

Permit M-1980-244

Cresson Project Amendment 14

Appendix 9

Geotechnical Evaluation of Structures

Exhibit T – Permanent Man-Made Structures

A re-evaluation of all structures within 200 feet of the affected area boundary has been made in January of 2017 for Amendment 11. This work has been done by Greg Lewicki and Associates with the help of mine personnel and other consultants. The attached Table T-1 has a list of all structures that are within the 200 feet boundary that are not owned by Cripple Creek & Victor Gold Mining Company (CC&V). The structures are numbered, which coincide with the numbered structures on the revised Map C-1a.

Since the affected area boundary became the same as the permit area boundary in Amendment 11, new structures have been added. For all of these structures, structure agreements/damage waivers have been either hand-delivered or certified mail has been sent to the owner. Proof of these emailing's, certified receipt mailings and hand deliveries (in the form of affidavits), together with all structure agreements (signed) are attached to this Exhibit T as Attachment T-1.

Utility structures such as power lines, water lines, fiber optic lines and phone lines are included in the List of Table T-1. These structures have acknowledgement letters from the utilities that they will not be affected by the mine operations. These letters are also included in Attachment T-1. The locations of these utility structures are shown on Map C-3.

Although the affected area boundary has technically expanded, in many cases, mine activities have not been planned within a reasonable distance to the structures so it can be easily shown that they will not be affected. In other cases, more detailed evaluations have been made. The evaluation of all structures not owned by CC&V within 200 feet of the Affected Area Boundary are given below:

1) Heritage Visitor Center owned by City of Cripple Creek

This Center and associated parking facilities is located on the north side of Highway 67 and is approximately 1400 feet to the northwest of the closest mine planned facility of concern, which is the closest cut slope of the North Cresson Mine, as shown on Map C-1a. The Center is too far from this activity to be affected. A Structure Agreement is enclosed in Attachment T-1 for this building.

2) Mollie Kathleen Road (CR82) owned by Teller County

The Mollie Kathleen Road (Teller County Road 82) is a two lane paved road inside the affected area boundary which was moved north in the past to accommodate the pit expansion of the East Cresson Mine (Wildhorse Extension).

Evaluation of CR82 with North Area Mines Slope Stability

There are two locations where the road is close to the pit excavation, as seen on Map C-1a. The slope stability of the north mine excavations was evaluated in a Study done by Call and Nicholas, Inc. in November of 2015 for Amendment 11 titled "Geotechnical Slope Recommendations for the North Area Underground Mining Areas". This Study performed detailed evaluations of various critical slopes using extensive data, drilling, rock type analysis and modeling, etc. The Study is included in Appendix 5 of Volume III in Amendment 11. Call and Nicholas (CNI) have performed numerous studies of slopes at the mine beginning in 2005. All knowledge from the previous studies, field tests, observations, lab tests and drilling, RQD analysis, etc. were incorporated into the November 2015 Study.

The Report Certification is given below.

GEOTECHNICAL SLOPE RECOMMENDATIONS

FOR THE NORTH AREA UNDERGROUND MINING AREAS

Prepared for

CRIPPLE CREEK & VICTOR GOLD MINING COMPANY

By

S. D. Cylwik

R. C. Barkley



November 2015

CALL & NICHOLAS, INC.

The following discussion is taken from Call and Nicholas, Inc. Executive Summary:

Analytical stability analyses included: (1) bench-scale back break analysis from which the expected distribution of bench-face angles (BFA) and reliability schedules were developed, and (2) global wall stability associated with long release structures and weak rock mass. The back break analysis relied on cell-mapping conducted along existing mine benches in the Wild Horse Extension (WHEX) portion of the North Cresson mining areas. The global stability analyses were performed using rock strength data and drilling data to characterize the rock mass and to estimate the shear strength of the rock mass in relation to the excavation induced stresses.

The CNI investigation consisted of:

 Determining geotechnically justifiable slope design angles for the NAU mining areas including the Wild Horse Extension (WHEX), Globe Hill, and Schist Island areas.
 Testing strength samples collected from geotechnical core holes. Data were lacking

2. Testing strength samples collected from geotechnical core holes. Data were lacking in the Globe Hill pipe zone before this study.

3. Projecting the known geology on cross sections used in the overall slope analysis.

4. Generating a geotechnical block model based on the most recent drilling database.

5. Analyzing bench-scale stability based on cell mapping data collected in the WHEX mine.

6. Analyzing global slope stability for critical walls.

7. Providing recommendations for slope management over the life of the project.

8. Preparing a report to summarize the analyses and recommendations.

Previous studies conducted by CNI included the following:

• Geotechnical Review of the 2006 Pit Designs. The purpose of this review was to evaluate the existing geotechnical criteria used by CC&V to select slope angles. Mines evaluated included Main Cresson, Altman, Wildhorse, South Cresson, and Schist Island.

• (May 2009) Cripple Creek and Victor Mine November 2008 Deep Cresson Pit Design Slope Recommendations. This report investigated the stability of the November 2008 Deep Cresson Pit Design. The investigation included a site visit and laboratory testing program.

• (July 2010) East Wall Deep Cresson Slope Stability Design Options. This study reviewed the stability design criteria for the east wall of the Deep Cresson layback. The work was performed to determine if there was any upside potential for steepening the interramp angle on the east wall.

• (April 2011) Cripple Creek and Victor Mine Wild Horse Extension Pit Design Slope Recommendations. This was the first geotechnical evaluation of the July 2010 Wild Horse Extension (WHEX) mine design.

• (October 2011) Geotechnical Slope Design Recommendations for the MLE2 Mining Areas. This report presented the geotechnical slope evaluation of the mining areas associated with the Mine Life Extension 2 Project (MLE2).

• (June 2012) Analysis of West Cresson Slope Stability when Mining Exposes Stopes at

the Toe of the Designed Slopes. This study investigated potential slope stability issues related to stopes that will be exposed in the toe of the east wall of the Cresson Mine and the risk they may pose to overall wall stability.

• (October 2012) Evaluation of Dike Plane Shear Sliding Potential – East Cresson 9525 Ramp. This report summarized the analysis of potential plane shear sliding on a phonolite dike which was striking parallel to the pit.

• (October 2014) Cripple Creek July 2014 Cell Mapping Summary. This memo summarized the results of a geotechnical surface mapping campaign in both the WHEX and Cresson mines performed during July 2014.

In the November 2015 CNI Report, Table 1-1 shows various recommended interramp slope angles for various sectors (1-14) for the areas of excavation. This Table is copied in Attachment 2 to this Exhibit T. CC&V is following these recommendations. The Map on the following page from the CNI Report shows the critical cross sections in relation to CR 82. These are listed below with their respective slope stability safety factors:

Section	Min. Factor of Safety	Comments
WH-3	1.84	Road is close to edge of
		excavation
WH-4	2.28	
GH-4	1.52	Road is closest to edge of
		Excavation
GH-6	1.43	

These factors of safety meet the minimum requirements. The cross sections showing the worst case failure lines are included in Attachment T-2 at the end of Exhibit T. In the DRMS second adequacy review of Amendment 11, The Division questioned the fact that Cross Sections GH-4 and GH-6 showed a failure line that included Teller County Road 82. CNI responded that only the lines of the minimum factor of safety were shown on the cross sections. They provided a response letter with revised cross sections for GH-4 and GH-6 showing other failure lines with higher factors of safety. These sections and their response are included in Attachment T-2.



In Section 6.1.1 of the CNI Report, a discussion of the slope failure in the precambrian schist on the south slope of the WHEX is given. It began in January 2013 and has continued to displace. Based on data gathered by the geotechnical department at CC&V the instability area is considered a self-buttressing or regressive type failure. The instability was caused by pitward dipping foliation structures in the schist that have been measured to dip to the north-northwest at 25 to 45 degrees. This dip of the foliation structures results in possible instability in mining through this schist on the <u>south side of the excavations</u>, in particular in the area of cross section WH-1. This instability will not affect the north edges of the excavations, where CR82 and any other structures north of the pits are located. As is seen from the CNI Map on the previous page, the schist is limited to certain areas and the dip of the foliations on the north side has not, and should not in the future, result in any failures.

Section 1.4 of the CNI Report recommends that the following ongoing work be conducted to ensure that future mining occurs without problems and all perimeter structures remain stable. CC&V has continued to conduct this work as recommended. The CNI recommendations are listed below:

1.4 Future Work

Slope design is an iterative process; optimum slope design requires continuous effort to collect, interpret, and analyze geologic and geotechnical data as they become available.

Data for the Globe Hill and Schist Island portions of the North Cresson mining area was pulled from previous cell and major structure mapping campaigns in the WHEX mining area. These rock-fabric and major structure data were assumed for the new NAU mining areas, and can therefore only be considered as "inferred" data. As mining begins on benches in the NAU mining areas, follow-up cell mapping and bench-face geologic mapping should be performed along new benches to confirm the assumed data. Mapping is required to:

1. Confirm fracture characteristics and design parameters recommended in this study

2. Determine the upside potential in the recommended slope design

3. Detect any potential instability problems in a timely way

CNI recommends an ongoing program of data collection and re-evaluation. Appendix A: Slope Monitoring and Management discusses specific components required to optimize the mine plan while maintaining safe operating conditions in the mine.

Mining area mapping should focus on:

1. Identifying multibench-length major structures, especially those that may adversely impact stability

- 2. Locating water seeps
- 3. Identifying continuous zones of low rock-mass strength

4. Recording evidence for possible slope movement such as tension cracks, toe heaves, or recent movement along structures

The geological, structural, and geotechnical data should also be compiled routinely. A

composite geology and structure map should be updated at least once a year. Periodic BFAsurveys should be conducted along benches to evaluate the success in achieving the bench geometries and interramp angle recommendations.

1.4.1 Surface/Underground Mine Interaction

At the time of this report underground mine designs had not yet been completed for the NAU study area. Once the initial underground designs are ready, but before construction begins, a geotechnical evaluation should be performed to investigate the possibility of interaction between the surface and underground operations.

1.4.2 Pre-split Blasting on Final Wall

CNI recommends that CC&V continue implementing pre-split blasting, especially on the final walls. Pre-split holes drilled to the full double bench height of 70 feet will improve the reliability of the benches by increasing the bench face angle. More information about pre-split and other controlled blasting methods is presented in Appendix B: Controlled Blasting. In addition to constructing clean, well-cut bench faces, the reliability of catch benches can be improved by ensuring the toes of each mining increment are cleaned before proceeding with the next increment. CC&V is generally very good with this practice. Leaving material that can be easily cleaned is not good practice because it reduces the capacity of the bench to catch falling rock and also interferes with the drill's ability to reach the toe of the current bench.

1.4.3 Slope Monitoring

Any major slope failure along mining area walls could disrupt mining activity; therefore, a slope monitoring program is recommended at Cripple Creek. The program should include the following:

1. Periodic reconnaissance mapping should be conducted to identify areas of potential instability.

2. Prisms should be placed throughout the mine and wireline extensometers be installed at areas of potential instability.

3. Benches (particularly those above critical access haul roads or mine installations) should be periodically inspected where slope instability would have the greatest operational and financial impact.

Using pertinent data collected from routine mining area mapping and ongoing geotechnical programs, monthly reports with accompanying maps should be published and circulated to key mining personnel. Contingency plans that allow for alternative mining schemes should be developed in case of slope instability at critical locations.

1.4.4 Hydrology

CNI recommends conducting the following groundwater-related work at Cripple Creek: 1. Water seeps along mining area walls should be documented and seasonal fluctuations, if any, should be recorded. This information can be collected during routine mining area mapping.

2. Records should be kept on blasthole water depths if encountered.

3. Piezometers should be installed at strategic locations along the final wall to define the possible influence perched groundwater and its fluctuations may have on slope stability.

Evaluation of CR82 with ECOSA slope stability

The eastern portion of CR82 gets within 670 feet of the toe of the East Cresson Overburden Storage Area (ECOSA). The final buildout of the facility will actually be closer to the segment of CR81 located immediately to the south of the intersection of Beaver Valley Road and CR82. Since the ECOSA worst case stability would affect CR81 before CR82, the ECOSA stability is evaluated for CR81 (Structure 4).

Evaluation of CR82 with blasting activities in Wildhorse Extension and North Cresson Mine

Gary Horton is a CC&V Senior Environmental Coordinator who conducts all blast monitoring and related work in and around the permit area. He has provided a letter report of the original blast design criteria, the pre-blast surveys, monitoring information and results. This report and related information is included in Attachment T-3.

As can be seen by the Map included in Mr. Horton's letter report, two seismic monitors are located north of the North Cresson Mine (Globe Hill and WHEX), one at Hoosier Pass and the other at Deadhorse Claim. These monitors record blast information 24 hours per day. All measurements at the monitors have been well below the design limit of 0.5 inches per second. The monitors are set to trigger at 0.05 inches per second, which is ten times lower than the design velocity.

In addition to this information, Teller County has never noted a problem with CR82 related to blasting activities.

Based on the information provided by CNI and evaluated by me, together with the ongoing program of data gathering being performed by CC&V, I certify that I am an experienced professional engineer and that Teller County Road 82 should not be affected by any mine activities from mine pit excavations for the life of the mine and post-reclamation. If any future information requires changes to this certification, or changes to the design slopes, mine plan, reclamation plan, etc., the Division will be notified and the appropriate changes will be submitted.

Oreg Sewicki

Date: ____1/29/17___

Greg Lewicki, P.E. Principal Engineer Greg Lewicki and Associates



3) CR821 Road owned by Teller County

Teller County Road 821 is a two lane paved road located immediately northeast of the Town of Cripple Creek, as shown on Map C-1a. It ends to the west where it joins with CR82 near the northwest corner of the WHEX. It is further away from pit areas than CR82 therefore the demonstration for CR82 also serves to demonstrate that CR821 will not be affected by mining activities.

4) CR81 Road owned by Teller County

Evaluation of CR81 with ECOSA slope stability

Teller County Road 81 has various segments which are within 200 feet of the affected area boundary. Some segments are a two lane paved road while others are a compacted two lane dirt road. The western portion of CR81 lies within 350 feet of the toe of the final buildout of the East Cresson Overburden Storage Area (ECOSA), making this the worst case potential mine facility to affect the road. This location is the segment of CR81 located immediately to the south of the intersection of Beaver Valley Road and CR82. Since the ECOSA worst case stability would affect CR81 before CR82, the ECOSA stability is evaluated for CR81.

This overburden storage area is permanent and will be reclaimed to an overall slope of 2.5H:1.0V. It is currently being built with slopes and benches that will later be modified to attain the final slope. The embankment has not yet reached its full buildout design but the slope stability of this very large embankment has been analyzed originally by Adrian Brown Consultants, Inc. in 2012 and by Jay Moore, P.E. of Newfields in 2015. The design was reanalyzed by Newfields in 2016 so that the embankment could be raised from 10,565 feet elevation to 10,960 feet elevation. This review is based on evaluating this permanent design dated December 9, 2016.

Samples of the overburden material and the colluvium from the site were collected and analyzed for size distribution and strength parameters. Slope stability parameters were developed and used to model the cross sections shown on the following page taken from the December 9, 2016 Report by Newfields.



Cross Sections 1, 2 and 3 are the critical ones for the CR81 Road. Cross Section 1 is the worst case since it is the highest and longest cross section that is closest to the road.

The following information was extracted from the Newfields Report of December 9, 2016:

Stability analyses were performed using the computer program SLIDE 6 by Rocscience for static and pseudo-static conditions. SLIDE is a two-dimensional slope stability program for evaluating circular or noncircular failure surfaces in soil or rock slopes using limit equilibrium methods. Spencer's procedure, which is applicable for all slope geometries and soil profiles, was utilized within the stability model and assumes all inter-slice forces are parallel and have the same inclination.

Minimum acceptable factors of safety (FOS) for static and pseudo-static conditions were based on criteria established by the Colorado Department of Reclamation, Mining, and Safety (DRMS), as follows:

- Exterior, eastern aspect slopes are be considered "critical" as slope failures could impact off-site areas, and as discussed in Section 3.2 the strength characterization of the materials within ECOSA is considered robust. Based on these attributes, the minimum acceptable factors of safety are 1.3 and 1.15 for static and pseudostatic conditions, respectively.

- Interior, western aspect slopes are considered "non-critical" and the associated minimum acceptable factors of safety for these slopes are 1.25 and 1.1 for static and pseudostatic conditions, respectively.

The peak ground acceleration used was .035g and 0.11g, for the 475-year and 2,475 year return seismic events, respectively, which is conservative. Colluvium strength was also reduced by 20% for the accounting of seismic events.

The following extracts were also taken from the Newfields Report of December 9, 2016:

Direct shear tests were run in an 8-inch square shear box under saturated conditions. To comply with ASTM D3080 test standards that provide guidance on maximum particle size as a function of the shear box size, only minus ¾-inch material was used for the test. Results of the laboratory tests are summarized in **Table 1.1**.

 Table 1.1

 Summary of Material Properties

 %
 %
 USCS Group
 Friction Ang

Sample ID	% Gravel	% Sand	% Fines	USCS Group Symbol	Friction Angle (deg)	Cohesion (psf)
Overburden	58.8	33.9	7.3	GP-GM	41.4	361
Colluvium	67.6	23.7	8.7	GP-GM	40.1	0

As a significant portion of the larger, gravel-sized particles are removed from the test specimens, the reported shear strengths are considered a conservative estimate and in-place materials at the ECOSA are likely more competent.

Material properties used for the analysis were taken from existing data and recent laboratory tests. The properties for each material type are described below and listed in Table 2.1.

Material	Moist Unit Weight (lb/ft ³)	Cohesion (lb/ft ²)	φ (deg)
Overburden	115	0	39
Colluvium	120	0	35 ¹
Bedrock	153	20,000	34.5

	Table 2.1		
Sum	mary of Material I	Properties	
Material	Moist Unit Weight (lb/ft ³)	Cohesion (lb/ft ²)	(

The properties assumed above are reasonable for the material in the embankment.

