victor Mine (CC&V). For this analysis, three cross sections along the course of the proposed access road at specific locations defined by DRMS and the CC&V Geotechnical team (See Figure 1).

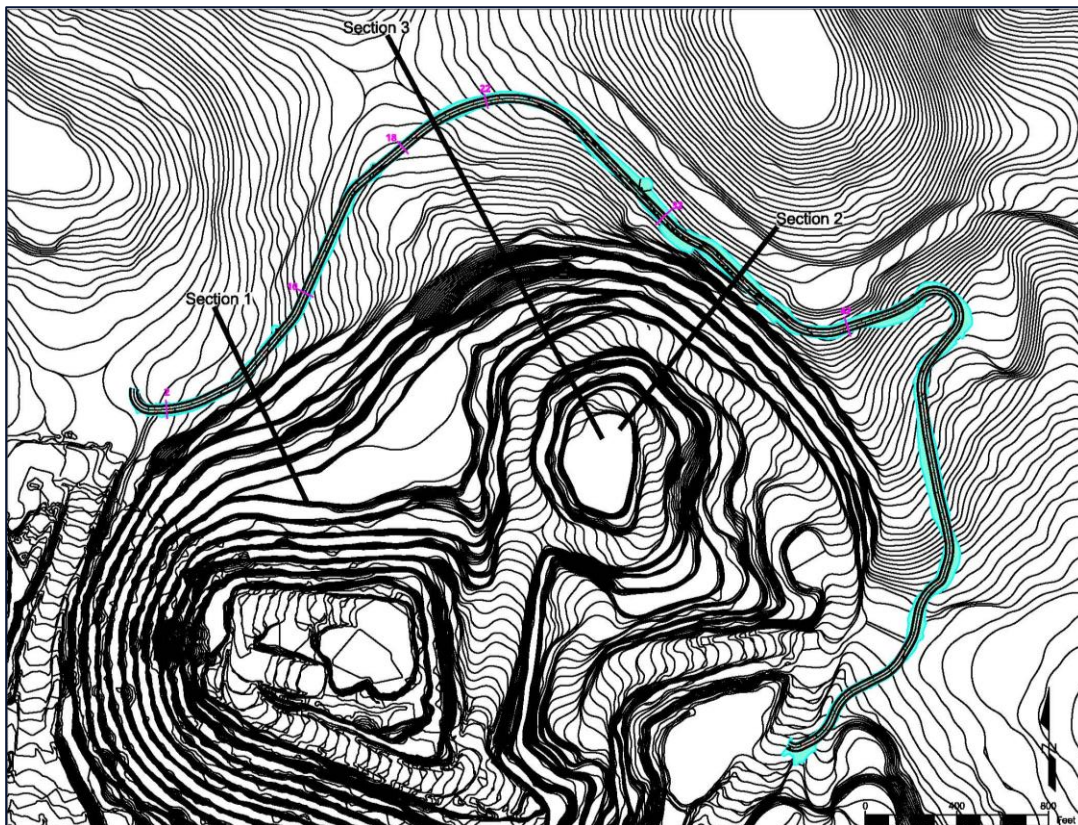


Figure 1. Overview of the proposed access road, geotechnical cross section locations shown with access road design stations for reference.

The cross sections for analysis were drawn based on requests by DRMS; Section 1 is between stations 2 and 10, Section 2 is between stations 32 and 42, and Section 3 is between stations 18 and 22. The analysis included modeling loaded traffic that would be expected on that road to see what effect there might be on the stability of the road or highwalls below. The properties of the materials used in the analysis and the loading are summarized in Table 1.

Table 1. Material Properties in Slide® Analysis

Weathered Breccia	
Color	
Strength Type	Hoek-Brown
Unit Weight [lbs/ft ³]	120
Unconfined Compressi	9000
mb	2
s	0.01
Water Surface	Assigned per scenario
Ru Value	0

Topsoil	
Color	
Strength Type	Mohr-Coulomb
Unit Weight [lbs/ft ³]	120
Cohesion [psf]	21
Friction Angle [deg]	35
Water Surface	Assigned per scenario
Ru Value	0

Cripple Creek Breccia	
Color	
Strength Type	Mohr-Coulomb
Unit Weight [lbs/ft ³]	135
Cohesion [psf]	5430
Friction Angle [deg]	35
Water Surface	Assigned per scenario
Ru Value	0

Roadbase	
Color	
Strength Type	Mohr-Coulomb
Unit Weight [lbs/ft ³]	120
Cohesion [psf]	10
Friction Angle [deg]	35
Water Surface	Assigned per scenario
Ru Value	0

Valley Fill	
Color	
Strength Type	Mohr-Coulomb
Unit Weight [lbs/ft ³]	120
Cohesion [psf]	25
Friction Angle [deg]	35
Water Surface	Assigned per scenario
Ru Value	0

Loading	
Fully loaded Concentrate trucks (2)	
Distributed load	4200 lb/ft
Point load	50,500 lbs

Analysis Results Summary

The geometry of the material boundaries, each cross section was informed by field conditions and historic drilling in the area. The material properties were determined from historic materials testing, the reports for which are listed in the reference portion of this memorandum. A summary of the Factors of Safety (FoS) can be found in Table 2.