Failure Section	Failure Mode	Static	Pseudo-Static (Operational Conditions)	Pseudo-Statio (Closure Conditions)
Section 1	Global	1.9	1.6	1.4
Section 2	Global	2.0	1.6	1.4
Section 3	Global	1.5	1.4	1.2
Section 4	Global	2.3	2.1	1.9

Table 2.2 Calculated Factors of Safety

4.0 SUMMARY

Newmont's CC&V mine plans to increase the storage capacity of the ECOSA by raising the permitted crest elevation from 10,565 to 10,960-feet amsl. NewFields completed a stability analysis for static and pseudostatic conditions to evaluate the stability of the revised configuration for global failures under operational and closure conditions. Based on the results of the stability evaluation, the larger ECOSA will remain stable under both static and dynamic conditions.

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

Sincerely,

NewFields Mining Design & Technical Services

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Nicholas T. Rocco, Ph.D., P.E. Project Manager

NTR/JNM/ntr

Attachments: Figure 1-5; Attachment A

Addressee: (via e-mail)

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Jay Moore

Jay Janney-Moore, P.E. Project Manager











The results show that the lowest factor of safety (1.2) is for the pseudo-static condition of Cross Section 3, however, this FOS is actually for the inside slope of the embankment, not toward the CR81 Road. Therefore, this FOS is irrelevant to the road. The lowest FOS toward the road is 1.4 in Cross Section 1, which easily meets the DRMS requirements.

In the construction of the embankment, and in the years that it has been built, no slope stability issues have been encountered. The embankment has been inspected by qualified personnel, including Jay Moore, P.E., and no problems have been reported. Due to the quality of the detailed analyses performed and the performance of the embankment to date, I certify that the East Cresson Overburden Storage Embankment (ECOSA) will not adversely affect Teller County Road 81 or 82.

If any future information requires changes to this certification, or changes to the design slopes, mine plan, reclamation plan, etc., the Division will be notified and the appropriate changes will be submitted.

neg fewicki

Date: ____1/29/17_

Greg Lewicki, P.E. Principal Engineer Greg Lewicki and Associates



5) Beaver Valley Road owned by Teller County

Beaver Valley Road is a two lane dirt road located immediately east of the junction of CR81 and CR82 and east of the ECOSA as shown on Map C-1a. The ECOSA is the only mine activity that could possibly affect the Road. It is further away from the ECOSA than CR81 therefore the demonstration for CR81 also serves to demonstrate that Beaver Valley Road will not be affected by mining activities.

6) Elkton and Cresson Mine Road owned by Teller County

The Elkton and Cresson Mine Road is a two lane dirt road located south of the main Cresson Mine and the eastern portion of the Arequa Gulch Valley Leach Facility (VLF). Most of the road is a safe distance from the Arequa Gulch VLF but a small portion is inside the affected area boundary and within 560 feet of the southeastern toe of the VLF.

Since Highway 67 is closer to the Arequa Gulch VLF than the Elkton Cresson Mine Road, the slope stability design and ongoing evaluation of the VLF is included in Structure 8 for Highway 67. Since the evaluation in Structure 8 shows that the State Highway 67 will not be affected by the Arequa Gulch VLF, the Elkton Cresson Mine Road will also not be affected by the VLF.

The Road, which is owned by Teller County, is the closest structure to the South Cresson Mine extension of the Main Cresson Mine excavation. For this reason, the evaluation of the slope stability of this mine excavation and the potential adverse effects from blasting are included here. The Road is approximately 500 feet from the closest edge of the South Cresson Pit excavation.

Main Cresson Mine and South Cresson Mine Slope Stability Evaluation

The comprehensive slope stability analysis of the Main Cresson Mine was performed by Call and Nichols, Inc. in October 2011 titled "Geotechnical Slope Design Recommendations for MLE2 Mining Areas". It was submitted to DRMS at that time and was accepted as part of the mining and reclamation permit. The Report is very detailed (272 pages) and consists of evaluations of various critical slopes using extensive data, drilling, rock type analysis and modeling, etc. Call and Nicholas (CNI) have performed numerous studies of slopes at the mine beginning in 2005. All knowledge from the previous studies, field tests, observations, lab tests and drilling, RQD analysis, etc. were incorporated into the Study. The South Cresson Mine is really a south extension of the Main Cresson Mine. Both are referred to in the Study. The WHEX, North Cresson, Schist Island and South Globe Hill are also addressed in the Study but can be ignored for this evaluation. The Study Certification Page is enclosed below.

GEOTECHNICAL SLOPE DESIGN RECOMMENDATIONS FOR MLE2 MINING AREAS

Prepared for

CRIPPLE CREEK & VICTOR GOLD MINING COMPANY

By

S. D. Cylwik

R. C. Barkley



October 2011

CALL & NICHOLAS, INC.

The following discussion is taken from Call and Nicholas, Inc. Executive Summary:

As requested by the Cripple Creek & Victor Gold Mining Company (CC&V), Call & Nicholas, Inc. (CNI) performed a mine area slope design study for the mining areas associated with the Mine Life Extension 2 Project (MLE2). The purposes of the study were: (1) to determine optimum interramp slope angles and bench design parameters for the MLE2 mine areas designs, (2) to identify and analyze any potential major instability that would represent a significant cost to or interference with the mine operations, and (3) provide recommendations for slope management over the life of the project.

Analytical stability analyses included: (1) bench-scale back break analysis from which the expected distribution of bench-face angles (BFA) and reliability schedules were developed, (2) interramp stability which considered the stability related to faults and major structures exceeding a double bench height in length, and (3) overall wall stability associated with long release structures and weak rock mass. The back break analysis relied on cell-mapping conducted along existing mine benches in the Main Cresson and Wild Horse Extension (WHEX) portion of the East Cresson mining areas. The interramp analysis was performed using mapping data collected by CC&V geologists that detailed discrete structures with trace lengths exceeding 70 feet. The overall analyses were performed using fault data, rock strength data, and drilling data to characterize the rock mass and to estimate the shear strength of the rock mass.

Main Cresson and South Cresson Portion of Main Cresson Mine Area Interramp Slope Angles

Design sectors 1 through 4 shown on Figure 1-1 describe the MLE2 extension for the west wall of the Main Cresson and the South Cresson portion of the Main Cresson mining areas.

The recommended interramp angles for these sectors range from 54 to 56 degrees and are controlled by the bench-scale analysis that determines the optimum angle required to maintain adequate catch bench widths. These recommendations assume that the benches will be excavated to a double bench height of 70 feet and that pre-split blasting will be performed using drilled depths of the full double bench for the pre-split holes. As shown, for the Main Cresson sectors, the recommended interramp slope angles are 1 to 3 degrees less than the MLE2 design. In order to achieve the MLE2 design interramp angles in the Main Cresson and South Cresson portions of the Main Cresson mining area, the excavated double bench face angles must exceed 77 degrees at least 80 percent of the time.

Additionally, increasing the interramp slope angles beyond the recommended angles increases the potential for interramp failures along daylighted faults. Careful slope monitoring, including up-to-date mine area mapping and interpretation of major structures, will be required to identify zones of potential instability and to aid in the location of slope monitoring equipment including prisms, extensometers and slope radar.

The following narrative on the slope stability analyses was extracted from the body of the CNI Report:

OVERALL ANALYSIS

Overall slope stability analyses were performed using the slope stability computer program SLOPE/W©, which implements the limit-equilibrium method of slices. Ten cross sections were selected for analysis based on wall height, overall slope angle, and RQD. These ten cross sections are presented on plan maps of the mines with projected exposed geology on Figures 7-1 and 7-2, and with projected exposed RQD on Figures 7-3 and 7-4. The analysis methodology and results are presented below.

7.1 Discussion of Overall Stability

Stress levels in slopes can locally exceed rock-mass strengths. The strength of the rock mass must be evaluated and compared to the predicted stresses based on geotechnical, geological, and geomechanical parameters. Overall slope failures are generally associated with one or more of the following characteristics:

• *Major through-going structures that form daylighted and non-daylighted geometries in the mine wall*

- Low rock-mass strength in the toe
- A ubiquitous pitward-dipping joint set
- *High-angle faults or continuous joints that form back and side releases for slope movement*
- Saturated toe, excess hydraulic gradients, and localized high pore pressures
- High in situ horizontal stresses

These factors, alone or in combination with high mine slopes, can create conditions that lead to instability in the intermediate to ultimate walls.

7.2 SLOPE/W Limit-Equilibrium Analysis

SLOPE/W is an overall slope stability computer program that implements conventional limit-equilibrium slope stability analysis. This is the most common slope stability method in geotechnical practice and investigates the equilibrium of a rock or soil mass tending to move down slope under the influence of gravity. Two-dimensional cross sections are analyzed assuming a condition of plane strain. It is assumed that the shear strengths of the materials along a potential failure surface follow a linear (Mohr-Coulomb) relationship between shear strength and the normal stress on the failure surface. A safety factor is derived from the ratio of the resisting forces and driving forces for many potential failure surfaces. The lowest factor of safety (FOS) obtained from the potential failure surfaces is the FOS assigned to the slope. Spencer's Method of Slices approach to solving the slice equilibrium equations was used to conduct the overall slope stability analyses. Spencer's method is preferred because it satisfies both force and moment equilibrium conditions, as opposed to some of the simpler algorithms which only satisfy subsets of the force and moment equilibrium.

The probability of failure (POF) is calculated using the mean FOS and the FOS calculated when analyzing the slope with minus one standard deviation rock-mass strengths. The probability of failure is calculated using a closed form solution which assumes that the distribution of factors of safety is Gaussian (normal).

7.2.1 Material Properties

Material properties used for the stability analyses were derived from the rock-strength testing and characterization performed on drill core samples combined with the amount of rockmass fracturing estimated from the RQD block model. A detailed explanation of the determination of these strength parameters is presented in Chapter 4.0. Rock-mass properties used in the analyses are summarized in Table 7-1. Rock-mass strengths for this analysis are considered post-peak strengths, and are therefore suitable for long term design.

7.2.2 Hydrology

Water pressures in the slopes for the overall stability analysis are assumed to be drained and unsaturated. Pore-water pressures are assumed to be dissipated into existing underground workings below the mines.

7.2.3 Selection of Cross Sections for Analysis

Ten cross sections were cut perpendicular to the March 2011 MLE2 final mine area shells provided by CC&V at the time of analysis. These cross sections are presented on the plan maps in Figures 7-1 thru 7-4. These cross sections were selected based on the following criteria:

- Overall slope height
- Overall slope angle (OSA)
- Rock-mass strength

7.2.4 RQD Modeling and Lithology

As discussed in Chapter 4, CNI uses a combination of laboratory testing and the degree of in situ fracturing (RQD) to determine rock-mass strength. The RQD distribution for each cross section was estimated from the 2011 RQD block model generated and provided by CC&V. RQD estimations for the SLOPE/W runs were generated in Mine Sight from three-dimensional solids extruded 200 feet perpendicular to the sections in both directions. The distribution of RQD in each section is presented in Figure 7-5. The 70% reliability values of the RQD distributions were used for the analysis (i.e. 70% of measured RQD block values are greater than value used). The 10 cross sections, along with the 2011 MLE2 mine area shells, RQD block model, and drill-hole intercepts, can be seen on the even numbered Figures between 7-6 and 7-25. The critical failure surfaces are shown underlain by the lithology on the odd numbered Figures between 7-6 and 7-25.

7.2.5 2011 Geotechnical Drilling

One of the goals of the 2011 drilling program was to expand the RQD block model to the WHEX and Globe Hill areas, where very little RQD data existed. Drilling of these holes was completed concurrently with the publication of this report. The data from these holes was utilized for the analysis; however, the RQD block model was not updated at the time this report was published.

7.3 Overall Stability Analysis Results

Results of the overall stability analysis runs are summarized in Table 7-2. CNI typically considers a FOS above 1.20 appropriate for final wall mine slopes. From the standpoint of

overall stability, all sections were stable except section GH-2 in the south end of the (North) Globe Hill mine. Recent drilling of hole GT11-4 indicates a zone of low quality rock in this portion of the mine. This is probably related to the poor quality rock in the north end of the (South) Globe Hill mine. To arrive at reasonable stability for this section, the interramp angle had to be lowered from the MLE2 design of 52 degrees to 45 degrees.

All slopes are assumed to be completely depressurized by underground workings. If phreatic water pressures are encountered, the inputs to these analyses will need to be revisited. A complete description of results in the cross sections follows.

7.3.1 Section Cres-1

Section Cres-1 is on the northeast side of the Main Cresson mine. The cross section has a total wall height of 1790 feet, which is the highest wall analyzed for the MLE2 study. The overall slope angle is 48°. Porphyritic phonolite is the only rock type that will be exposed on the final mine wall. RQD data for the section are relatively sparse (Figure 7-6). The RQD in the final wall is estimated to be 70% based on the closest RQD model blocks. The June 2011 design of the Cresson MLE2 mine shell yields a FOS of 1.91 and a probability of failure of 0.2% (Figure 7-7).

7.3.2 Section Cres-2

Section Cres-2 is on the northwest side of the Main Cresson mine. The cross section has a total wall height of 1100 feet and an overall slope angle of 46°. Cripple Creek brecica is the main rock type that will be exposed on the final mine wall. RQD data for the section are relatively sparse (Figure 7-8). The RQD in the final wall is estimated to be 40% based on the closest RQD model blocks. Anisotropic rock-mass strengths were considered for this section based upon the rock-fabric data presented in Chapter 3.

The June 2011 design of the Cresson MLE2 mine shell yields a FOS of 1.42 and a probability of failure of 0.1% (Figure 7-9).

7.3.3 Section Cres-3

Section Cres-3 is on the south wall of the South Cresson mine. The cross section has a total wall height of 550 feet and an overall slope angle of 58°. Cripple Creek brecica is the main rock type that will be exposed on the final mine wall, with porphyritic phonolite near the crest. RQD data for the section appears to be bimodal (Figure 7-10). The RQD is estimated to be 30% for the upper half of the slope, and 40% for the lower half of the slope. The June 2011 design of the Cresson MLE2 mine shell yields a FOS of 1.93 and a

probability of failure of 0.4% (Figure 7-11).



As seen in the plan view of the slope stability cross sections, Section Cres-1 is the most appropriate to determine stability for offsite structures to the south. As is seen from the Section below, the worst case factor of safety is 1.91, which easily meets the requirements for long term stability.



Due to all the variables that enter into a predictive slope stability analyses, CNI recommended a monitoring program for the mines in the Report. The recommendations are listed below:

6.0 MONITORING SCHEDULE

A definite monitoring schedule should be established. If shooting in the monitoring points is left to the mine surveyor to do when he "gets time," the results will be erratic at best. The frequency of monitoring is a function of the precision of the system, the rate of movement, and how critical the area is. Table 1 provides a suggested schedule. In the event of heavy rain or a large blast in the area, additional measurements should be taken. Cooperation between operations and engineering is important. Equipment operators often have an intuitive feel for ground conditions. Any changes in the condition of an area observed by operators should be reported to engineering for follow-up.

7.0 DATA REDUCTION AND REPORTING

The following measurement or calculations should be made for each survey reading: 1. Date of reading, time, incremental days between readings, and total number of

days the survey point has been established

2. Coordinates and elevation

3. Magnitude and direction of horizontal displacement

4. Magnitude and plunge of vertical displacement

5. Magnitude, bearing, and plunge of resultant displacement vector

6. Rates (velocities) of horizontal, vertical, and resultant (total) displacements

Both incremental and cumulative displacement values should be determined. Calculating the cumulative displacement from initial values rather than from summing incremental displacements minimizes the effect of occasional survey aberrations. Table 2 is an example of reduced monitoring data.

Slope displacements are best understood and analyzed when the monitoring data are graphically displayed. For engineering purposes, the most useful plots are:

1. Horizontal position

2. Vertical position (elevation versus change in horizontal position, plotted on a section oriented in the mean direction of horizontal displacement)

3. Displacement vectors

4. Cumulative total displacement versus time

5. Incremental total displacement rate (velocity, usually in meters per day)

versus time. All graphics should be kept up-to-date and should be easily reproducible (for ease of distribution). By studying several graphics simultaneously, the movement history of a particular slope can be determined.

The velocity-versus-time plot is usually constructed on semi-log paper rather than on a linear scale. This allows a greater range of displacements to be plotted without losing the precision required for small measurements. Also, this type of graph is compatible with current monitoring techniques and analyses of slope movement kinematics.

Precipitation data should also be recorded to evaluate possible correlations with slope displacement. A gauge (or gauges) located at the mine site can be used to measure occurrences and amounts of precipitation. In addition, measurement of the average daily temperatures will provide some indication of freeze and thaw periods.

The location of mining areas, the number of tons mined, and blasting patterns in the area

should also be recorded on a regular basis, because slope displacements are often associated with mining activity. One method of cataloging this information is to plot the mining area and then note the number of tons mined and the data on a plan map of the mine. A histogram can be made of tons mined versus time, and this plot can then be compared to the total displacement graphs.

7.1 Monthly Slope Stability Report

A formal, monthly slope stability report should be prepared. This report should contain the data listed in Table 3 and recommendations on the appropriate response to current instability.

This should ensure that mine management receives the appropriate information and provides the discipline to document slope behavior. Direct, informal communication should also be maintained with mine operations on a daily basis when there is mining in an actively displacing area.

7.2 Interpreting Displacement Data

Often there are several possible slope displacement modes for a mine slope, and it may not be clear, particularly at the onset of movement, which mode geometry is active. Displacement vectors are useful in determining the displacement geometry. Figure 4 is a hypothetical example showing a possible plane shear along a fault, F1, and a possible wedge of faults, F2 and F3. The difference between the two would be significant since the F1 plane shear would affect the building, while the wedge would not. Plotting the displacement vectors on a Schmidt plot shows that the displacement is in the direction of the wedge, not the plane shear.

CC&V has committed to performing the recommended monitoring as outlined in the CNI 2011 Report.

Blasting Effects on the Elkton Cresson Mine Road

Blast monitoring has been performed at two seismic monitors at homes immediately south of the Elkton Cresson Mine Road. See the discussion for Structures 21 and 22. These monitors have been in place intermittently since 2011 and full time since 2013 which are recording blast information 24 hours per day. All measurements at the monitors have been well below the design limit of 0.5 inches per second. The monitors are set to trigger at 0.05 inches per second, which is ten times lower than the design velocity. These monitors record blast information 24 hours per day.

Gary Horton is a Senior Environmental Coordinator at CC&V who conducts all blast monitoring and related work in and around the permit area. He has provided a letter report of the original blast design criteria, the pre-blast surveys, monitoring information and results. This report and related information is included in Attachment T-3.

There has never been any visible evidence of damage to the Elkton Cresson Mine Road and Teller County has not notified the mine of any such damage.

Based on the comprehensive original design performed by CNI, together with the ongoing program of data gathering being performed by CC&V, I certify that I am an experienced professional engineer and that the Elkton Cresson Mine Road should not be affected by any mine activities from mine pit excavations for the life of the mine and post-reclamation. If any future information requires changes to this certification, or changes to the design slopes, mine plan, reclamation plan, etc., the Division will be notified and the appropriate changes will be submitted.

Oreg Sewicki

Date: ___1/29/17___

Greg Lewicki, P.E. Principal Engineer Greg Lewicki and Associates



7) CR88 (Shelf Road) owned by Teller County

This two lane dirt road is immediately east of the permit boundary but is within the 200 feet boundary for the affected area boundary. However, as is seen on Map C-1a, the mine facilities that could affect the road, such as pit excavations, embankments, overburden or topsoil stockpiles, are well away from the Road to possibly adversely affect it. The closest mine facility to the road is the toe of the Squaw Gulch VLF, which lies to the east at a distance of 2000 feet. This VLF has been properly designed and it is too far away to affect the Shelf Road (Teller County Road 88). The Squaw Gulch VLF stability is evaluated for Structure 8 – Colorado Highway 67.

8) Colorado HWY 67 including bridge owned by CDOT

This State Highway is a two lane paved road maintained by the Colorado Department of Transportation. It is the main road connecting Cripple Creek and Victor. This Road is within the permit boundary and affected area boundary in certain segments and is also very close to the Squaw Gulch Valley Leach Facility (VLF), as well as the toe of the Arequa VLF. This is seen on Map C-1a. This road also includes a tall bridge above the original drainage of Arequa Gulch. Since Highway 67 is within 150 feet of both VLF's, both are evaluated for their long term slope stability. These evaluations are given below.

Evaluation of Arequa Gulch Valley Leach Facility (AGVLF)

This Valley Leach Facility is a lined leach pad where an impermeable liner was placed in the old Arequa Gulch valley, which was then filled with crushed ore and allowed to leach to extract the gold in solution, which is then recovered in a lined pond at the plant at the toe of the facility. The crushed ore is placed in 100 feet tall lifts at a maximum angle of approximately 1.3H:1.0V, followed by a horizontal bench of approximately 30 feet. Places along the perimeter of the pile are as mild as 2.0H1.0V. The crushed ore is generally less than ³/₄ inch in size although some larger sizes may exist in small quantities. As of the end of 2016, no more ore material will be added to the facility but it will continue leaching for approximately 7 years, after such time the facility will be reclaimed in place.

The original design and slope stability evaluation was done for the original permit in 1993 and was modified a number of times. The AGVLF began construction in 1994. Phases I and II were constructed from 1994 to 1996. The Phase III design was submitted in 1998 and, after approvals, was completed in 2000. Phase IV was approved in 2000, and was completed in 2004. The Phase

V design was submitted in 2008 by Smith William Consultants, Inc. This total report has 774 pages and includes evaluations of the geology, foundation engineering, filling of old underground workings, sampling and testing of materials, detailed designs for the slope stability, the liner system, pregnant solution storage area PSSA, the underdrain system, surface water hydrology and the final reclamation plans.

Important information regarding the design parameters are given below, which have been extracted from the 2008 Phase V design done by Smith Williams Consultants, Inc.:

1.3 Design Criteria

Smith Williams completed the engineering design for Phase 5 VLF using the following design criteria:

1.3.1 Valley Leach Facility (VLF)

Parameter	Value	
Maximum ore depth over liner	800 feet (Phase I through Phase IV) 590 feet (Phase 5)	
Number and a france slope	1.3H:1V	
Nominal ore angle of repose slope	1.6H:1V	
Overall operational ore side slope against upsloping ground	2.5H:1V	
Overall operational ore side slope against downsloping ground	2.0H:1V	
Overall operational ore side slope above Phase 5 VLF PSSA embankment	100 feet	
Maximum lift height	100 1001	

1.3.3 Cresson Ore

Parameter	Value
Average ore dry density	110 pcf
Wet ore density (at field capacity moisture content)	118 pcf

1.3.4 Water Balance

Anticipated Ore Production Rate Schedule (million tons/year)

Year	Phase I	Phase II/III	Phase IV	Phase 5
2011	4.7 Mt	6.9 Mt	8.8 Mt	3.0 Mt
2012	3.4 Mt	0.5 Mt	0.5 Mt	20.4 Mt
	4.6 Mt	1.5 Mt	2.1 Mt	13.1 Mt
2013	6.0 Mt	0.5 Mt	0.5 Mt	18.1 Mt
2014	5.2 Mt	0.5 Mt	0.5 Mt	17.4 Mt
2015	the statement of the second statem	N/A	N/A	15.6 Mt
2016	5.7 Mt	19/74	1.10	10.0 111

Notes:

1. Phase 5 will not begin solution application until 2011 and the approved Amendment No. 8 water balance remains in effect until that time.

2. Annual ore production schedule subject to change.

Parameter	Value
Typical solution application rate	Approximately 0.003 gpm/ft ² , but may vary
Phase 5 VLF Average area under leach	4.8 million square feet
As-delivered ore moisture content	5.6 percent (average 1998 and 1999)
Field capacity ore moisture content	7.5 percent (average)
Leaching ore moisture content	9.5 to 10 percent
Phase 5 VLF PSSA typical operating head	20 feet
Draindown period	Varies as a function of ore height
Precipitation fluctuations	95-percent confidence limit
Design storm event	100-year/24-hour
Phase 5 VLF Area (plan area)	6 million ft ²

1.3.5 Phase 5 VLF Liner Systems

Parameter	Value		
Ore Storage Area Composite Lin	er System		
Soil liner fill (SLF)	12 inches minimum compacted, with a maximum hydraulic conductivity of 10 ° cm/s		
Geomembrane	80-mil LLDPE textured, single-sided, except where the side slopes are 2H:1V, where 80-mil LLDPE textured, double-sided is used.		
Drain cover fill (DCF)	2 feet minimum		
PSSA Composite Liner System			
Soil liner fill (SLF)	12 inches minimum compacted, with a maximum hydraulic conductivity of 10 cm/s		
Lower geomembrane	100-mil LLDPE textured, single-sided, except on PSSA embankment where 100-mil LLDPE textured, double-sided is used		
Low volume solution collection fill (LVSCF)	3 feet minimum in PSSA		
Upper geomembrane	100-mil LLDPE smooth, except on PSSA embankment where 100-mil LLDPE textured, double-sided is used.		
Drain cover fill (DCF)	2 feet minimum, thicker over primary solution collection pipes		

1.3.6 Stability Analysis

Parameter	Value
Cresson ore shear strength	40 degrees and no cohesion
Textured LLDPE geomembrane/SLF interface shear strength	Phase 5 tests indicate 23.5 degrees (large strain), but 18 degrees was adopted based on previous testing Interface shear in Phases I through IV based on values presented in Amendment No. 8
Operational design earthquake Peak Ground Acceleration (PGA)	0.14 g
Closure design earthquake PGA	0.08 g
Minimum acceptable operational static factor of safety	1.3
Minimum acceptable operational pseudo-static factor of safety	1.0
Minimum reclaimed slopes static factor of safety	1.5
Minimum reclaimed slopes pseudo-static factor of safety	1.1
4.0 Valley Leach Facility (VLF) Design

4.1 General

The Phase 5 VLF design is consistent with the previous designs approved by the MLRB and DRMS, and implemented by CC&V for the existing VLF. The Phase 5 VLF design can be summarized as follows:

- Extension of the VLF to the north and east of Phase IV, along Squaw Mountain and the AGOSA, increasing the available ore storage area.
- Development of a dedicated PSSA for the Phase 5 VLF extension. The PSSA would be formed along the eastern side of the Phase IV VLF, site grading, and a containment berm at the southern edge of the VLF.
- Increasing the ore height within Phase I through IV VLF from 590 feet (Amendment No. 8) to an approximate maximum of 800 feet. The maximum ore height for Phase 5 is 590 feet.
- Using lined 2H:1V slopes within the VLF, in localized areas where stability of the facility will not be affected.

This section describes the design for Phase 5 VLF including foundation preparation and installation of the underdrain system, leak detection system, liner system, high-volume solution collection system (HVSCS), and low volume solution collection systems (LVSCS). Design criteria used for the Phase 5 VLF were presented in Section 1.3 and are discussed in more detail in the following sections.

Phase 5 VLF is designed to be constructed to the planned ore depth and ultimate limits shown on the drawings, based on the design criteria and analyses presented in this report. The VLF is designed as a closed system where leach solutions are contained within the lined area. Leach solutions and precipitation volumes generated during the 100-year/24-hour design storm event combined with other maximum operational and climatic events will be contained within the existing double geomembrane-lined internal Phase I PSSA, Phase II PSSA, Phase IV PSSA, the lined Phase I/II/III ESP, and the proposed double geomembrane-lined internal Phase 5 VLF PSSA.

The quality of the constructed VLF is a very important aspect of this project. Qualified personnel under the supervision of an experienced professional engineer registered in the State of

Colorado will be on site to observe and/or provide testing for vegetation and soil removal, underground working remediation, subgrade preparation, fill placement, SLF placement, underdrain and leak detection system installation, geomembrane installation, and LVSCF and DCF placement. Technical specifications for Phase 5 VLF are included in Appendix H. The earthwork and geomembrane test results and locations will be summarized in an as-built report certified by a professional engineer registered in the state of Colorado, a copy of which will be forwarded by CC&V to the DRMS for acceptance.

4.2 Site Layout

The design and layout of Phase 5 VLF were developed to achieve several key objectives. The first objective was to provide a geotechnically stable layout, such that acceptable slope stability factors of safety (FOS) can be achieved. The second objective involved developing an effective remediation program for the underground workings located within the Phase 5 VLF footprint area. The third objective included providing adequate capacity for ore reserves.

5.1.2.2 Geotechnical Material Design Parameters

The development of the conceptual stratigraphic model discussed above in Section 5.1.2.1 provides a framework on which to base the geotechnical analyses. Material design properties used in the stability analyses are discussed below and summarized on Drawings A700 through A720.

Crushed Ore. For the stability analysis, the crushed ore material was modeled with an angle of internal friction of 40 degrees with no cohesion, based on testing performed on Cresson ore material. The results of the testing performed on nominal 1½-inch minus Cresson ore was reported to the DRMS in a January 9, 1996, letter from CC&V titled, "Cresson Project: Permit M-1980-244: Procedures and Materials for 1996 Construction." The results indicate a curvilinear failure envelope with internal friction angles ranging between 45 degrees (under low

normal stress) and 36 degrees (under high normal stress) in the stress range expected along critical stability failure surfaces in the VLF. Weighting the internal friction angle to the normal stress levels expected along critical failure surfaces results in an internal friction angle of 38 to 40 degrees. The test results are presented in Appendix B. Shear tests were also conducted in nominal ³/₄-inch ore materials. The test results from the ³/₄-inch ore resulted in an internal angle of friction of 39 degrees, which is similar to the 1½-inch ore test results. These shear test results indicate that an angle of internal friction between 38 to 40 degrees can be used for ore that is nominally sized between 1½ and ³/₄ inches. These test results are within the range of published shear strength data for rock fill materials (Leps 1970), where the internal friction angles range between 39 to 50 degrees for similar sized materials under similar normal stresses. Based on the results of the shear tests conducted on the Cresson ore and published data, an internal friction angle of 40 degrees is suitable for the stability analyses. The in-place net density of the material is modeled at 110 pcf, which is consistent with that submitted previously to the DRMS.

4.11 Reclamation/Closure

At closure, the Phase 5 VLF will need to be detoxified via rinsing. After detoxification, the Phase I, II, III, IV, and 5 VLF side slopes will be regraded to overall 2.5H:1V slopes. The reclaimed Phase 5 VLF configuration is shown on Drawing A600.

5.1.3 Stability Results

The maximum side slope of 1.6H:1V was calculated as part of an infinite slope analysis, which represents the steepest side slope that will still provide a pseudo-static FOS of 1.0 or greater for surface raveling of ore material during a 0.14g seismic event. Calculations are presented in Appendix E. Based on this analysis, a side slope of 1.6H:1V was selected as the maximum ore side slope for the VLF that would provide an FOS of 1.0 or greater.

Stability analyses were performed on the configuration of the ore shown on Drawing A200 and with the piezometric surface conditions presented above. A total of eight critical stability sections were selected for the stability analyses, which included the Phase I through IV VLF and Phase 5 VLF. The locations of the stability analyses are shown on Drawings A700 through A720.

Stability analysis results for each of the critical stability sections are summarized in Table 4. The output from the stability analyses are presented in Appendix E.

As presented in Table 4, the stability sections indicate that the static FOS values are 1.5 or greater, and pseudo-static FOS values are 1.0 or greater for design acceleration of 0.14g. It is important to note that the FOS values reported represent the operational ore side slopes of between 1.6H:1V and 2.5H:1V. At reclamation, the ore side slopes will be regraded to 2.5H:1V, which will increase the overall long-term stability of the facility.

Smith Williams analyzed Cross Sections A through I to evaluate slope stability of the VLF, using the parameters described above. The two critical cross sections which could affect Highway 67 and any other structures beyond the road are Cross Sections G and H. This analysis is shown on SWC Map titled "Phase 5 VLF Critical Stability Plan and Cross Section - Sheet 3 of 3". Extracted information from that Sheet is shown below:



Location of Cross Sections showing Highway 67:

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VLF PLAN VIEW

600 1200 FEET



Highway 67 is at the extreme left at horizontal distance 0 feet in Cross Section G.



Highway 67 is at approximately horizontal distance of 300 feet in Cross Section H.



Table 4

Section	Type of Failure Modeled	Static Factor of Safety	Pseudostatic Factor of Safety	
			0.14 g	0.08 g
А	Circular	1.7	1.2	1.4
	Block	1.6	1.1	1.3
В	Circular	1.5	1.1	1.3
	Block	1.5	1.2	1.3
с	Circular	1.8	1.3	1.5
	Block	1.6	1.2	1.3
D	Circular	1.6	1.2	1.3
	Block	1.7	1.3	1.4
E	Circular	1.5	1.1	1.2
	Block	1.6	1.2	1.3
F	Circular	1.6	1.1	1.3
	Block	1.5	1.1	1.2
G	Circular	1.7	1.2	1.4
	Block	1.5	1.1	1.2
н	Circular	1.5	1.1	1.3
	Block	1.8	1.3	1.5
I	Circular	1.6	1.2	1.3
	Block	1.6	1.2	1.3

Slope Stability Analyses Phase 5 VLF

*See Drawings A700, A710, and A720 for section locations.

The lowest factor of safety for Cross Section G is 1.5 for static conditions and 1.1 for pseudostatic using a .14g acceleration and 1.2 factor of safety for an acceleration of 0.08g. Both of these scenarios are for the block model failure type. For circular failure, the factors of safety are higher, as shown in the SWC Table 4 above.

The lowest factor of safety for Cross Section H is 1.5 for static conditions and 1.1 for pseudostatic using a .14g acceleration and 1.3 factor of safety for an acceleration of 0.08g. Both of these scenarios are for the circular model failure type. For block failure, the factors of safety are higher, as shown in the SWC Table 4 above.

The slope of the VLF was designed to have to be 1.6H:1.0V. The actual overall slope from the base of the facility to the crest, as reported by Jay Moore, P.E. in his Annual Report of December 2015, is 1.8H:1.0V to 2.0H:1.0V. Therefore, the actual construction is more conservative than the amended design.

Annual Inspections and Reports have been performed by Jay Moore, P.E. of Newfields since 2013. During the Annual Inspections, Mr. Moore observes the overall stability of the embankment, including slopes, benches, foundation and internal solution ponds. He verifies the operation construction to ensure it is in accordance with the project design. He also evaluates the underdrain flow and water quality with respect to the leach facility containment and performance.

Flyover topography was developed for each year since 2013 and changes were evaluated in Autodesk Civil 3D software for any changes that would require attention. Mr. Moore, P.E. certified in each of the Annual Reports that the Arequa Gulch VLF was performing properly and as it was designed.

In the construction of the embankment and in the years that it has been built, no slope stability issues have been encountered of any significance. The embankment has been inspected by qualified personnel and no problems have been reported. Due to the quality of the original analyses performed and the performance of the embankment to date, I certify that the Arequa Gulch VLF will not adversely affect Highway 67. This evaluation also applies to other structures located within 200 feet of the affected area of the Arequa Gulch VLF.

If any future information requires changes to this certification, or changes to the design slopes, mine plan, reclamation plan, etc., the Division will be notified and the appropriate changes will be submitted.