Table 2. Summary of analysis results

Cross Section #	Analysis Method	FoS	
Section 1	Grid Analysis	1.305	Average
	Slope Search	1.228	1.286
	Auto-refine Search	1.325	
Section 2	Grid Analysis	1.633	Average
	Slope Search	1.642	1.634
	Auto-refine Search	1.628	
Section 3	Grid Analysis	1.211	Average
	Slope Search	1.155	1.167
	Auto-refine Search	1.135	

The analysis showed that the location of the proposed haul road, as well as the loading from delivery trucks, does not affect the stability of the highwalls. For Cross Sections 1 and 2, average FoS of 1.286 and 1.634 respectively are higher than the minimum allowable FoS of 1.2 (See Appendices 1-6). Cross section 3 shows an average FoS of 1.167 (See Appendices 7-9), but this is a result of the weaker material properties assigned to the Valley Fill material and the low FoS reflects a small bench-slope failure type that does not affect the overall slope. This failure type is consistent with current field conditions and is being managed and monitored by the CC&V Geotechnical group. Monitoring of the ground conditions during the construction of the proposed access road will be undertaken by CC&V Mine Operations and Mine Technical Services. Additional geotechnical monitoring will be installed to ensure the long-term stability of the proposed access road re-alignment.

References

Call & Nicholas, Inc., 2011. Cripple Creek and Victor Mine Wild Horse Extension Pit Design Slope Recommendations, dated April 2011.

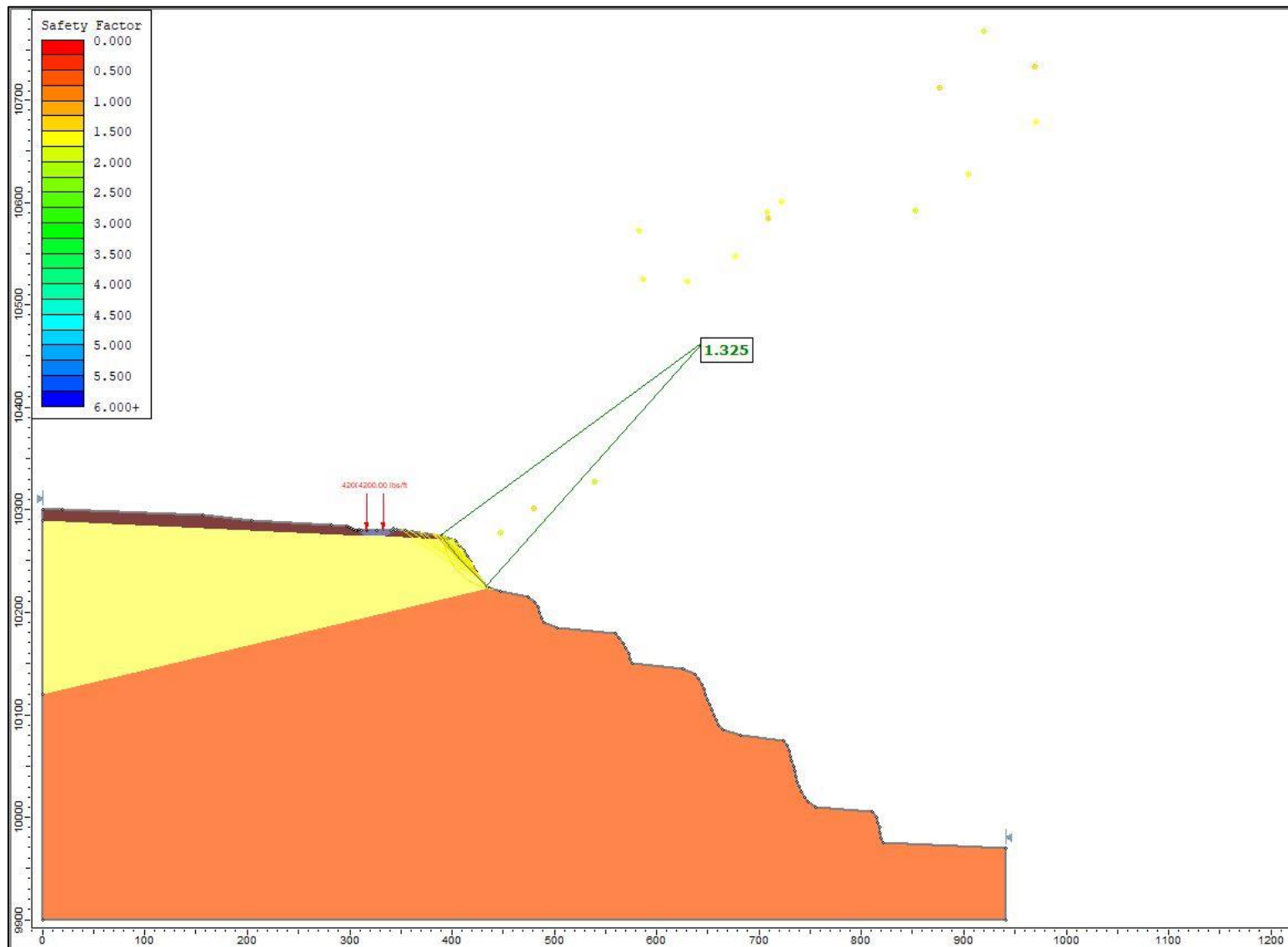
Adrian Brown, 2003. Wild Horse Extension Slope Design, dated September, 2003.

"LAB TESTING MASTER – Cripple Creek". Excel spreadsheet summarizing historic laboratory testing results from geotechnical drilling of the various rock types. Prepared for Cripple Creek and Victor Gold Mining Company, dated August 2013.