Oreg Sewicki

Date: ___1/29/17___

Greg Lewicki, P.E. Principal Engineer Greg Lewicki and Associates



Evaluation of Squaw Gulch Valley Leach Facility (SGVLF)

This Valley Leach Facility is a lined leach pad where an impermeable liner was placed in the old Squaw Gulch valley, which is then filled with crushed ore and allowed to leach to extract the gold in solution, which is then recovered in a lined pond at the plant at the toe of the facility. The crushed ore is placed in 100 feet tall lifts at a maximum angle of approximately 1.4H:1.0V to 1.5H:1.0V, followed by a horizontal bench of approximately 30 feet. The crushed ore is generally less than ³/₄ inch in size although some larger sizes may exist in small quantities.

Designs were completed by AMEC consultants in September of 2011 and approved by the DRMS. Design criteria can be seen below:

1.4 Design Criteria

AMEC completed the engineering design for the VLF using the design criteria presented in the following paragraphs.

Geometric design criteria for the VLF are presented in the following table, which includes a maximum ore depth over liner of 800 feet.

Parameter	Value
Maximum ore depth over liner	800 feet
Nominal ore angle of repose slope	1.4H:1V
Overall operational ore side slope against upsloping ground	1.6H:1V
Overall operational ore side slope against downsloping ground	2.5H:1V
Overall operational ore side slope above Squaw Gulch VLF PSSA embankment	2.5H:1V
Overall operation ore side slope above mill	2.0H:1V
Maximum lift height	100 feet

The design was prepared and signed by Jay N. Janney-Moore, PE (CO 37571). The resultant Factors of Safety can be seen below.

Minimum reclaimed slopes static factor of safety	1.5
Minimum reclaimed slopes pseudo-static factor of safety	1.1

Annual Inspections and Reports have been performed by Jay Moore, P.E., now of Newfields since 2015. During the Annual Inspections, Mr. Moore observes the overall stability of the embankment, including slopes, benches, foundation and internal solution ponds. He verifies the operation construction to ensure it is in accordance with the project design. He also evaluates the underdrain flow and water quality with respect to the leach facility containment and performance.

Flyover topography was developed for each year since 2015 and changes were evaluated in Autodesk Civil 3D software for any changes that would require attention. Mr. Moore, P.E.

certified in the 2016 Annual Report that the Squaw Gulch VLF was performing properly and as it was designed. Measured ore slopes match the design angle of repose.

In the construction of the embankment, no slope stability issues have been encountered of any significance. The embankment has been inspected by qualified personnel and no problems have been reported. Due to the quality of the original analyses performed and the performance of the embankment to date, I certify that the Squaw Gulch VLF will not adversely affect Colorado Highway 67. This evaluation also applies to other structures located within 200 feet of the affected area of the Squaw Gulch VLF, which will be discussed for other structures in this Exhibit T.

If any future information requires changes to this certification, or changes to the design slopes, mine plan, reclamation plan, etc., the Division will be notified and the appropriate changes will be submitted.

Oreg Sewicki

Date: ____1/29/17_____

Greg Lewicki, P.E. Principal Engineer Greg Lewicki and Associates



9) Light Industrial Shell Buildings owned by City of Victor

These buildings are two wood frame structures barely inside the 200 feet buffer to the affected area boundary north of the Town of Victor. The closest mine facility that could result in adverse effects is the East Cresson Mine open pit, which will be approximately 2100 feet away at its closest point. For this reason, these two buildings are safe.

10) Dump Road owned by City of Victor

The Dump Road is a dirt road leading to an old dump site located within the permit area south of the Arequa VLF. The closest point that the road is to a mine activity is on the west side of the Town of Victor where the Arequa Gulch VLF is within 500 feet of the road. Since Highway 67 is closer to the VLF at that location, the demonstration that Highway 67 will not be affected also demonstrates that the Dump Road will not be affected.

11) Dirt Road (Tejon Ranch Rd) & Cemetery owned by City of Victor

This is a dirt road of approximately 16 feet wide that leads to the old cemetery southwest of the Town of Victor. It is partially in the permit area but no mine facility can affect it. This road joins with the Dump Road west of Victor and therefore has the same closest point to the Arequa Gulch VLF as the Dump Road, which is 500 feet from the road to the VLF. Since Highway 67 is closer to the VLF at that location, the demonstration that Highway 67 will not be affected also demonstrates that the Dump Road will not be affected.

12) Dirt two track road owned by BLM

This dirt two track unimproved road leaves Highway 67 near the Arequa Gulch leach facility and continues south to the southern border of the permit area. Although the road is inside the permit area, there are no mine activities which can affect it. Since Highway 67 is closer to the VLF at that location, the demonstration that Highway 67 (Structure 8) will not be affected also demonstrates that the Dump Road will not be affected.

13) Road owned by Providence Mining Company

This road is a dirt driveway of approximately 15 feet width that leads to the Jeff Regester home to the north of the Mollie Kathleen Road near the north end of the permit area. The road is mostly inside the permit area and the closest mine activity within a reasonable distance is the North Cresson Mine Pit and the WHEX. However, since the Mollie Kathleen Road (Teller County Road 82) is closer to these facilities, the demonstration for County Road 82 suffices to show that Providence Mining Company Road cannot be affected by the mine activities. See Map C-1a and the engineering evaluation in Structure 2.

14) Foundations of former buildings and roads owned by Murphy Mining & Exploration

These structures are two concrete foundations of approximately 1200 square feet each, where buildings once stood. The closest mine disturbance that could affect these foundations is the Main Cresson Mine, which is located approximately 1340 feet to the west at its closest point. Given the required slope stability analysis of the Main Cresson Mine slopes and the distance to these structures, they cannot be affected.

15) Equipment storage shed and road owned by Jeff Regester

This road is a dirt driveway that connects to the Providence Mining Company Road further south. The dirt road driveway is approximately 15 feet in width and ends at the storage yard area which has a large shed and considerable material stored outside the shed. Since this road and shed are much further away from the closest mine activity (North Cresson Mine and the WHEX) than County Road 82, the demonstration for CR82 suffices to show that the Jeff Regester shed and access driveway will not be affected.

16) Dirt road to house owned by Lonnie Hamacher

This driveway is compacted dirt of approximately 15 feet width leading to the Hamacher house which is outside (to the east) of the 200 feet buffer boundary. The road is mostly inside the permit area and leads to a dirt segment of County Road 81, leading to County Road 82. The closest mine facility to this location is the final buildout of the ECOSA, which will be 0.6 miles from the closest point to the road. Considering the approved ECOSA slope stability evaluation and the distance to the Hamacher Road, it cannot be affected.

17) 1 story single family house, out building, road owned by Trent & Melissa Lanning

The Lanning House is a single story wood frame house in a T shape. The house is occupied and the property also has a dirt driveway and a small outbuilding. The closest mine activity that could affect the building is the East Cresson Overburden Storage Facility (ECOSA), which is 1670 feet to the northwest at its closest point. The ECOSA has been evaluated for Structure 4 - CR81, which is much closer to the facility. For this reason, no evaluation is demonstrated for the Lanning house, however a structure agreement has been received from the Lannings and is included in Attachment T-1.

18) Vacant house and outbuilding owned by Randall Stewart

The Randall Stewart vacant house is located east of the Main Cresson Mine and is approximately 1340 feet from the closest point of the excavation. The house, as well as the outbuilding, are small wood structures and due to the distance to the mine excavation and the slope stability analyses that have been performed by CNI for the Main Cresson Mine, this structure should never be affected by the mine activity.

19) Storage area and road (2 locations 19A and 19B) owned by Gold States Mining Corp.

Both of these storage areas (labelled 19A and 19B on Map C-1a) are minor dirt clearings located approximately 1800 feet east of the closest edge of the Main Cresson Mine pit. The areas consist of wood piles, mobile equipment, and some storage containers. Both also have dirt road access. Due to the distance to the mine excavation and the slope stability analyses that have been performed by CNI for the Main Cresson Mine, this structure should never be affected by the mine activity.

20) Outside storage area and road owned by James & Sarah Watson Jr.

This storage area is a minor dirt clearing located approximately 1700 feet east of the closest edge of the Main Cresson Mine pit. The areas consist of wood piles, mobile equipment, and some storage containers. There is a dirt road access which leads to CR84 and the Town of Victor. Due

to the distance to the mine excavation and the slope stability analyses that have been performed by CNI for the Main Cresson Mine, this structure should never be affected by the mine activity.

21) Single story single family house and driveway owned by Carol Barron

The home owned and occupied by Carol Barron is a single story wood frame house at the end of the northernmost street (6th Street) in the Town of Victor. It is the closest occupied dwelling not owned by CC&V to the mine activity. The closest edge of the South Cresson Mine pit to the home will be approximately 830 feet when full excavation is done. Since the Elkton and Cresson Mine Road is closer to the Pit than the Barron home, the slope stability evaluation for the Pit is included in the discussion for Structure 6 - Elkton and Cresson Mine Road.

Since the home is relatively close to the final Pit, a seismic monitor has been placed in the home and has been checked over years of operation.

Gary Horton is a Senior Environmental Coordinator at CC&V who conducts all blast monitoring and related work in and around the permit area. He has provided a letter report of the original blast design criteria, the pre-blast surveys, monitoring information and results. This report and related information is included in Attachment T-3.

These monitors record blast information 24 hours per day. All measurements at the monitors have been well below the design limit of 0.5 inches per second. The monitors are set to trigger at 0.05 inches per second, which is ten times lower than the design velocity. There has never been a problem with damage from blasting at the home and none is expected in the future, although the Pit will move closer to the home. The particle velocities recorded at the home are very low and they will be continued to be monitored.

22) Two story single family house and driveway owned by Matthew & Leana Hebert

The home owned and occupied by Mathew and Leana Herbert is a single story wood frame house near the end of the northernmost street (6th Street) in the Town of Victor. It is the 2nd closest occupied dwelling not owned by CC&V to the mine activity. The closest edge of the South Cresson Mine pit to the home will be approximately 870 feet when full excavation is done. Since the Elkton and Cresson Mine Road is closer to the Pit than the Barron home, the slope stability evaluation for the Pit is included in the discussion for Structure 6 - Elkton and Cresson Mine Road.

Since the home is relatively close to the final Pit, and also within 190 feet of the Barron home, the seismic monitor which has been placed in the Barron home is also used to evaluate the

Hebert home. This monitor has been checked over years of operation. No tests have ever shown a particle velocity from blasting that has been above the design limit of 0.5 inches per second. There has never been a problem with damage from blasting at the home and none is expected in the future, although the Pit will move closer to the home. The particle velocities recorded at the home are very low and they will be continued to be monitored. Gary Horton is the Senior Environmental Coordinator at CC&V who conducts all blast monitoring and related work in and around the permit area. He has provided a letter report of the original blast design criteria, the pre-blast surveys, monitoring information and results. This report and related information is included in Attachment T-3.

23) Monitoring wells (4x) and road owned by Marlene Chapman

The four monitoring wells owned by Marlene Chapman are located approximately 4,900 feet southwest of the toe of the toe of the Arequa Gulch VLF. The wells are immediately east of the Shelf Road and there are no existing or planned mine activities any closer than the Arequa Gulch VLF so there is no way that the wells could be affected by failure of the VLF. Since the VLF is lined and there is monitoring in place to ensure that the liner remains intact, it is extremely unlikely that a rupture could occur that would affect the wells. The measures to ensure that this will not happen are included in the Environmental Protection Plan of the approved Permit.

24) Road to excavation area owned by Shiloh Plain, Inc.

There is a dirt two track road located approximately 2800 feet west of the Arequa Gulch VLF. The road is barely used and leads to the Perreten excavation area (Structure 25). There are no existing or planned mine facilities that will be closer than the 2800 feet distance to the VLF. For this reason, no further evaluation is needed.

25) Excavation area owned by William Perreten

There is a minor surface disturbance of less than 0.1 acres that is located at the end of the Shiloh Plain road, which is approximately 2700 feet west of the Arequa Gulch VLF. There are no existing or planned mine facilities that will be closer than the 2700 feet distance to the VLF. For this reason, no further evaluation is needed.

26) CC&V Narrow Gauge railroad tracks on land owned by Rexanne Rowe

The CC&V Narrow Gauge Railroad is a tourist railroad that runs from the old 1894 depot in the Town of Cripple Creek south to near the wye where the old Colorado Midland Terminal was located. The tracks continue to near the Squaw Gulch VLF. The tracks are mostly outside the

permit area but segments are within the 200 feet buffer zone. The train operates from mid-May through mid-October. The northern portion of the tracks is owned by Laura and Jim Birmingham, who also operate the entire tourist railroad. The tracks continue through land owned by Rexanne Rowe. The southern segment is owned by CC&V near the Squaw Gulch VLF. From the depot in Town to the toe of the Topsoil Stockpile north of the Squaw Gulch VLF, the tracks are too far away from any mine facility to be adversely affected. The toe of the Topsoil Stockpile is very close to some historic pre-law mine disturbance fill slope near the tracks at Lat 38.734 degrees, Long -105.1706 degrees. This historic disturbance has never slid to the tracks and appears to be stable. The fill slope only extends over a track length of approximately 90 feet. CC&V commits to repairing any unravelling that may affect the tracks and has provided a damage waiver/structure agreement from CC&V Narrow Gauge Railroad where CC&V commits to the responsibility for any repairs due to damage from the mine facility.

27) 1 story single family ranch house, road, and shed or barn owned by Norman & Diana Puetz

The Puetz house is located approximately 2100 feet west of the Squaw Gulch VLF and immediately south of Central City. It is a sizable home of approximate 3800 square feet footprint on a concrete foundation with dirt access road of approximately 20 feet width, a large storage shed and various small outbuildings. The house barely touches the 200 feet buffer but is included in the evaluation. The shed, some outbuildings and the access road are within the 200 feet buffer zone.

28) Road owned by CC&V (previously owned by Katinka Mining Corporation)

This is a dirt road of approximately 22 feet width that starts near the Conley storage quonset hut near the Chicago Tunnel entrance and goes south and then east above the Chicago Tunnel entrance. It is located primarily inside the permit area on land owned by CC&V. There are no mine activities within a reasonable distance that could affect the Road, since the closest facility is the Topsoil Stockpile located to the east, which is a minimum of 2100 feet away. For this reason, no further evaluation is needed.

29) Monitoring well VIN 2B-140 owned by CC&V on property owned by David Joseph Pascador.

This monitoring well is a 140 feet deep water monitoring well that is owned by CC&V but is located on a small parcel owned by David Joseph Pascador. The well and parcel are located approximately 2000 feet east of the closest point of excavation of the Main Cresson Mine.

30) Storage structures, containers and road owned by CC&V (previously Jessie Frost)

There are some old wooden storage structures (2) and some wood material on an old disturbed surface that is located near Poverty Gulch immediately southeast of Cripple Creek and downstream of the Chicago Tunnel. It is too far away from any mine activity that could affect it and since it is owned by CC&V, no further evaluation is needed.

31) Road owned by CC&V (previously Daniel and Elizabeth Rosenbaum)

This is a dirt two track road of approximately 14 feet width that is located approximately 2000 feet west of the northern portion of the Squaw Gulch VLF and immediately south of Central City. It was formerly owned by Daniel and Elizabeth Rosenbaum but is now owned by CC&V. It is too far away from any mine activity that could affect it and since it is owned by CC&V, no further evaluation is needed.

32) Cripple Creek & Victor Narrow Gauge Railroad owned by Laura and Jim Birmingham

The CC&V Narrow Gauge Railroad is a tourist railroad that runs south from the old 1894 depot in the Town of Cripple Creek to near the wye where the old Colorado Midland Terminal was located. The tracks continue to the Squaw Gulch VLF on land owned by CC&V Mining Company. The tracks are mostly outside the permit area but segments are within the 200 feet buffer zone. The train operates from mid-May through mid-October. The tracks are owned by Cripple Creek and Victor Railroad (Laura and Jim Birmingham) and the middle portion of the Railroad is on land owned by Rexanne Rowe. The southern segment is owned by CC&V Mining Company near the Squaw Gulch VLF. From the depot in Town to the toe of the Topsoil Stockpile north of the Squaw Gulch VLF, the tracks are too far away from any mine facility to be adversely affected. The toe of the Topsoil Stockpile is very close to some historic pre-law mine disturbance fill slope near the tracks at Lat 38.734 degrees, Long -105.1706 degrees. This historic disturbance has never slid to the tracks and appears to be stable. The fill slope only extends over a track length of approximately 90 feet. It is not well vegetated so there is potential for some minor unravelling of the slope if a large storm event occurs. CC&V commits to repairing any unravelling that may affect the tracks and has provided a damage waiver/structure agreement to Laura and Jim Birmingham but has not yet received the signed agreement where CC&V commits to the responsibility for any repairs due to damage from the mine facility.

33) Storage building, brick building, trailer, and access road owned by Conley Construction

There is a flat graded area containing a brick building, a mobile trailer and a storage building located north of CR82 Road approximately 1600 feet northwest of the East Cresson Mine (Wildhorse Extension). A dirt access road of approximately 22 feet wide leads to the graded area. The area is outside the permit boundary but within the 200 feet buffer zone. Since the discussion for Structure 2 - CR82 shows that this road will not be affected by mine activities, and it is closer to the East Cresson Mine excavation, the Conley Construction facilities on this site will also not be affected.

There is a structure agreement in place for Conley Construction for these facilities, however it will be modified to add the access road.

34) Substation owned by Black Hills Energy

There is an electrical substation owned by Black Hills Energy that is located immediately south of Highway 67 and the Arequa Gulch gold recovery plant buildings. The transformers, breakers and all other electrical devices are enclosed in a cyclone fenced area of approximately 280 feet x 350 feet. The access road is a dirt road of approximately 25 feet width that joins with Highway 67 immediately below the lined pond at the toe of the Arequa Gulch VLF. The discussion for Structure 8 shows that Highway 67 will not be affected by the Arequa Gulch VLF. Since this area is south of Highway 67, the discussion for Highway 67 suffices to demonstrate that the substation will not be affected by mine activity. Also, a structure agreement from Black Hills Energy has been received for this structure and is included in Attachment T-1.

35) Access road, outbuildings owned by William Kelley Hakes

The William Hakes property is located approximately 1000 feet southwest of the closest point at the toe of the Topsoil Stockpile above the Squaw Gulch VLF. It has a dirt access road, a wood storage building, outdoor storage of various construction material and some mobile vehicles. The property also contains a mobile trailer home owned by Nicholas Wagner. Even though the property is within the 200 feet buffer of the permit area, it is too far enough away from any mine activity that could affect it, therefore, no further evaluation is done.

36) Storage building on CC&V Property owned by Conley Construction

The storage building is a steel quonset hut building of approximate dimensions 50 feet x 90 feet at the base. The building is owned by Conley Construction and it sits on a flat bench on CC&V land immediately southwest of the Chicago Tunnel portal. No water emanates from this Tunnel and there are no mine facilities within any distance that could possibly adversely affect the structure, as seen on Map C-1a. For this reason, no further evaluation of the structure is needed.

37) Road 1 owned by Teller County

This is a small segment of a dirt road that is located immediately north of the cemetery and the Dump Road. The dirt road is a driveway that ends at a series of buildings south of the permit area. Part of the road is in the permit area and another small segment is within the 200 feet buffer boundary. Since the dirt road is approximately 775 feet south of Highway 67, the demonstration showing that Highway 67 (Structure 8) will not be affected is sufficient to show that this road will not be affected by mine activities.

38) Emergency Services Radio Tower and access road at Little Grouse Mountain owned by City of Victor

This radio tower and associated dirt access road is located approximately 1400 feet south of the lined pond at the toe of the Arequa Gulch VLF. The tower is on a natural hill that is approximately 9665 feet elevation, while the Arequa lined pond is at an elevation of 9515 feet, therefore, it is not possible that the Arequa VLF could affect the structure. The slope stability of the Arequa Gulch VLF is discussed in the discussion for Structure 8 – Highway 67.

39) Mobile Home owned by Nicholas Wagner on Hakes property

The mobile trailer home owned by Nicholas Wagner is located on the William Hakes property, located approximately 1000 feet southwest of the closest point at the toe of the Topsoil Stockpile above the Squaw Gulch VLF. Even though the mobile trailer home is within the 200 feet buffer of the permit area, it is far enough away from any mine activity that could affect it, therefore, no further evaluation is done.

40) Office Building on CC&V Property owned by Conley Construction

This office building is a trailer office that is located on CC&V property immediately west of the Chicago Tunnel entrance. No water emanates from this Tunnel and there are no mine facilities within any distance that could possibly adversely affect the structure, as seen on Map C-1a. For this reason, no further evaluation of the structure is needed.

41) CC&V Dirt Road near Mollie Kathleen Road CR82

This road leaves CR82 near the northeast corner of the Globe Hill portion of the North Cresson Mine. It is a dirt road of approximately 16 feet width that goes north into a wooded area. The surface of the road area is entirely owned by CC&V so this road is also part of CC&V ownership. Since it is owned by CC&V, it will not be evaluated for risk of damage.

42) CC&V Cabin 1

This cabin was identified by DRMS as a structure to be evaluated. It is a wood structure that internal research has shown to be owned by CC&V. It is located approximately 1400 feet east of the easternmost edge of the Main Cresson Mine excavation. Since it is owned by CC&V, it will not be evaluated for risk of damage.

43) Teller County Road 88 near Carlton Tunnel

Teller County Road 88 is also called the Shelf Road and is the same Road that exists east of the mine permit area. However, this location is so far to the southwest of the main Mine permit area that it is considered a separate structure. It is a dirt road of approximately 20-22 feet wide and a dirt driveway is used to access the site. This location is where the Carlton drainage tunnel daylights on the surface and is a part of the permit area. This tunnel begins in the main Mine permit area and was installed to drain the old underground mine workings. It was completed in 1941. The elevation is only 6950 feet at the tunnel exit, which is considerably lower than the workings in the main permit area. The tunnel has a permanent water discharge which leads to a series of 6 ponds, after which the water is discharged under a permit with the CDPHE Water Quality Control Division. The discharge enters a culvert under CR88 and enters Fourmile Creek. A possible threat to the Road would be if a surge of water came out from the Tunnel and overflowed the culvert under the Road. This is extremely unlikely since the Carlton Tunnel was built specifically to maintain long term drainage from the mines and it has been in place for many decades with no history of any surges.

The series of ponds have also been built to good engineering standards with compacted embankments, design slopes, and a proper drainage system for discharge. The ponds have never had a problem with stability, sloughing, water seepage, bulging or any other signs of instability. The ponds have been in place for over 20 years and they are inspected with good frequency by the mine personnel and water samples are taken of the discharge.

44) CR 831 owned by Teller County - Segments 44A & 44B

As shown on Map C-1a, Segment A of CR 831 is a County Road that leaves CR81 north of Victor and runs west to the southern edge of the East Cresson Mine (ECME) and the western edge of the Main Cresson Mine. Most of the Road is in the permit area except for the eastern edge where it joins with CR81. The Road does cross the southern portion of the East Cresson Overburden Storage Area (ECOSA) on a bench. The slope stability of the ECOSA has been evaluated for Structure 4 - CR 81. A berm there stops any vehicles from going closer to the mine operation. Signs are also posted that the Road is in an active mining operation and crossing over the berms is not allowed. Also, before any blast in the mines, mine personnel clear the Road of anyone within an unsafe distance from the blast. The road is a compacted dirt road of

approximately 20 feet width and well maintained by Teller County. This segment has not been damaged by any blast or any other mine activity. The mine has discretion to close any part of the Road within the permit area if it deems that public access is a safety risk to the mine or the public. For this reason, no further evaluation of the Road is warranted.

Segment B of CR831 is located immediately east of the south portion of the Main Cresson Mine. It is also a compacted dirt road that used to connect with Segment A but mine activities have closed the connection, in conjunction with Teller County. Segment B is approximately 290 feet long where it is owned by Teller County. The road continues southwest into the mine area, but this portion is owned by CC&V. The road is a compacted dirt road of approximately 20 feet width and well maintained by Teller County. The closest facility that could affect the Road is the eastern edge of the south portion of the Main Cresson Mine, which is 1000 feet from the Road. Given the detailed slope stability analyses of the Pit done by CNI for the MLE2 Study in 2011 combined with the large distance to the pit, this Road is safe from adverse effects from mine activity and no further evaluation is needed.

45) CR 84 owned by Teller County

County Road 84 is a compacted dirt road that is located north of Victor that used to go to the American Eagle observation point of the mine, which was well inside the permit boundary, but this observation point has been abandoned. Only a small distance of the road is still open to the public, where it joins with CR81 up to the permit boundary. The road is approximately 20 feet width and well maintained by Teller County. It provides access to the Golden States Mining Corp storage areas inside the 200 feet buffer zone. The road continues into the permit area, but this portion is owned by CC&V and is off limits to the public.

The public portion of the road is approximately 840 feet from the eastern edge of the South Extension of the Main Cresson Mine. Due to the detailed slope analysis of the pit by CNI, the distance of the road to the Pit, and the fact that this segment has not been damaged by any blast or any other mine activity, the road should not be affected by any mine activities.

46) Black Hills Energy Power Lines

Black Hills Energy owns a number of power lines inside the permit area and within the 200 feet buffer zone. A letter is included in Attachment T-1 from them stating that their structures will not be affected by mining or post-reclamation activities. The utilities are shown on Map C-3.

47) Phone Lines owned by Century Link

Century Link owns phone lines inside the permit area and within the 200 feet buffer zone. A letter is included in Attachment T-1 from them stating that their lines will not be affected by mining or post-reclamation activities. The utilities are shown on Map C-3.

48) Fiber Optic Lines owned by CC&V

CC&V owns buried fiber optic lines inside the permit area and within the 200 feet buffer zone. These lines are shown on Map C-3. However, since they are owned by CC&V, no further evaluation is necessary.

49) Buried Water Lines owned by City of Victor

The City of Victor owns buried water lines inside the permit area and within the 200 feet buffer zone. A letter is included in Attachment T-1 from them stating that their lines will not be affected by mining or post-reclamation activities. The utilities are shown on Map C-3.

Attachment T-1 – This Attachment contains the following:

- Copies of Signed Structure Agreements
- Utility Letters
- BLM Non Structure Owner Letter
- Copies of Signed Affidavits regarding structure agreements that were either refused or a response is pending

AMENDED AND RESTATED APPLICATION FOR USE OF WATER OUTSIDE CORPORATE LIMITS (CITY OF VICTOR & CC&V)

THIS AMENDED AND RESTATED APPLICATION FOR USE OF WATER OUTSIDE THE CORPORATE LIMITS ("Application") is made and entered effective the day of <u>March</u>, 2016 ("Effective Date"), by and between the City of Victor ("Victor") and the Cripple Creek & Victor Gold Mining Company, a Colorado joint venture ("CC&V"), Victor and CC&V shall be referred to herein collectively as, the "Parties" or individually as, a "Party".

RECITALS

WHEREAS, the Parties entered into that certain Application for Use of Water Dated June 4, 1999 ("Original Application") and the Operating and Maintenance Agreement dated August 1, 1999 ("OMA") for the sale, purchase and transport of water; and

WHEREAS, the Application has been amended and supplemented pursuant to the following agreements:

- a. 2006 Amendment;
- b. 2008 Amendment;

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- c. 2010 Amendment; and
- d. Supplemental Water Supply Agreement dated November 20th, 2003 and executed on February 4, 2004 ("Supplemental Agreement") (the Original Application, the 2006 Amendment and the 2010 Amendment and the Supplemental Agreement referred to herein collectively as the "Victor Agreements"); and

WHEREAS, in addition to the above referenced agreements CC&V has entered into that certain Agreement for Lease of Water with the City of Cripple Creek ("Cripple Creek") executed effective January 1, 2015 ("Cripple Creek Lease"); and

WHEREAS, pursuant to the Cripple Creek Lease, Cripple Creek has agreed to lease annually 250 acre feet of water to CC&V, of which 172 acre feet are delivered first to Victor for subsequent sale to CC&V ("Transferred Water"); and

WHEREAS, the sale of the Transferred Water is managed pursuant to a separate agreement by and between Victor and Cripple Creek; and

WHEREAS, the Parties and Cripple Creek have agreed that the price CC&V pays Cripple Creek and Victor per acre feet of water should be consistent ("Consistency"); and

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WHEREAS, to ensure Consistency and due to the number of modifications to the Original Application, the Parties deem it in the best interest of the Parties to consolidate and update the Victor Agreements into one document ("Amended and Restated Application") as set forth below.

NOW, THEREFORE, in consideration of the mutual covenants and agreements contained herein, Victor and CC&V agree as follows:

AGREEMENT

1. <u>Volumes of Water and Term</u>. Subject to the provisions of this Application, Victor agrees to provide to CC&V up to 1300 acre feet per year of raw water as requested by CC&V ("Victor Water") for use in its operations on an as available basis as well as the Transferred Water to be purchased from Cripple Creek for the benefit of CC&V pursuant to that certain Water Purchase Agreement by and between Cripple Creek and Victor dated November 19, 2015 ("Cripple Creek Agreement"). CC&V acknowledges and agrees that Victor's obligations to provide the Victor Water and Transferred Water are subject to the limitations set forth in Paragraphs 6 and 8.

Subject to CC&V's right to an extension, as described in this Paragraph 1, Victor's obligation to supply the Victor Water to CC&V and CC&V's obligation to make payments hereunder shall expire on December 31, 2024. CC&V shall have the right to extend the term of this Application by providing written notice of its intent to extend to Victor on or before July 1, 2023 ("Extension"). The Extension shall apply to the supply of Victor Water at both Taps at a cost to be negotiated in good faith between the Parties and based upon comparable rates in the market at the time for comparable water for an additional term of 25 years commencing on January 1, 2025.

2. <u>Uses of Water</u>. The Victor Water shall be raw water, not treated to meet human drinking water quality standards. CC&V's use of the Victor Water shall be limited to use in mining and processing, including but not limited to mineral extraction, ore processing, dust control, mined land reclamation, replacement and augmentation, and all incidental uses related to CC&V's mining and processing operations and shall not, in any event, be resold to others. Further, CC&V shall be responsible for the use of Victor Water and any effects thereof on third parties, including, but not limited to, the effects of discharges and changes in the quality of the Victor Water or any water impacted by the Victor Water supplied to CC&V.

3. <u>No Warranty</u>. Victor makes no warranty as to the quality of the Victor Water or the Transferred Water delivered to CC&V. Victor agrees that CC&V may monitor the quality of the Victor Water at the facilities owned by Victor that are used to deliver the water to CC&V. CC&V acknowledges that, to the extent it desires to monitor the quality of the Transferred Water, it shall make such arrangements directly with Cripple Creek.

4. <u>Procedure for Delivery of Water.</u> The Parties agree that the delivery of the Victor Water and Transferred Water (collectively, the "Water"), as applicable, to CC&V will take place at Victor's facilities located at the following points:

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- a. At a 3-inch tap ("3 Tap") at the Victor Mine Pump Station in Grassy Valley, more specifically described as the point on the Victor's raw water transmission line from the Victor's reservoirs, where CC&V's line taps on, north of Goldfield in Section 16, Township 15 South, range 69 West, 6th P.M.; and
- b. At a 9-inch tap ("9 Tap") (the 3 Tap and 9 Tap are collectively referred to herein as the "Taps") near Victor's Water Treatment Plant near the top of Victor Pass in Section 21, township 15 South, range 69 West, 6th P.M.

5. <u>Consideration and Payment Terms.</u> The consideration for the Water provided to CC&V pursuant to this Agreement shall be as follows:

a. Acre-Foot Charge. The lease price for the Water for 2015 shall be \$864.64 per acre-foot (the "Base Rate"). The Base Rate shall be applied retroactively from and after January 1st of 2015 and CC&V shall promptly pay Victor for any difference to the extent that CC&V's actual payments to date are less than what Victor would otherwise be entitled to under this Application. The Base Rate shall be adjusted upward by 4% each year with the first adjustment to occur on January 1, 2016 and January 1st of every year thereafter for the term of this Application unless otherwise agreed to in writing by the Parties. Victor shall provide CC&V with a monthly invoice for all water furnished hereunder and payment shall be due and payable by CC&V thirty (30) days after the date of the invoice.

b. Minimum use of Taps. CC&V acknowledges that its minimum use of the Taps shall be 4,073,000 gallons per month. Victor acknowledges that the Water Plant Investment Fee and the Physical Connection (for both Taps) have been previously paid by CC&V.

C. Wheeling. Victor shall not be required to supply more than 800 gallons per minute nor more than 1300 acre feet a year of Victor Water. The preceding limitation specifically excludes the Transferred Water. If CC&V requires more than 800 gallons per minute, or more than 1300 acre feet per year, excluding the Transferred Water, and Victor, after good faith negotiations, does not wish or cannot supply, such excess needs, or in the event Victor cannot supply 800 gallons per minute and/or 1300 acre feet per year because of limitations, then and in either event, Victor shall allow CC&V to "wheel" (transport) water acquired from third parties through the Altman Pump Station and the pipeline from the Altman Pump Station to CC&V's meter at the top of Victor Pass, for a charge of \$.16 per 1,000 gallons plus all direct costs of electrical, operations and maintenance, associated with that usage. This "wheeling" right shall not apply to CC&V's interest in the Altman Water Rights, only to the water purchased from third parties, specifically including, but not limited to the Transferred Water. Victor and CC&V agree to cooperate in a fair and prompt manner to enable CC&V to obtain one or more contracts for water and water rights from third parties suitable to provide additional reliable water supplies for CC&V's use. CC&V shall only purchase and use water from a third party if and to the extent that Victor cannot or does not wish to provide the full amount of water requested by CC&V. To the extent logistically possible, water purchased from third parties shall be transported through Victor's Altman Pump Station and pipeline under the provisions of this Paragraph 5.

d. Operating and Maintenance Expenses. CC&V hereby acknowledges and reaffirms its obligations under the OMA, the terms of which are incorporated herein as attached and as amended pursuant to the terms of the 2008 Amendment. The terms modified pursuant to the 2008 Amendment are stated below:

> i. CC&V shall pay all Operating and Maintenance Expenses and Capital Improvement Costs, as each term is defined in the OMA; and

> ii. CC&V shall operate and maintain the following pipe and transmission lines:

The pipe replacing the old leaky ditch to Bison;

- The pipeline from the Cripple Creek transmission line to the five-way valve area, and to the Altman Pump Station; and
- The transmission line from the Altman Pump Station to the top of Victor Pass.

e. Take or Pay. CC&V shall pay for 172 acre-feet of water annually whether or not it takes any water under this agreement. In the event Victor is unable to deliver in whole or in part the purchase amount under this Take or Pay provision due to physical, legal, or administrative limitations, CC&V shall not be responsible for payment for that portion not delivered.