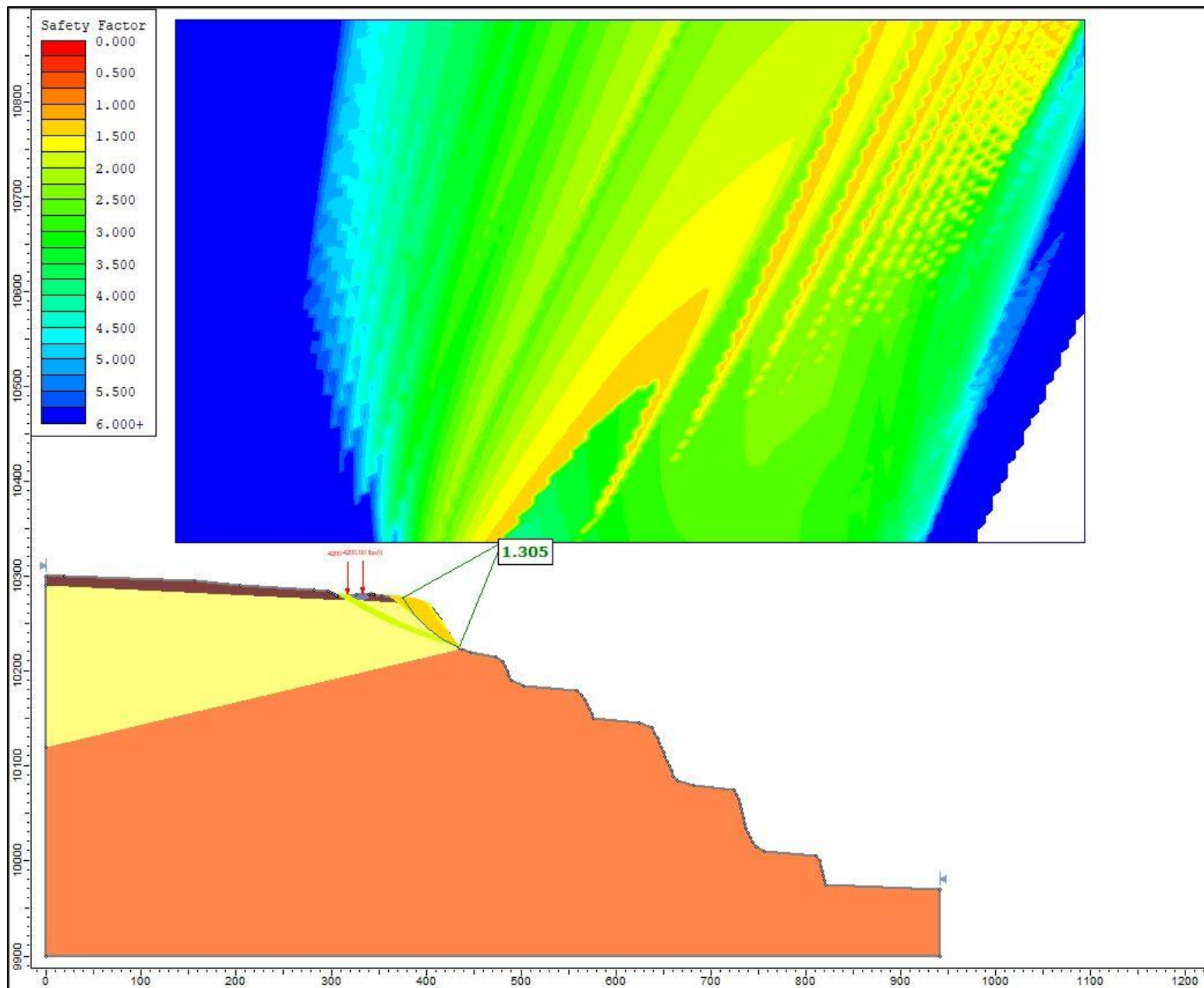
Qualified Person: Katie Blake

Qualified Person Signature: *Kathryn Blake*

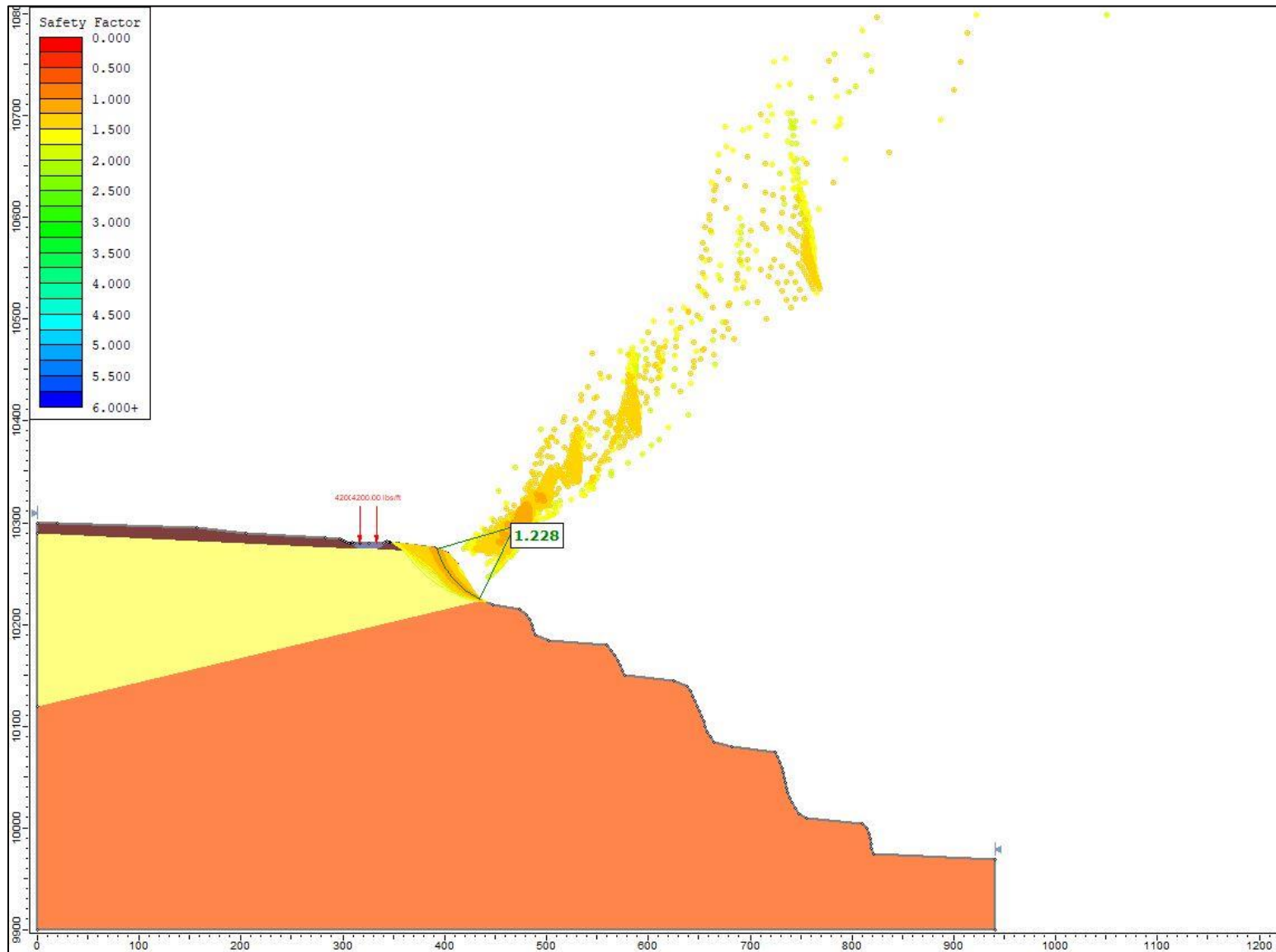
Date: 09/13/2021