6. <u>Transferred Water</u>.

a. Notice. Subject to the provisions of this Section 6, upon reasonable notice from CC&V, Victor agrees that it will purchase from Cripple Creek, for delivery to CC&V, up to one cubic foot per second (1 cfs) of the Transferred Water pursuant to the Cripple Creek Agreement. CC&V's right to delivery of the Cripple Creek Water shall be in addition and supplemental to CC&V's right to purchase water from Victor under this Application.

b. Reimbursement. CC&V agrees to reimburse Victor for any and all reasonable and necessary costs and expense it incurs under the Cripple Creek Agreement ("Cripple Creek Expenses"), including but not limited to all costs (including increased lifting or pumping costs) associated with the operation of or repairs or maintenance to the Altman Pump Station or to any other component of the Victor municipal supply system that is reasonably necessitated by delivery of the Transferred Water to CC&V. Provided, however, the Cripple Creek Expenses shall not exceed the charges set forth or actually paid pursuant to the Cripple Creek Agreement. In addition, CC&V shall reimburse Victor for any and all reasonable costs and expenses Victor incurs for Victor's operations necessary to deliver the Transferred water to CC&V (including increased lifting or pumping costs), in addition to the Cripple Creek Expenses, since the former are not charges actually paid pursuant to the Cripple Creek Agreement.

c. Additional Water. The Transferred Water purchased from Victor for delivery to CC&V shall be in addition to the Victor Water purchased and delivered to CC&V pursuant to this Application, and shall not be considered within the maximum water delivery limitation set forth in Paragraph 5.c.

Right to Purchase. CC&V shall not have the right to purchase and d. take delivery of the Transferred Water if it is not in compliance with its obligations and duties hereunder, including but not limited to CC&V's obligation to compensate Victor for the Victor Water delivered to CC&V. Notwithstanding any other provision of this Application, CC&V shall have the right to purchase the Transferred Water pursuant hereto, if it is unable to purchase the full amount of the Victor Water because it is legally unavailable for the use that is required by CC&V. CC&V's right to purchase pursuant to the conditions set forth in the preceding sentence shall be limited to the volume of water that would have otherwise been provided to CC&V by Victor but for the legal unavailability. (Example: If Victor is not able to provide its water to CC&V for augmentation purposes, then CC&V shall have the right to purchase its augmentation water from Cripple Creek or The water to be delivered to CC&V by virtue of the any other viable third party.) agreement between Victor and Cripple Creek will be from releases from storage in Cripple Creek's Reservoir Nos. 2 and 3 or from Gillette Well No. 5 consistent with the Cripple Creek agreements.

e. Cripple Creek Limitations. CC&V acknowledges that Victor's ability to provide the Transferred Water may be limited pursuant to the terms of the Cripple Creek Agreement that represent conditions beyond the control of Victor ("Cripple Creek Limitations"). In the event Victor is notified of any Cripple Creek Limitations it will promptly notify CC&V and CC&V shall not hold Victor liable for its inability to deliver the affected Transferred Water; provided, however, CC&V shall not be responsible to reimburse Victor for any Cripple Creek Water not delivered as a result of Cripple Creek Limitations.

7. <u>Operation and Maintenance</u>. Victor shall be responsible for the maintenance and repair of the infrastructure up to and including the Taps. CC&V shall be responsible for the construction, maintenance and repair of all related infrastructure for such facilities beyond the Taps. In addition, the terms and conditions of the OMA, a copy of which is attached hereto, are incorporated herein and remain in full force an affect. The OMA provides for the operation, maintenance and repair of the Altman Pump Station.

8. <u>Water Shortage</u>. Victor's obligation to sell and deliver water hereunder shall be suspended to the extent and for such period that a foreseeable water shortage exists within Victor and to the extent the Victor Water is required to supply the needs of the residents of Victor. A foreseeable water shortage is defined as a shortage of Victor's available water supplies resulting from circumstances and causes beyond Victor's control

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and such shortages cause Victor to impose stringent water use restrictions upon its residents in order to preserve the public health. Victor shall notify CC&V promptly whenever such foreseeable water shortage appears to be reasonably foreseeable. Victor shall be relieved of its delivery obligations to CC&V pursuant to the terms of this Paragraph 8 only upon at least thirty (30) days' prior written notice to CC&V. If Victor does not deliver water to CC&V pursuant to the terms of this Paragraph 8 and CC&V pursuant to the terms of this Paragraph 8 and CC&V has made payments to Victor for the delivery of Victor Water, Victor shall refund CC&V the full amount paid for such undelivered water. In addition, in the event Victor is unable to deliver the Victor Water for the reasons stated above, CC&V shall be entitled to use Victor's facilities to deliver water purchased from third parties, specifically including the Transferred Water, subject to the provisions of Paragraph 5.c.

9. <u>Force Majeure.</u> Except as set forth below, the obligations of the Parties hereunder shall be suspended to the extent and for such period that performance is prevented due to any cause outside the reasonable control of the Partles or a Party, as applicable, such causes include, but are not limited to, acts of God, acts of war, fire, explosion, earthquake, storm, flood, economic conditions or circumstances that make it infeasible to continue operations, and material and substantial breakdown of equipment, machinery, or necessary facilities provided by Victor. Further, CC&V shall have no obligation to pay for Water that Victor is unable to deliver or make available for delivery and Victor shall have no obligation to refund payments already made by CC&V for such undelivered water. Exceptions to this suspension are as follows:

- a. The "wheeling" right set forth in Paragraph 5.c. shall not be suspended unless this Application is terminated or canceled;
- b. This Application may be terminated by Victor, and all obligations hereunder shall end, if any suspension pursuant to this Paragraph 9 continues for a period longer than six (6) months and during such time CC&V has made no monthly payments. If Victor elects to terminate pursuant to the provisions of this Section 9, Victor shall provide CC&V with ten (10) days written notice before the effective date of said termination. Notwithstanding termination of this Application, Victor shall have the right and option to seek recovery of all billed, due and unpaid amounts from CC&V.

10. <u>Non-Performance</u>. The Parties agree that non-performance by Victor of its obligations to deliver Water pursuant to this Application shall result in damages to CC&V which will be difficult to calculate and for which there may not be adequate remedies available at law. Therefore, in the event of non-performance by Victor, in addition to all other rights available to CC&V at law or in equity, CC&V shall have the right to a remedy of specific performance to require Victor to perform its obligations as set forth herein.

11. <u>Fire Protection and Sewer</u>. Victor shall not be required to furnish fire protection nor sewer services unless provided by separate written contract between the

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Parties. CC&V agrees to conform to all health laws and regulations of the applicable governmental entities, and to take reasonable precautions against fires.

12. <u>Code of Ordinances.</u> CC&V acknowledges that is it subject to and governed by the Code and Ordinances of Victor ("Code") and it shall ablde thereto. Approval of this Application by the City Council shall form a binding contract and CC&V and Victor agree to ablde by and be bound by the terms of this Application. The terms provided in this Application, as approved, are not meant to limit, but to supplement the Code. CC&V agrees that neither the approval of this Application, nor use of the water or facilities for any period of time, shall give CC&V any vested right to continue such use.

13. <u>Entire Agreement</u>. Except for the 2008 Amendment and the agreements by and between CC&V and Victor relating to the ¼ inch tap at the Victor Pump Station and Water Treatment Plant (augmentation taps)(1999 O&M Agreement), this Application constitutes the entire agreement between the Parties with respect to the subject matter hereof. This Application shall not be modified, amended, supplemented, extended, or altered except as the Partles may from time to time agree in writing.

14. <u>Successor and Assigns.</u> This Application shall be binding on the Parties and their successors in interest. CC&V may freely assign this Application to its successor in operating its mining operations, joint venture, parent company, sister company or subsidiary company and such assignee may in turn reassign this Application in accordance with this Paragraph 14; provided, however, CC&V shall give Victor at least thirty (30) days prior written notice of such assignment or reassignment. CC&V, or its successors, shall not otherwise assign this Application without the express written consent of Victor, which consent shall not be unreasonably withheld.

15. <u>Written Notice</u>. Whenever written notice is required under this Application, it shall be sent by U.S. Mail, First Class, postage prepaid, addressed to the parties as follows:

<u>To City of Victor</u>: Mayor and City Administrator P.O. Box 86, 500 Victor Ave. Victor, Colorado 80860 <u>To CC&V</u>: Cripple Creek & Victor Gold Mining Company Attn: General Manager 100 North 3rd Street Victor, CO 80860

<u>With a copy to:</u> Julianne Woldridge MacDougall & Woldridge, P.C. 1586 S. 21st St., Suite 200 Colorado Springs, CO 80904

With a copy to: Newmont Mining Corporation Attn:

Any address for notice may be changed by written notice to the other party as provided in this Paragraph 15.

15. <u>Authority</u>. All Parties to this Application represent that they have the full power and authority to enter into and perform this Application.

16. <u>Governing Law</u>. This Application shall be construed in accordance with the laws of the State of Colorado. Any and all disputes concerning this matter shall be decided in any court of competent jurisdiction for Teller County, Colorado.

20. <u>Severability</u>. Unenforceability of any provision contained in this Application shall not affect or impair the validity of any other provision of this Application, so long as the primary purpose(s) of this Application are effectuated by the remaining terms.

Application made at Victor, Teller County, Colorado this 24th day of March, 2016.

Name of Applicant: Cripple Creek & Victor Gold Mining Company Name of Owner of Premises to be Served: Cripple Creek & Victor Gold Mining Company

Billing Address: 100 North Third Street, Victor, CO 80860

	/ /
AGREED:	
CRIPPLE	CREEK & VICTOR GOLD MINING COMPANY
By:	out them
Title:	General Manager
Date:	a/27/14 T
	1)
CITY OF V	ICTOR

By: Bynd lanbert.

Title: Byron L. Hakes, Jr., Mayor

Date: 3/24/16

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O. Box 270868 • Littleton, Colorado 80127 • Phone (303) 979-7680 • Fax (720) 981-2129 • www.ColoradoNaturalGas.com

January 12, 2017

Mr. Erik Munroe Senior Environmental Coordinator Cripple Creek & Victor Gold Mining Company Newmont North America P.O. Box 191 100 N. 3rd Street Victor, Colorado 80860

Re: Utility Acknowledgement Letter

Dear Mr. Munroe,

This letter is to notify you that, based on the information you provided to us, Colorado Natural Gas, Inc. believes that the mining and reclamation activities proposed by Cripple Creek & Victor Gold Mining Company in Amendment 11 will have "no negative effect" on our gas utility, as that phrase is used in Rule 6.4.20(c)/Exhibit T of the Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board for Hard Rock, Metal, and Designated Mining Operations.

Should you require further information please do not hesitate to contact me at (720) 981-2123.

Sincerely,

Bill Shaw Director, Colorado Utility Operations

STATE OF COLORADO)) ss. COUNTY OF JEFFERSON)

The foregoing instrument was acknowledged before me this 12th day of January, 2017, by Bill Shaw, on behalf of Colorado Natural Gas, Inc.



Notary Public

My Commission Expires 1.22.3019



Name Bret Jones Bret.jones@blackhillscorp.com

105 S. Victoria Avenue Pueblo, CO 81003 P: 719,546.6474

January 19, 2017

Mr. Erik Munroe Senior Environmental Coordinator Cripple Creek & Victor Gold Mining Company Newmont North America P.O. Box 191 100 N. 3rd Street Victor, Colorado 80860

Re: Utility Acknowledgement Letter

Dear Mr. Munroe,

This letter is to notify you that Black Hills Energy – Colorado Electric confirms that the mining and reclamation activities proposed by Cripple Creek & Victor Gold Mining Company (CC&V) in Amendment 11 will have "no negative effect" on our electric utility, as that phrase is used in Rule 6.4.20(c)/Exhibit T of the Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board for Hard Rock, Metal, and Designated Mining Operations.

Should you require further information please do not hesitate to contact James Worth, Energy Services Manager at (719) 546-5869 or e-mail to: james.worth@blackhillscorp.com .

Sincerely,

Bret Johds Director Energy Services and Customer Operations Black Hills Energy – Colorado Electric

cc: James Worth – Black Hills Energy

Page 2 of 2 - Black Hills Energy Utility Acknowledgement Letter

STATE OF COLORADO)) ss. COUNTY OF <u>Puichlo</u>)

The foregoing instrument was acknowledged before me this 19 day of January, 2017, by Bret Jones, Director Energy Services and Customer Operations of Black Hills Energy – Colorado Electric, on behalf of such corporation.

SEAL

CATHERINE LORRAINE GUTIERREZ NOTARY PUBLIC STATE OF COLORADO NOTARY ID 1994022956 MY COMMISSION EXPIRES AUGUST 28, 2018

Cathenine Lorraine Gutienres

Notary Public My Commission Expires 8|28|18




Timothy J. Goodwin Senior Counsel 1801 California Street - 10th Floor Denver, Colorado 80202 Telephone: 303-383-6612 Fax: 303-383-8512 tim.goodwin@centurylink.com

January 19, 2017

Mr. Erik Munroe Senior Environmental Coordinator Cripple Creek & Victor Gold Mining Company Newmont North America P.O. Box 191 100 N. 3rd Street Victor, Colorado 80860

Re: Utility Acknowledgement Letter

Dear Mr. Munroe,

This letter is to notify you that Qwest Corporation dba CenturyLink QC confirms that based on their representations to us, and their agreement that they would bear the costs of any required relocations or damages arising from the mining and reclamation activities proposed by Cripple Creek & Victor Gold Mining Company (CC&V) in Amendment 11, those activities will have "no negative effect" on our telecommunications utility, as that phrase is used in Rule 6.4.20(c)/Exhibit T of the Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board for Hard Rock, Metal, and Designated Mining Operations.

Should you require further information please do not hesitate to contact me (contact information above).

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Sincerely,

Tim Goodwin Associate General Counsel

STATE OF COLORADO

CITY AND COUNTY OF DENVER

The foregoing instrument was acknowledged before me this 20th day of January, 2017, by Timothy J. Goodwin, Senior Counsel for CenturyLink, on behalf of Qwest Corporation dba CenturyLink QC.

)) ss.

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Marsone Herth **Notary Public**

My Commission Expires <u>9-35-17</u>

This letter has been provided to you as the owner of a structure on or within two hundred (200) feet of a proposed mine site. The State of Colorado, Division of Reclamation, Mining and Safety ("Division") requires that where a mining operation will adversely affect the stability of any significant, valuable and permanent man-made structure located within two hundred (200) feet of the affected land, the Applicant shall either:

- a) Provide a notarized agreement between the Applicant and the Person(s) having an interest in the structure, that the Applicant is to provide compensation for any damage to the structure; or
- b) Where such an agreement cannot be reached, the Applicant shall provide an appropriate engineering evaluation that demonstrates that such structure shall not be damaged by activities occurring at the mining operation; or
- c) Where such structure is a utility, the Applicant may supply a notarized letter, on utility letterhead, from the owner(s) of the utility that the mining and reclamation activities, as proposed, will have "no negative effect" on their utility. (*Construction Materials Rule 6.3.12 and Rule 6.4.19 & Hard Rock/Metal Mining Rule 6.3.12 and Rule 6.4.20*)

The Colorado Mined Land Reclamation Board ("Board") has determined that this form, if properly executed, represents an agreement that complies with Construction Materials Rule 6.3.12(a), Rule 6.4.19(a), and C.R.S. § 34-32.5-115(4)(e) and with Hard Rock/Metal Mining Rule 6.3.12(a), Rule 6.4.20(a), and C.R.S. § 34-32-115(4)(d). This form is for the sole purpose of ensuring compliance with the Rules and Regulations and shall not make the Board or Division a necessary party to any private civil lawsuit to enforce the terms of the agreement or create any enforcement obligations in the Board or the Division.

The following structures are located on or within 200 feet of the proposed affected area:

Location 2. Koad 3. emet ower and access at 5. (Please list additional structures on a separate page)

The Applicant, <u>Cripple Creek & Victor Gold Mining Company</u> (print applicant/company name), by <u>Jack Henris</u> (print representative's name), as <u>General Manager</u> (print representative's title), does hereby certify that <u>City of Victor</u> (structure owner) shall be compensated for any damage from the proposed mining operation to the above listed structure(s) located on or within 200 feet of the proposed affected area described within Exhibit A, of the Reclamation Permit Application for <u>Cresson Project</u> (operation name), File Number M-1980_244.

This form has been approved by the Colorado Mined Land Reclamation Board pursuant to its authority under the Colorado Land Reclamation Act for the Extraction of Construction Materials and the Colorado Mined Land Reclamation Act for Hard Rock, Metal, and Designated Mining Operations. Any alteration or modification to this form shall result in voiding this form.

	A
NOTARY FOR PERMI	<u>T APPLICANT</u>
ACKNOWLEGED BY: Cripple Creek Victor Applicant Gold Mining Co Represen	ntative Name
Date 22277 Title (Senerol Mandger
STATE OF COLORADO)	
COUNTY OF Teller) ss.	
The foregoing was acknowledged before me this Z day	of tebruary, 2017, by Victor
Jan Tive Foltet My Commission	$\frac{Gold}{1003/2020}$
Notary Public	
PENNY MARIE ROBERTS	
PENNY MARIE ROBENTO Notary Public - State of Colorado Notary ID 20124056348 My Commission Expires Oct 3, 2020	
My commission	

This letter has been provided to you as the owner of a structure on or within two hundred (200) feet of a proposed mine site. The State of Colorado, Division of Reclamation, Mining and Safety ("Division") requires that where a mining operation will adversely affect the stability of any significant, valuable and permanent man-made structure located within two hundred (200) feet of the affected land, the Applicant shall either:

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- b) Where such an agreement cannot be reached, the Applicant shall provide an appropriate engineering evaluation that demonstrates that such structure shall not be damaged by activities occurring at the mining operation; or
- c) Where such structure is a utility, the Applicant may supply a notarized letter, on utility letterhead, from the owner(s) of the utility that the mining and reclamation activities, as proposed, will have "no negative effect" on their utility. (*Construction Materials Rule 6.3.12 and Rule 6.4.19 & Hard Rock/Metal Mining Rule 6.3.12 and Rule 6.4.20*)

The Colorado Mined Land Reclamation Board ("Board") has determined that this form, if properly executed, represents an agreement that complies with Construction Materials Rule 6.3.12(a), Rule 6.4.19(a), and C.R.S. § 34-32.5-115(4)(e) and with Hard Rock/Metal Mining Rule 6.3.12(a), Rule 6.4.20(a), and C.R.S. § 34-32-115(4)(d). This form is for the sole purpose of ensuring compliance with the Rules and Regulations and shall not make the Board or Division a necessary party to any private civil lawsuit to enforce the terms of the agreement or create any enforcement obligations in the Board or the Division.

The following structures are located on or within 200 feet of the proposed affected area:

Industrial Locations (emeter 3. ower and access at 5. (Please list additional structures on a separate page)

The Applicant, Cripple Creek & Victor Gold Mining Company (print applicant/company name), by Jack Henris (print representative's name), as General Manager (print representative's title), does hereby certify that City of Victor (structure owner) shall be compensated for any damage from the proposed mining operation to the above listed structure(s) located on or within 200 feet of the proposed affected area described within Exhibit A, of the Reclamation Permit Application for Cresson Project (operation name), File Number M- 1980_244.

This form has been approved by the Colorado Mined Land Reclamation Board pursuant to its authority under the Colorado Land Reclamation Act for the Extraction of Construction Materials and the Colorado Mined Land Reclamation Act for Hard Rock, Metal, and Designated Mining Operations. Any alteration or modification to this form shall result in voiding this form.

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NOTARY FOR PERMIT APPLICANT	
ACKNOWLEGED BY: Cipple Greek Victor Applicant Gold Mining Co Representative Name	
Date 2/2/2017 Title General Manager	•
STATE OF CULOrado	
COUNTY OF Teller) ss.	
The foregoing was acknowledged before me this Z day of Ebruary, 2017, by Julic Lehnes as General Manager of Comple (Peter & Victor	r
Republic My Commission Expires: 10/03/2020	•
PENNY MARIE ROBERTS Notary Public - State of Colorado Notary ID 20124056348 My Commission Expires Oct 3, 2020	
My Commission Commission	

NOTA	RY	FOR	STRU	CTURE	OWNER

. . .

ACKNOWLEGED BY: Structure Owner <u>City of Victor</u> Name <u>Byron Hakes</u> , Tr Date <u>2/1/17</u> Title <u>Mayor</u> STATE OF <u>Colorado</u> Ss. COUNTY OF <u>TELLER</u>) The foregoing was acknowledged before me this <u>2</u> day of <u>FEBRUMPY</u> , 2017, by Buck Bron Hakes Tr. as <u>Meruor</u> of <u>City of Victor</u> My Commission Expires: <u>FEB</u> 4, 2019 Notary Public	ACKNOWLEGED BY:	Burn Lake .
Date <u>2/1/17</u> Title <u>Mayor</u> STATE OF <u>Colorado</u>) SS. COUNTY OF <u>TELLER</u>) The foregoing was acknowledged before me this <u>2</u> day of <u>FEBRUARY</u> , 20 <u>17</u> , by <u>Buck Byton Hakes Tr.</u> as <u>Mergor</u> of <u>City of Victor</u> . My Commission Expires: FEB <u>4, 2019</u>	Structure Owner City of Victor Name	Byron Hakes, Jr
) ss. COUNTY OF TELLER) The foregoing was acknowledged before me this <u>J</u> day of <u>FEBRUARY</u> , 2017, by <u>Buck Byron Hakes Tr.</u> as <u>Metyor</u> of <u>City of Victor</u> . My Commission Expires: FEB	Date 2/1/17 Title	layor
) ss. COUNTY OF TELLER) The foregoing was acknowledged before me this <u>J</u> day of <u>FEBRUARY</u> , 2017, by <u>Buck Byron Hakes Tr.</u> as <u>Metyor</u> of <u>City of Victor</u> . My Commission Expires: FEB	STATE OF Colorado)	CLAIRE MARIE GREENWOOD
COMPANY My Commission Expires: FEB 4, 2019		STATE OF COLORADO
COMPANIES Mayor of City of Victor.	The foregoing was acknowledged before me this ∂ day of	of FERPUMPY 20 17 by
Notary Public My Commission Expires: FEB 4, 2019	(Buck)Byron Hakes Jr. as Mayor	of <u>City of Victor</u> .
	Notary Public My Commission E	Expires: FEB 4, 2019

CLAIRE MAPIE GREENWOOD INCTARY PUBLIC STATE OF COLORADO NOTARY IO 20184005046 MY COMMISSION EXPIRES (FEBRUAR) & 2013

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This letter has been provided to you as the owner of a structure on or within two hundred (200) feet of a proposed mine site. The State of Colorado, Division of Reclamation, Mining and Safety ("Division") requires that where a mining operation will adversely affect the stability of any significant, valuable and permanent man-made structure located within two hundred (200) feet of the affected land, the Applicant shall either:

- a) Provide a notarized agreement between the Applicant and the Person(s) having an interest in the structure, that the Applicant is to provide compensation for any damage to the structure; or
- b) Where such an agreement cannot be reached, the Applicant shall provide an appropriate engineering evaluation that demonstrates that such structure shall not be damaged by activities occurring at the mining operation; or
- c) Where such structure is a utility, the Applicant may supply a notarized letter, on utility letterhead, from the owner(s) of the utility that the mining and reclamation activities, as proposed, will have "no negative effect" on their utility. (*Construction Materials Rule 6.3.12 and Rule 6.4.19 & Hard Rock/Metal Mining Rule 6.3.12 and Rule 6.4.20*)

The Colorado Mined Land Reclamation Board ("Board") has determined that this form, if properly executed, represents an agreement that complies with Construction Materials Rule 6.3.12(a), Rule 6.4.19(a), and C.R.S. § 34-32.5-115(4)(e) and with Hard Rock/Metal Mining Rule 6.3.12(a), Rule 6.4.20(a), and C.R.S. § 34-32-115(4)(d). This form is for the sole purpose of ensuring compliance with the Rules and Regulations and shall not make the Board or Division a necessary party to any private civil lawsuit to enforce the terms of the agreement or create any enforcement obligations in the Board or the Division.

The following structures are located on or within 200 feet of the proposed affected area:

Heritage Visitor Ce	

The Applicant, Crip	ple Creek & Victor Gold Mining Company	_(print applicant/company name),
by Jack Henris	(print representative's name), as Gener	ral Manager (print
representative's title)	, does hereby certify that <u>City of Cripple Cr</u>	CAR(structure owner) shall
be compensated for a	ny damage from the proposed mining operation to	the above listed structure(s)
	200 feet of the proposed affected area described with	ithin Exhibit A, of the Reclamation
Permit Application f	or Cresson Project	(operation name),
File Number M- 1980	<u>)</u> 244	

This form has been approved by the Colorado Mined Land Reclamation Board pursuant to its authority under the Colorado Land Reclamation Act for the Extraction of Construction Materials and the Colorado Mined Land Reclamation Act for Hard Rock, Metal, and Designated Mining Operations. Any alteration or modification to this form shall result in voiding this form.

NOTARY FOR PERMIT APPLICANT
ACKNOWLEGED BY: Applicant Charles Representative Name ACE (ferris
Applicant Image: Contract of the second se
STATE OF COLORADO)
COUNTY OF TEVER) ss. The foregoing was acknowledged before me this 30 day of UNU 201, by U. I.
Jack Henns as Greneral Manager Cripple Greek & Vidor Gold Mining Co
Notary Rublic My Commission Expires: 10(03/2020
PENNY MARIE ROBERTS Notary Public - State of Colorado Notary ID 20124056348 My Commission Expires Oct 3, 2020

ACKNOWLEGED BY: Structure Owner <u>City of Cripple Creek</u> Name by Ray Mulboin, City Administrator Date January 30, 2017 ______ Title <u>City Administrator</u> STATE OF Colorado)) ss. COUNTY OF Teller The foregoing was acknowledged before me this 304 day of January, 2017, by Raymond & Subol's as City Administrator of City of Cripple Creek My Commission Expires: 8-23-2017 Notary Public

MARGARET REYNA HAZLETT NOTARY PUBLIC STATE OF COLORADO NOTARY ID 20134053577 MY COMMISSION EXPIRES AUGUST 23, 2017

······

This letter has been provided to you as the owner of a structure on or within two hundred (200) feet of a proposed mine site. The State of Colorado, Division of Reclamation, Mining and Safety ("Division") requires that where a mining operation will adversely affect the stability of any significant, valuable and permanent man-made structure located within two hundred (200) feet of the affected land, the Applicant shall either:

- a) Provide a notarized agreement between the Applicant and the Person(s) having an interest in the structure, that the Applicant is to provide compensation for any damage to the structure; or
- b) Where such an agreement cannot be reached, the Applicant shall provide an appropriate engineering evaluation that demonstrates that such structure shall not be damaged by activities occurring at the mining operation; or
- c) Where such structure is a utility, the Applicant may supply a notarized letter, on utility letterhead, from the owner(s) of the utility that the mining and reclamation activities, as proposed, will have "no negative effect" on their utility. (*Construction Materials Rule 6.3.12 and Rule 6.4.19 & Hard Rock/Metal Mining Rule 6.3.12 and Rule 6.4.20*)

The Colorado Mined Land Reclamation Board ("Board") has determined that this form, if properly executed, represents an agreement that complies with Construction Materials Rule 6.3.12(a), Rule 6.4.19(a), and C.R.S. § 34-32.5-115(4)(e) and with Hard Rock/Metal Mining Rule 6.3.12(a), Rule 6.4.20(a), and C.R.S. § 34-32-115(4)(d). This form is for the sole purpose of ensuring compliance with the Rules and Regulations and shall not make the Board or Division a necessary party to any private civil lawsuit to enforce the terms of the agreement or create any enforcement obligations in the Board or the Division.

The following structures are located on or within 200 feet of the proposed affected area:

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out building	
road	
	in the stand with the stand with soin Second with with a state of
	PENNY MARK ROBERTS Notary Public - State of Colorano
(Please	list additional structures on a separate page (100 0) vider
	4 - March Car was a filled the march of the state of the

The Applicant, Cripple Creek & Victor Gold Mining Company (print applicant/company name), by Jack Henris (print representative's name), as General Manager (print representative's title), does hereby certify that $\underline{Trenf+Melissa Lanning}$ (structure owner) shall be compensated for any damage from the proposed mining operation to the above listed structure(s) located on or within 200 feet of the proposed affected area described within Exhibit A, of the Reclamation Permit Application for Cresson Project (operation name), File Number M- 1980_244.

This form has been approved by the Colorado Mined Land Reclamation Board pursuant to its authority under the Colorado Land Reclamation Act for the Extraction of Construction Materials and the Colorado Mined Land Reclamation Act for Hard Rock, Metal, and Designated Mining Operations. Any alteration or modification to this form shall result in voiding this form.

NOTARY FOR PERMIT APPLICANT
ACKNOWLEGED BY: Applicant CBPC Refer & Victor Applicant CBPC Refer & Victor Mining C Representative Name
Date January 30,2077 Title General Manager
STATE OF <u>COORTO</u>) COUNTY OF <u>Teller</u>) ss.
The foregoing was acknowledged before me this day of <u>UNUTH</u> , 2017, by <u>AUCLENNS</u> as <u>TENERA</u> Manager of <u>UNUTH</u> , 2017, by <u>AUCLENNS</u> as <u>TENERA</u> My Commission Expires: <u>10103/2020</u> Notary Public
PENNY MARIE ROBERTS Notary Public - State of Colorado Notary ID 20124056348 My Commission Expires Oct 3, 2020

ACKNOWLEGED BY:
Structure Owner Trent Q Lanning Name In a Man
Date 1-30-17 Title Owner
STATE OF Colorado
COUNTY OF Teller) ss.
The foregoing was acknowledged before me this day of UNUDN, 2017, by
Pur Mine Polio My Commission Expires: 0/03/2020
PENNY MARIE ROBERTS Notary Public - State of Colorado Notary ID 20124056348 My Commission Expires Oct 3, 2020

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ACKNOWLEGED BY:
Structure Owner Melissa R. Langing Name Melissa R. Louis
Date 1- 30- 2017 Title
STATE OF)
COUNTY OF <u>Teller</u>) ss.
The foregoing was acknowledged before me this day of anony, 2017, by MEUSS anninas Owner of
Jumaineroux My Commission Expires: 10/03/2020
Notary Public
PENNY MARIE ROBERTS Notary Public - State of Colorado Notary ID 20124056348 My Commission Expires Oct 3, 2020

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This letter has been provided to you as the owner of a structure on or within two hundred (200) feet of a proposed mine site. The State of Colorado, Division of Reclamation, Mining and Safety ("Division") requires that where a mining operation will adversely affect the stability of any significant, valuable and permanent man-made structure located within two hundred (200) feet of the affected land, the Applicant shall either:

- a) Provide a notarized agreement between the Applicant and the Person(s) having an interest in the structure, that the Applicant is to provide compensation for any damage to the structure; or
- b) Where such an agreement cannot be reached, the Applicant shall provide an appropriate engineering evaluation that demonstrates that such structure shall not be damaged by activities occurring at the mining operation; or
- c) Where such structure is a utility, the Applicant may supply a notarized letter, on utility letterhead, from the owner(s) of the utility that the mining and reclamation activities, as proposed, will have "no negative effect" on their utility. (*Construction Materials Rule 6.3.12 and Rule 6.4.19 & Hard Rock/Metal Mining Rule 6.3.12 and Rule 6.4.20*)

The Colorado Mined Land Reclamation Board ("Board") has determined that this form, if properly executed, represents an agreement that complies with Construction Materials Rule 6.3.12(a), Rule 6.4.19(a), and C.R.S. § 34-32.5-115(4)(a) and with Hard Rock/Metal Mining Rule 6.3.12(a), Rule 6.4.20(a), and C.R.S. § 34-32-115(4)(d). This form is for the sole purpose of ensuring compliance with the Rules and Regulations and shall not make the Board or Division a necessary party to any private civil lawsuit to enforce the terms of the agreement or create any enforcement obligations in the Board or the Division.

 The following structures are located on or within 200 feet of the proposed affected area:

 Road.

 1.

 2.

 3.

 4.

 5.

 (Please list additional structures on a separate page)

The Applicant,	Cripple Creek & Victor Gold Mining Company LLC.	(print a	pplicant/company name),
by Jack Henr	is (print representative's name), as Gene	eral Man	ager (print
representative'	s title), does hereby certify that Providence Mining,		_(structure owner) shall
	d for any damage from the proposed mining operation		ve listed structure(s)
located on or w	ithin 200 feet of the proposed affected area described v	within Exh	ibit A, of the Reclamation
Permit Applica	tion for Cresson Project	. 4	(operation name),
File Number M	_ 1980 _ 244 .		

This form has been approved by the Colorado Mined Land Reclamation Board pursuant to its authority under the Colorado Land Reclamation Act for the Extraction of Construction Materials and the Colorado Mined Land Reclamation Act for Hard Rock, Metal, and Designated Mining Operations. Any alteration or modification to this form shall result in voiding this form.

	NOTARY FOR PERMIT APPLICANT
	ACKNOWLEGED BY: CyppleCreeke Victor
	Applicant Gold Muning Co Representative Name
	Date 21212017 Title General Manceger
	STATE OF alorado
	COUNTY OF Teller) SS.
	The foregoing was acknowledged before me this 2 day of february, 2017, by
1	Leny Mare Polet My Commission Expires: 10/03/2020
	Notary Public
	PENNY MARIE ROBERTS Notary Public - State of Colorado Notary Public - 20124056348
2	Notary Public - State of Colorado Notary ID 20124056348 My Commission Expires Oct 3, 2020
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ACKNOWLEGED BY:	
Structure Owner Providence Mining, LLC. Name	Inplut SHAANON P. MURAH
Date 01/31/2017 Title MA	NAGEC
STATE OF Lolervill)	
COUNTY OF <u>EL PAGO</u>) ss.	
The foregoing was acknowledged before me this 31 ⁶¹ day of <u>Janua</u> <u>ShannenPMU.pm</u> as <u>Manager</u> of <u>Prov</u>	M, 2017, by idence Mining, LLC.
HUCCOM My Commission Expires:	HEATHER MCCLOY NOTARY PUBLIC STATE OF COLORADO NOTARY ID 20164007753 My Commission Expires February 25, 2020
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This letter has been provided to you as the owner of a structure on or within two hundred (200) feet of a proposed mine site. The State of Colorado, Division of Reclamation, Mining and Safety ("Division") requires that where a mining operation will adversely affect the stability of any significant, valuable and permanent man-made structure located within two hundred (200) feet of the affected land, the Applicant shall either:

- a) Provide a notarized agreement between the Applicant and the Person(s) having an interest in the structure, that the Applicant is to provide compensation for any damage to the structure; or
- b) Where such an agreement cannot be reached, the Applicant shall provide an appropriate engineering evaluation that demonstrates that such structure shall not be damaged by activities occurring at the mining operation; or
- c) Where such structure is a utility, the Applicant may supply a notarized letter, on utility letterhead, from the owner(s) of the utility that the mining and reclamation activities, as proposed, will have "no negative effect" on their utility. (*Construction Materials Rule 6.3.12 and Rule 6.4.19 & Hard Rock/Metal Mining Rule 6.3.12 and Rule 6.4.20*)

The Colorado Mined Land Reclamation Board ("Board") has determined that this form, if properly executed, represents an agreement that complies with Construction Materials Rule 6.3.12(a), Rule 6.4.19(a), and C.R.S. § 34-32.5-115(4)(e) and with Hard Rock/Metal Mining Rule 6.3.12(a), Rule 6.4.20(a), and C.R.S. § 34-32-115(4)(d). This form is for the sole purpose of ensuring compliance with the Rules and Regulations and shall not make the Board or Division a necessary party to any private civil lawsuit to enforce the terms of the agreement or create any enforcement obligations in the Board or the Division.

The following structures are located on or within 200 feet of the proposed affected area:

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3	454	
4.	 Manual Andreas Manual Andreas Manual Andreas 	
5		ter inf

V acan thouse and outbuilding.