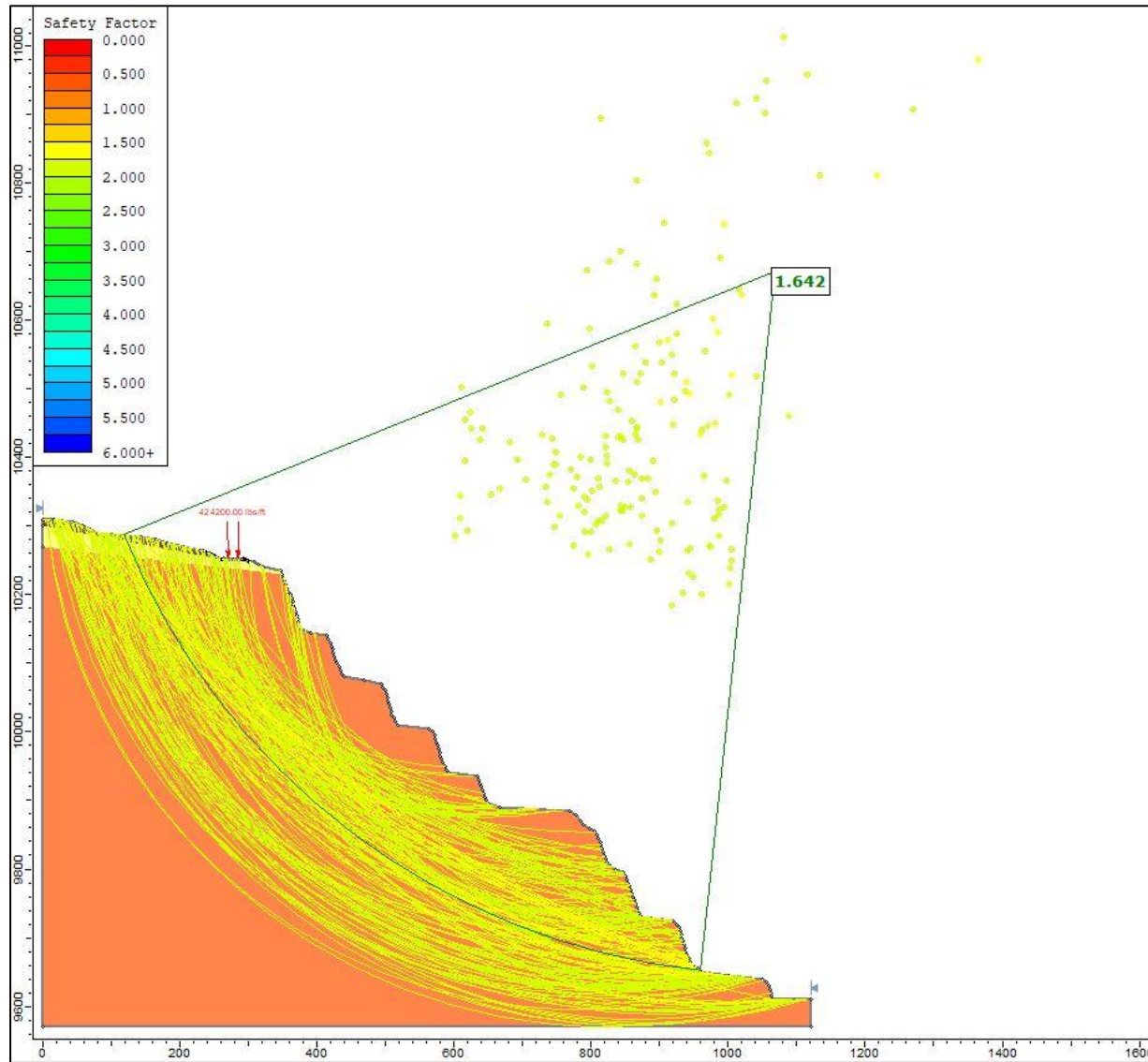
Appendix 1: Section 1 Slope Search Analysis Results, Global Minimum FoS of 1.325. All surfaces below FoS of 2.0 are shown.



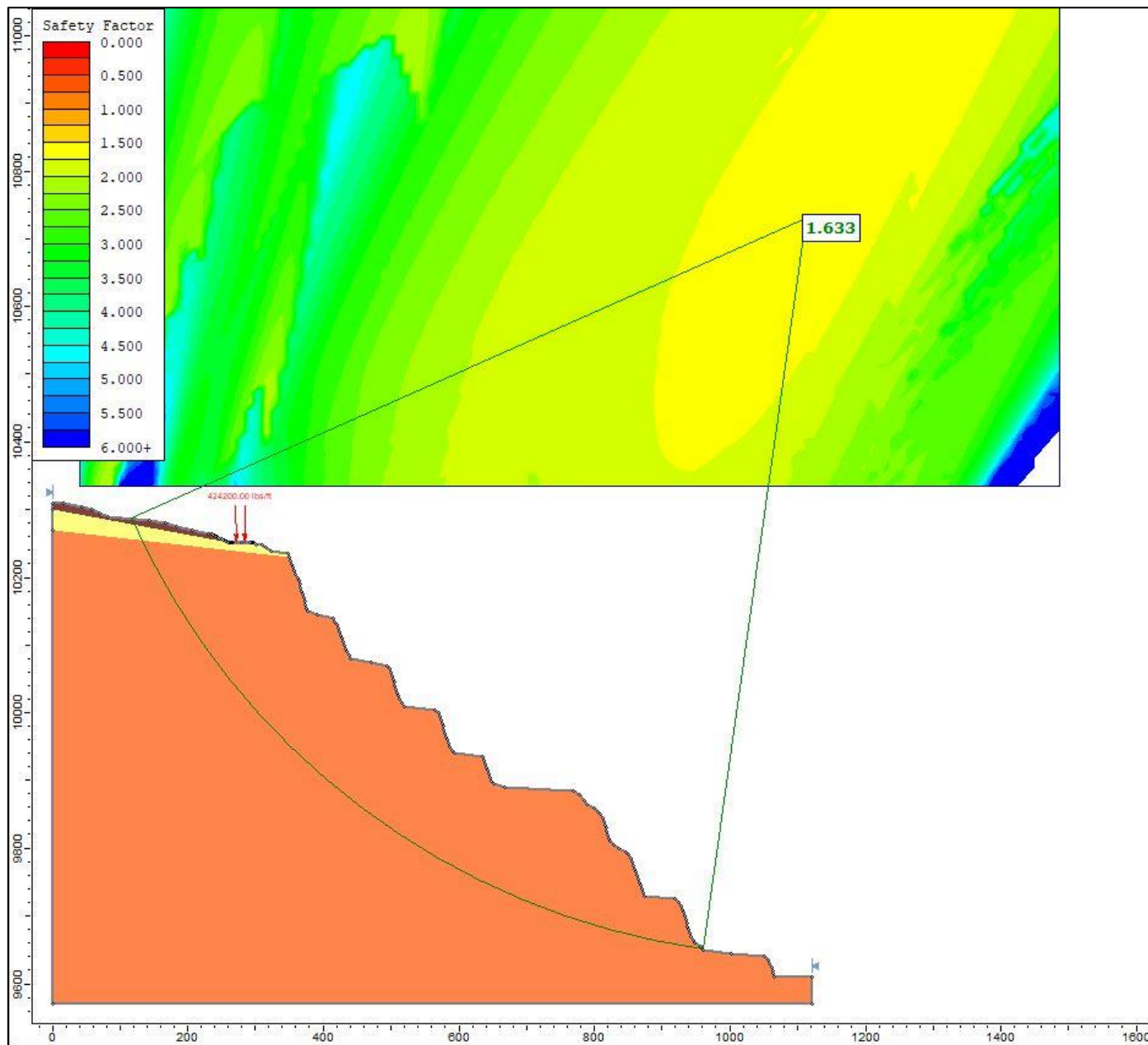
Appendix 2: Section 1 Grid Analysis Results, Global Minimum FoS of 1.305. All surfaces below FoS of 2.0 are shown.



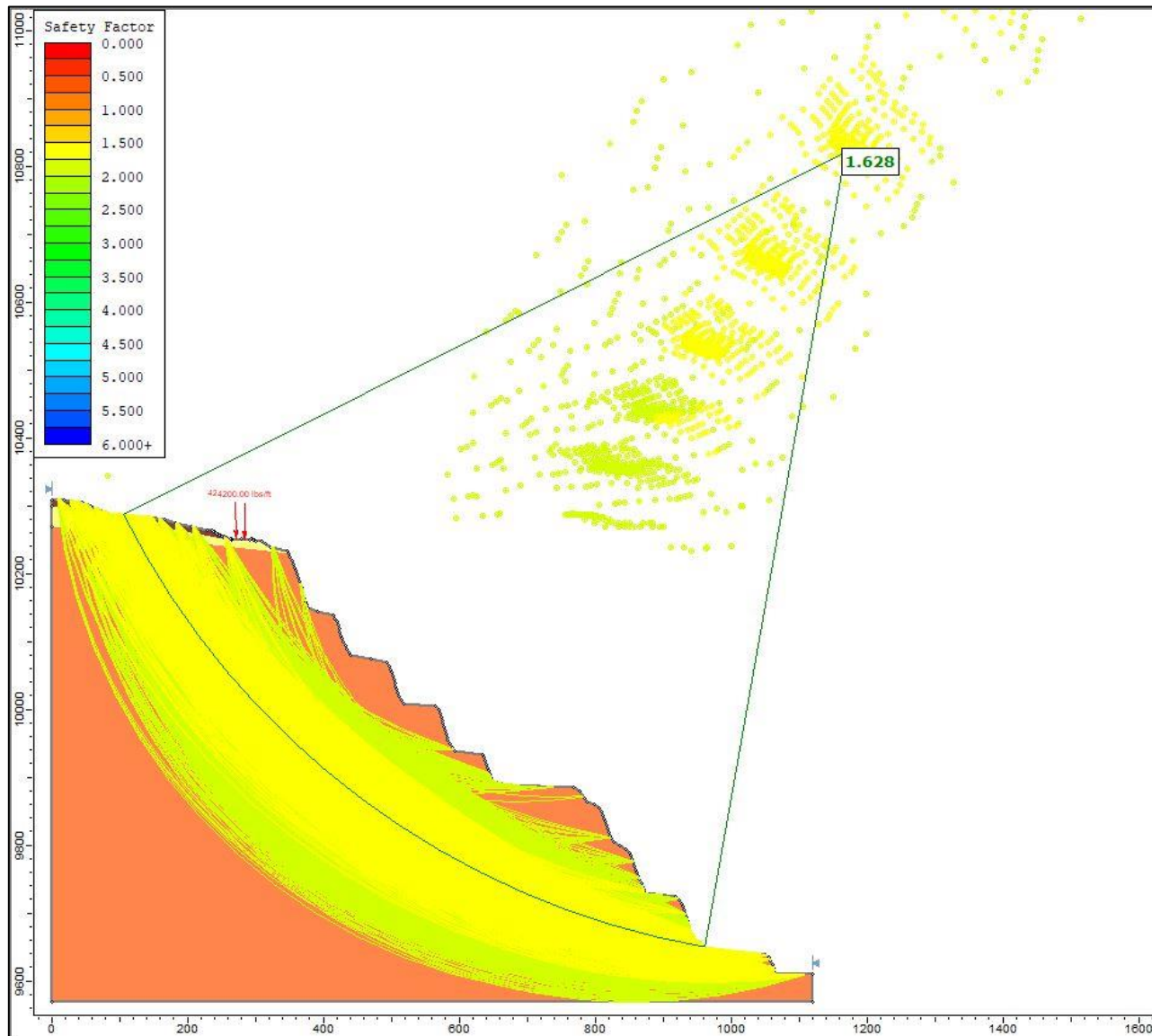
Appendix 3: Section 1 Auto-Refine Slope Analysis Results, Global Minimum FoS of 1.228. All surfaces below FoS of 2.0 are shown.



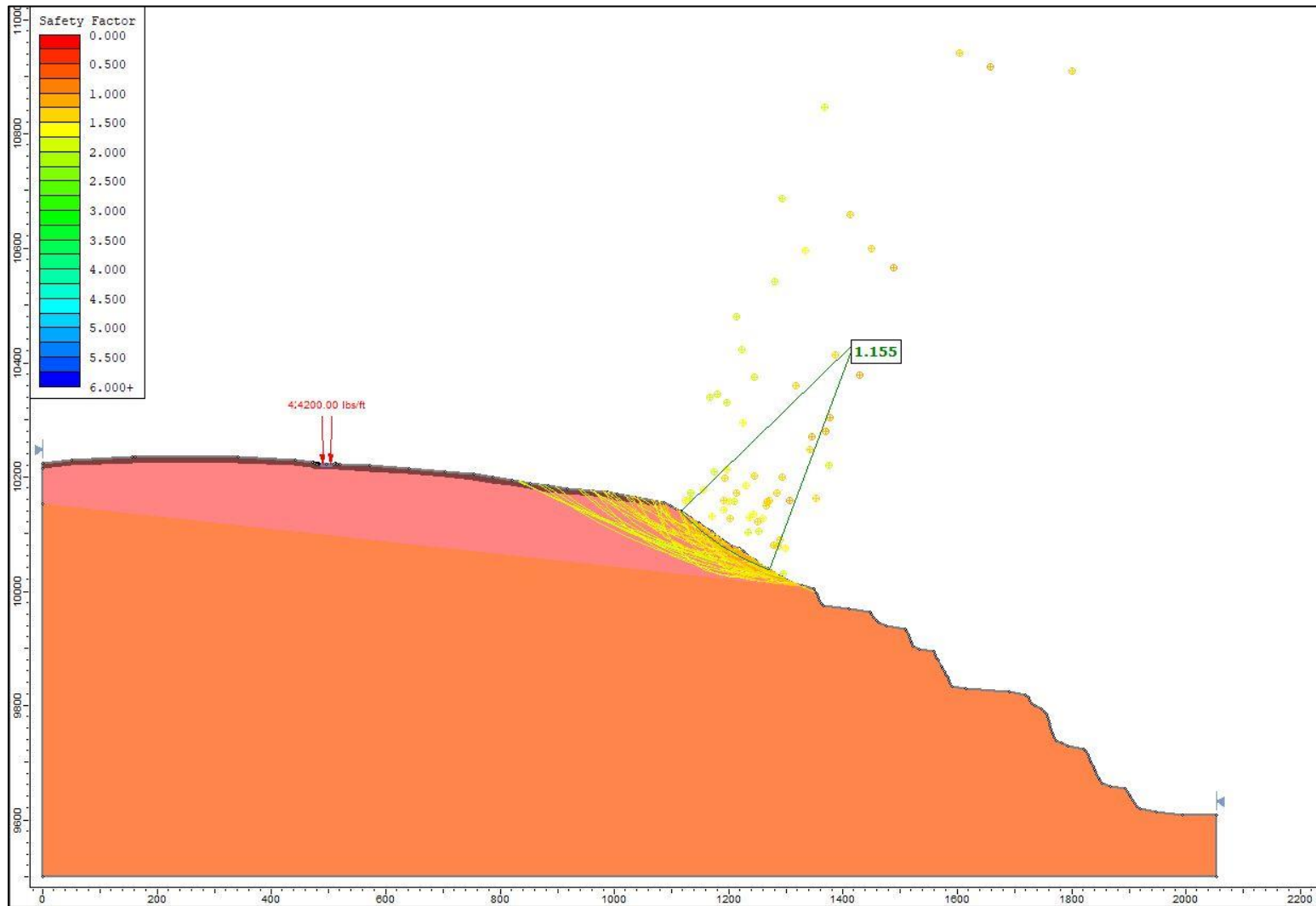
Appendix 4: Section 2 Slope Search Analysis Results, Global Minimum FoS of 1.642. All surfaces below FoS of 2.0 are shown.



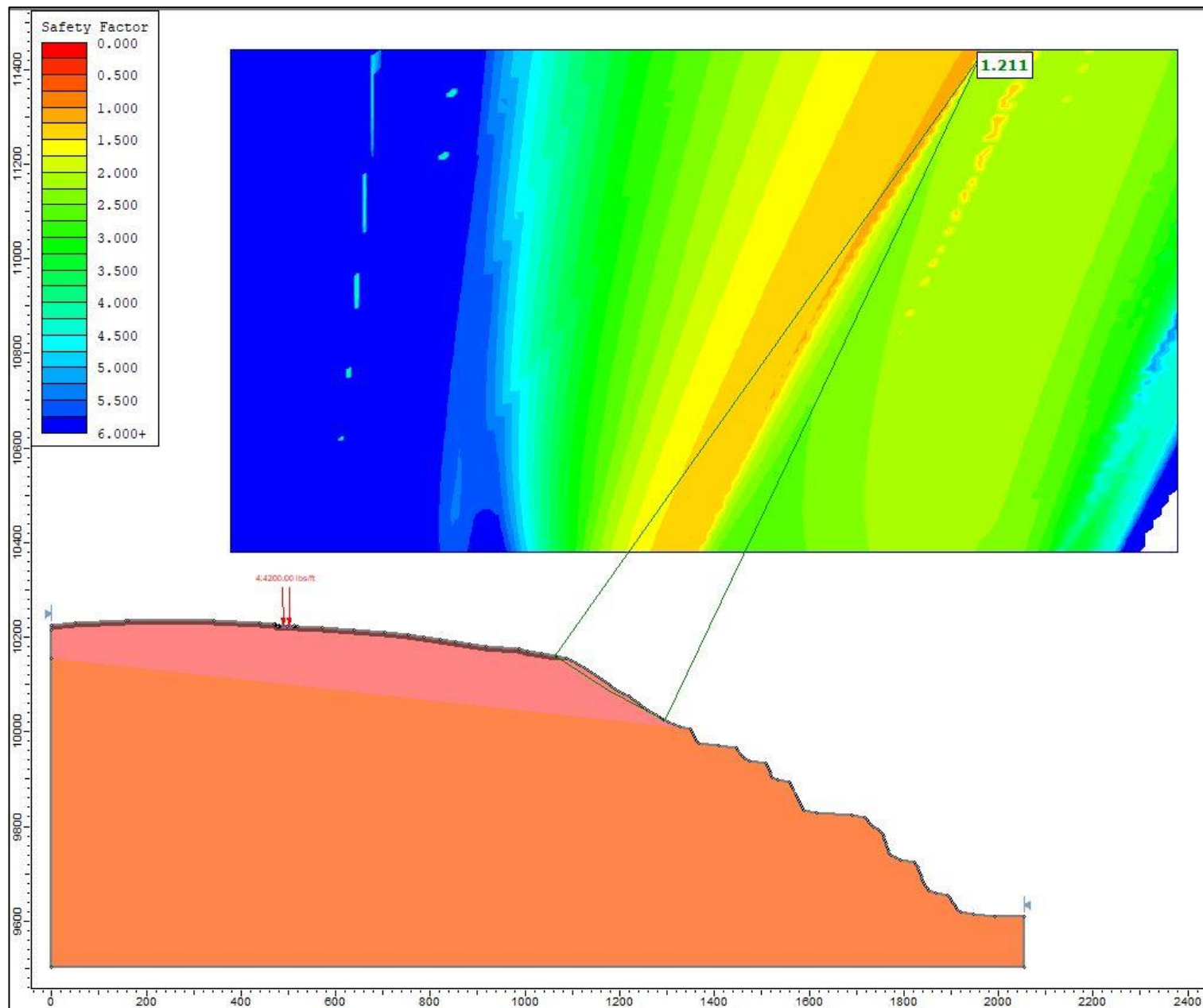
Appendix 5: Section 2 Grid Analysis Results, Global Minimum FoS of 1.633. All surfaces below FoS of 2.0 are shown.



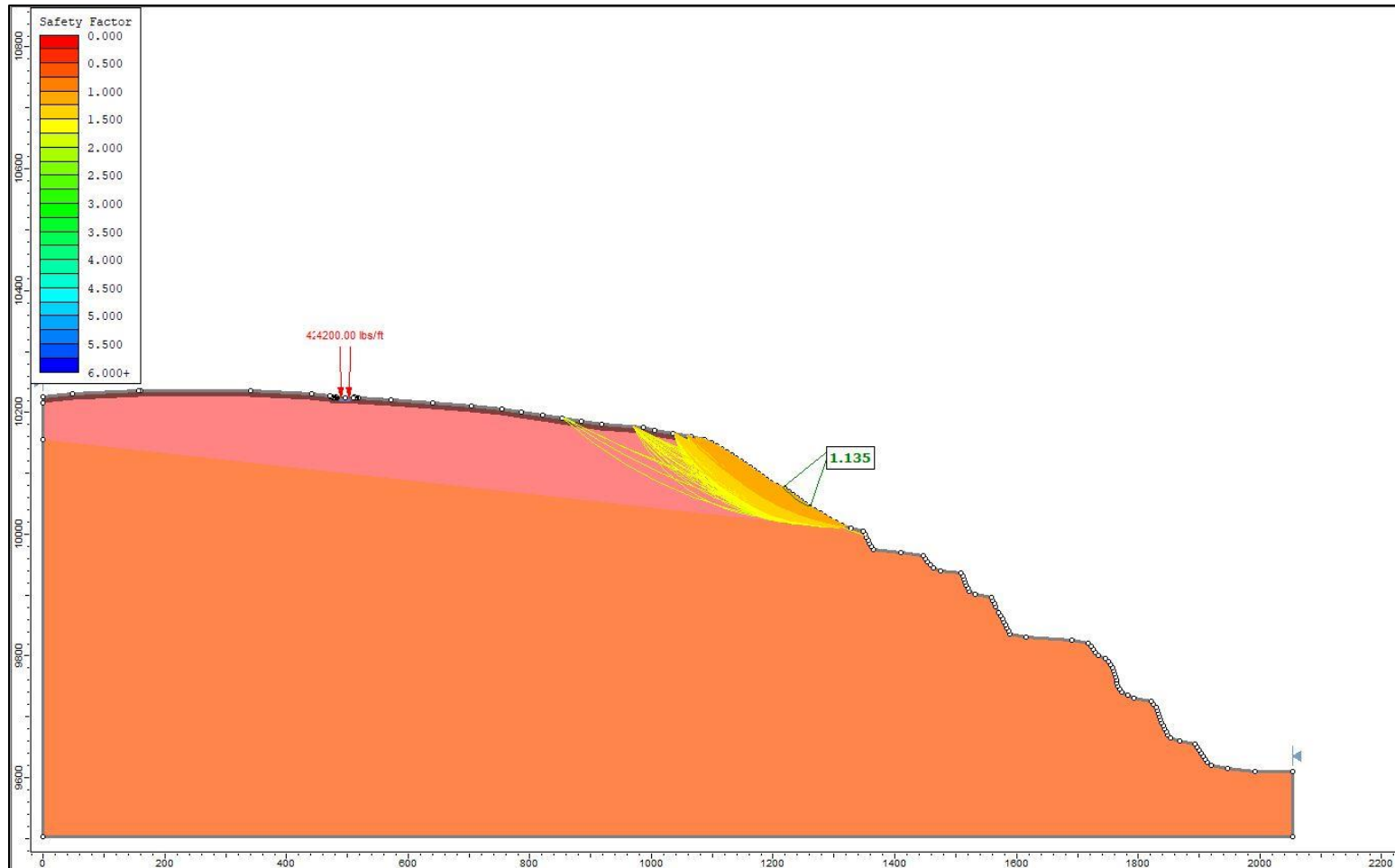
Appendix 6: Section 2 Auto-Refine Slope Analysis Results, Global Minimum FoS of 1.628. All surfaces below FoS of 2.0 are shown.



Appendix 7: Section 3 Slope Search Analysis Results, Global Minimum FoS of 1.155. All surfaces below FoS of 2.0 are shown.



Appendix 8: Section 3 Grid Analysis Results, Global Minimum FoS of 1.211. All surfaces below FoS of 2.0 are shown.



Appendix 9: Section 3 Auto-Refine Slope Analysis Results, Global Minimum FoS of 1.135. All surfaces below FoS of 2.0 are shown.