The Applicant,	Cripple Creek & Victor Gold Mining Company LLC.	(print applicant/company name),
by Jack Henri	s(print representative's name), as _ Gen	eral Manager (print
representative's	title), does hereby certify that Randall M. Stewart	
be compensated	I for any damage from the proposed mining operation	to the above listed structure(s)
located on or w	ithin 200 feet of the proposed affected area described	within Exhibit A, of the Reclamation
Permit Applicat	tion for Cresson Project	(operation name),
File Number M	_ 1980 _ 244	

This form has been approved by the Colorado Mined Land Reclamation Board pursuant to its authority under the Colorado Land Reclamation Act for the Extraction of Construction Materials and the Colorado Mined Land Reclamation Act for Hard Rock, Metal, and Designated Mining Operations. Any alteration or modification to this form shall result in voiding this form.

NOTARY FOR PERMIT APPLICANT

NOTAR	RY FOR PERMIT APPLIC	ANT	11	
GED BY: Ipple Creeks Vid			47	L
12/2017		21	Manad	er
<u>olovado</u>				
Teller)	and			
		uan	2017, by Creekey	ctor
unelster	My Commission Expires:	lan	103/2070). <u>)</u>
Inc. State of Colorado		•		
	GED BY: 1 pple Creeks Vi 2 1 Mining Ca 2 1 2 017 0 0 1 2 0 Teller) ss. Was acknowledged before	GED BY: DP/EC/ECKA VICTOR DP/EC/ECKA VICTOR DP/EC/ECKA VICTOR Title DP/EC/ECA SS. Was acknowledged before me this 2 day of Febr as MARIE ROBERTS My Commission Expires: MARIE ROBERTS My Commission Expires:	MARIE ROBERTS MARIE	GED BY: DP/ECREKAVICTOR PP/ECREKAVICTOR D/2017 Title <u>General</u> Manad OU/200 Teller) was acknowledged before me this ² day of <u>February</u> , 2017, by envs as <u>General</u> Manadof <u>General</u> , by envs as <u>General</u> Manadof <u>General</u> Marie ROBERTS the State of Colorado ANARIE ROBERTS the State of Colorado ANARIE ROBERTS the State of Colorado

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ACKNOWLEGED BY:	21.00
Structure Owner Randall M. Stewart	Name Kn alltes
Date January 31, 2017	Title <u>owver</u>
STATE OF <u>Nevada</u>) COUNTY OF <u>Washoe</u>)ss.	
The foregoing was acknowledged before me this Showdelf Soft asas	s 31 day of January, 2017, by hubic of state of Neva da
Shordel 7 Sett My Co Notary Public	unmission Expires: 3/8/17



This letter has been provided to you as the owner of a structure on or within two hundred (200) feet of a proposed mine site. The State of Colorado, Division of Reclamation, Mining and Safety ("Division") requires that where a mining operation will adversely affect the stability of any significant, valuable and permanent man-made structure located within two hundred (200) feet of the affected land, the Applicant shall either:

- a) Provide a notarized agreement between the Applicant and the Person(s) having an interest in the structure, that the Applicant is to provide compensation for any damage to the structure; or
- b) Where such an agreement cannot be reached, the Applicant shall provide an appropriate engineering evaluation that demonstrates that such structure shall not be damaged by activities occurring at the mining operation; or
- c) Where such structure is a utility, the Applicant may supply a notarized letter, on utility letterhead, from the owner(s) of the utility that the mining and reclamation activities, as proposed, will have "no negative effect" on their utility. (*Construction Materials Rule 6.3.12 and Rule 6.4.19 & Hard Rock/Metal Mining Rule 6.3.12 and Rule 6.4.20*)

The Colorado Mined Land Reclamation Board ("Board") has determined that this form, if properly executed, represents an agreement that complies with Construction Materials Rule 6.3.12(a), Rule 6.4.19(a), and C.R.S. § 34-32.5-115(4)(e) and with Hard Rock/Metal Mining Rule 6.3.12(a), Rule 6.4.20(a), and C.R.S. § 34-32-115(4)(d). This form is for the sole purpose of ensuring compliance with the Rules and Regulations and shall not make the Board or Division a necessary party to any private civil lawsuit to enforce the terms of the agreement or create any enforcement obligations in the Board or the Division.

The following structures are located on or within 200 feet of the proposed affected area: Cripple Creek & Victor Narrow Gauge Railroad tracks.



The Applicant, Cripp	e Creek & Victor Gold Mining Company LLC.	(print applicant/company name),
by Jack Henris	(print representative's name), as Gene	A MARINE AND A MARINE A
representative's title),	does hereby certify that Rexanne Rowe	(structure owner) shall
be compensated for an	y damage from the proposed mining operation to	
located on or within 2	00 feet of the proposed affected area described w	ithin Exhibit A. of the Reclamation
Permit Application for	Cresson Project	(operation name),
File Number M- 1980	244	

This form has been approved by the Colorado Mined Land Reclamation Board pursuant to its authority under the Colorado Land Reclamation Act for the Extraction of Construction Materials and the Colorado Mined Land Reclamation Act for Hard Rock, Metal, and Designated Mining Operations. Any alteration or modification to this form shall result in voiding this form.

NOTARY FOR PERMIT APPLICANT
ACKNOWLEGED BY: CVIDDLE, CHECKE Victor
Applicant Cidlel Minine O Representative Name Luk fun
Date 212/2017 Title General Manager
STATE OF COURDO)
COUNTY OF Teller } ss.
The foregoing was acknowledged before me this day of telonan, 20 17 by
Di Marie Rolut My Commission Expires: 10/03/2020
Notary Public
PENNY MARIE ROBERTS
Notary Public - State of Colorado
Notary ID 20124056348 My Commission Expires Oct 3, 2020

ACKNOWLEGED BY;	
Structure Owner Rexanne Rowe	Name Regarmer Possel
Date 1/31/14/	Title
STATE OF Oul a home)	
COUNTY OF Julga)	
The foregoing was acknowledged before Lexanne Rouse	e mo this 31 ⁵ day of <u>Jeuwary</u> , 20 <u>[7</u> , by of
Ray Jamas	My Commission Expires: <u>57477</u>



<u>Structure Agreement</u>

This letter has been provided to you as the owner of a structure on or within two hundred (200) feet of a proposed mine site. The State of Colorado, Division of Reclamation, Mining and Safety ("Division") requires that where a mining operation will adversely affect the stability of any significant, valuable and permanent man-made structure located within two hundred (200) feet of the affected land, the Applicant shall either:

- a) Provide a notarized agreement between the Applicant and the Person(s) having an interest in the structure, that the Applicant is to provide compensation for any damage to the structure; or
- b) Where such an agreement cannot be reached, the Applicant shall provide an appropriate engineering evaluation that demonstrates that such structure shall not be damaged by activities occurring at the mining operation; or
- c) Where such structure is a utility, the Applicant may supply a notarized letter, on utility letterhead, from the owner(s) of the utility that the mining and reclamation activities, as proposed, will have "no negative effect" on their utility. (*Construction Materials Rule 6.3.12 and Rule 6.4.19 & Hard Rock/Metal Mining Rule 6.3.12 and Rule 6.4.20*)

The Colorado Mined Land Reclamation Board ("Board") has determined that this form, if properly executed, represents an agreement that complies with Construction Materials Rule 6.3.12(a), Rule 6.4.19(a), and C.R.S. § 34-32.5-115(4)(e) and with Hard Rock/Metal Mining Rule 6.3.12(a), Rule 6.4.20(a), and C.R.S. § 34-32-115(4)(d). This form is for the sole purpose of ensuring compliance with the Rules and Regulations and shall not make the Board or Division a necessary party to any private civil lawsuit to enforce the terms of the agreement or create any enforcement obligations in the Board or the Division.

The following structures are located on or within 200 feet of the proposed affected area:

1.					
2.			,		
3,					
4.		· ·			
	•				
5.		(Please list additiona	l structures on a sepa	rate page)	

The Applicant, <u>Cripple Creek & Victor Gold Mining Company</u> (print applicant/company name), by <u>Jack Henris</u> (print representative's name), as <u>General Manager</u> (print representative's title), does hereby certify that <u>El Paso Lode, Inc.</u> (structure owner) shall be compensated for any damage from the proposed mining operation to the above listed structure(s) located on or within 200 feet of the proposed affected area described within Exhibit A, of the Reclamation Permit Application for <u>Cresson Project</u> (operation name), File Number M-¹⁹⁸⁰-²⁴⁴.

This form has been approved by the Colorado Mined Land Reclamation Board pursuant to its authority under the Colorado Land Reclamation Act for the Extraction of Construction Materials and the Colorado Mined Land Reclamation Act for Hard Rock, Metal, and Designated Mining Operations. Any alteration or modification to this form shall result in voiding this form.

NOTARY FOR PERMIT APPLICANT
ACKNOWLEGED BY: Crippe Creeko Victor
Applicant Gold Mining Co Representative Name of the
Date 212/2017 Title General Manager
STATE OF COLOVado
COUNTY OF Teller ss.
The foregoing was acknowledged before me this Z day of Elanon, 2017, by Julion as General Marage of Change Cleak of Victor
Aug Marie Deluto My Commission Expires: 10/03/2020
Notary Public
PENNY MARIE ROBERTS Notary Public - State of Colorado Notary ID 20124056348 My Commission Expires Oct 3, 2020

NOTARI	Y FOR STRUCTURE OWNER
ACKNOWLEGED BY:	
Structure Owner El Paso Lode, In	El Paso Lode Luc Inc. Name Dennis Schoger PIE
<u></u>	Tille Poss
SPATE OF COUCASO	
A CAR NOOUNTY OPTEL PASO)	
hhe ore compared before DENNIS SEPACE 2.154 and 22	re meillis <u>30</u> day of <u>JANUARY</u> , 2017, by SIDENT of <u>EL PASO LODE, INC</u> .
Salandara S	My Commission Baptres: 7-16-20
Kongalabia	
STEEPENNE CAMILAND	
A Norws Public Server of Golorito // /	

This letter has been provided to you as the owner of a structure on or within two hundred (200) feet of a proposed mine site. The State of Colorado, Division of Reclamation, Mining and Safety ("Division") requires that where a mining operation will adversely affect the stability of any significant, valuable and permanent man-made structure located within two hundred (200) feet of the affected land, the Applicant shall either:

- a) Provide a notarized agreement between the Applicant and the Person(s) having an interest in the structure, that the Applicant is to provide compensation for any damage to the structure; or
- b) Where such an agreement cannot be reached, the Applicant shall provide an appropriate engineering evaluation that demonstrates that such structure shall not be damaged by activities occurring at the mining operation; or
- c) Where such structure is a utility, the Applicant may supply a notarized letter, on utility letterhead, from the owner(s) of the utility that the mining and reclamation activities, as proposed, will have "no negative effect" on their utility. (*Construction Materials Rule 6.3.12 and Rule 6.4.19 & Hard Rock/Metal Mining Rule 6.3.12 and Rule 6.4.20*)

The Colorado Mined Land Reclamation Board ("Board") has determined that this form, if properly executed, represents an agreement that complies with Construction Materials Rule 6.3.12(a), Rule 6.4.19(a), and C.R.S. § 34-32.5-115(4)(e) and with Hard Rock/Metal Mining Rule 6.3.12(a), Rule 6.4.20(a), and C.R.S. § 34-32-115(4)(d). This form is for the sole purpose of ensuring compliance with the Rules and Regulations and shall not make the Board or Division a necessary party to any private civil lawsuit to enforce the terms of the agreement or create any enforcement obligations in the Board or the Division.

The following structures are located on or within 200 feet of the proposed affected area:

1. Office Building in Chicago Tunnel Area 2. Storage Building in Chicago Tunnel Area 3. Brick Building, trailer, and access road off CR821 4._____ 5._____

(Please list additional structures on a separate page)

 The Applicant, Cripple Creek & Victor Gold Mining Company (print applicant/company name),

 by Jack Henris (print representative's name), as General Manager (print

 representative's title), does hereby certify that Larry Conley Jr. (structure owner) shall

 be compensated for any damage from the proposed mining operation to the above listed structure(s)

 located on or within 200 feet of the proposed affected area described within Exhibit A, of the Reclamation

 Permit Application for Cresson Project (operation name),

 File Number M-1980_244

This form has been approved by the Colorado Mined Land Reclamation Board pursuant to its authority under the Colorado Land Reclamation Act for the Extraction of Construction Materials and the Colorado Mined Land Reclamation Act for Hard Rock, Metal, and Designated Mining Operations. Any alteration or modification to this form shall result in voiding this form.

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NOTARY FOR PERMIT APPLICANT
ACKNOWLEGED BY: CVIPPIE Creek Victor
Applicant Gold Mining Co Representative Name
Date 2/2/2017 Title General Manager
STATE OF COLOGOD)
COUNTY OF <u>Teller</u>) ^{ss.}
The foregoing was acknowledged before me this 2 ^{Pd} day of February, 2017 by 10.600 as Genated and control of Cupple Check UC.600
Durie Pour My Commission Expires: 10/03/2020
Notary\Public
PENNY MARIE ROBERTS Notary Public - State of Colorado Notary ID 20124056348
My Commission Expires Oct 3, 2020

ACKNOWLEGED BY:	1 111		
Structure Owner	any lity 1/ Nar	ne Larry Conle	YJR
Date /-31-17	Title _		
STATE OF COLON 20	<u>()</u>		
COUNTY OF TELLER	() ss. _)		
The foregoing was acknow	vledged before me this d	Tay of unuary, 2017, 0	y .
Jeen Manet	MA My Commissio	10/ 0/0	02-0
Notary Public		I	
PENNY MARIE ROBERT Notary Public - State of Co Notary ID 2012405634 My Commission Expires Oct	lorado 8		

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This letter has been provided to you as the owner of a structure on or within two hundred (200) feet of a proposed mine site. The State of Colorado, Division of Reclamation, Mining and Safety ("Division") requires that where a mining operation will adversely affect the stability of any significant, valuable and permanent man-made structure located within two hundred (200) feet of the affected land, the Applicant shall either:

- a) Provide a notarized agreement between the Applicant and the Person(s) having an interest in the structure, that the Applicant is to provide compensation for any damage to the structure; or
- b) Where such an agreement cannot be reached, the Applicant shall provide an appropriate engineering evaluation that demonstrates that such structure shall not be damaged by activities occurring at the mining operation; or
- c) Where such structure is a utility, the Applicant may supply a notarized letter, on utility letterhead, from the owner(s) of the utility that the mining and reclamation activities, as proposed, will have "no negative effect" on their utility. (*Construction Materials Rule 6.3.12 and Rule 6.4.19 & Hard Rock/Metal Mining Rule 6.3.12 and Rule 6.4.20*)

The Colorado Mined Land Reclamation Board ("Board") has determined that this form, if properly executed, represents an agreement that complies with Construction Materials Rule 6.3.12(a), Rule 6.4.19(a), and C.R.S. § 34-32.5-115(4)(e) and with Hard Rock/Metal Mining Rule 6.3.12(a), Rule 6.4.20(a), and C.R.S. § 34-32-115(4)(d). This form is for the sole purpose of ensuring compliance with the Rules and Regulations and shall not make the Board or Division a necessary party to any private civil lawsuit to enforce the terms of the agreement or create any enforcement obligations in the Board or the Division.

The following structures are located on or within 200 feet of the proposed affected area: Foundations of former buildings and roads.



(Please list additional structures on a separate page)

 Cripple Creek & Victor Gold Mining Company LLC.
 (print applicant/company name),

 by Jack Henris
 (print representative's name), as General Manager
 (print representative's name), as Ge

This form has been approved by the Colorado Mined Lund Reclamation Board pursuant to its authority under the Colorado Land Reclamation Act for the Extraction of Construction Materials and the Colorado Mined Land Reclamation Act for Hard Rock, Metal, and Designated Mining Operations. Any alteration or modification to this form shall result in voiding this form.

NOTARY FOR PERMIT APPLICANT
ACKNOWLEGED BY:
Applicant Guld Mining & Representative Name allow
Date 2/2/2017 Title General Manager
STATE OF COLOGOD
COUNTY OF Teller) ss.
The foregoing was acknowledged before me this 2 day of telaway, 20 t, by Science Dentis as General Margon Chapter Check Victor
LAMANE POTTO My Commission Expires: 10/03/2000
Notary Public

A. Marris Kirk

PENNY MARIE ROBERTS Notary Public - State of Colorado Notary ID 20124056348 My Commission Expires Oct 3, 2020

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NOTARY FOR STRUC	CTURE OWNER		
	P	·	
& Exploration, LLC. Nam	. Alimple	A	
3/7	Manager	SHAMAN P. MUR	PHY
i			
⊤ SS.			
sed before me this <u>31</u> ⁵⁷ da	y of January, 20	17, by	÷
3 MAN 14 616 ML.	or Murphy Minim	+ Explorations, C CC.	ł
My Commissio	n Expires:		
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	NOTARY PU	BLIC	
	NOTARY ID 20164	007753	
	My Commission Expires Fe	bruary 25, 2020	1
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	& Exploration, LLC. Name	57 Title Managuat 58. ged before me this 31 ⁴⁷ day of <u>Jawuman</u> , 20 5 MANAMAN (Managuat), 20 5 MANAMAN (Managuat), 20 5 MANAMAN (Managuat), 20 5 MANAMAN (Managuat), 20 6 Managuat, 20 7 Managuat, 20 8 Managuat, 20 9 Managuat, 20 9	& Exploration, LLC. Name <u>ManAquar</u> SHAMAD P. MUR 2/7 Title <u>ManAquar</u> 55. 55. 56. 56. 56. 56. 56. 56.

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United States Department of the Interior

BUREAU OF LAND MANAGEMENT Royal Gorge Field Office 3028 East Main Street Cañon City, Colorado 81212



In Reply Refer To: 1990 (COF02000, SSC)

JAN 3 1 2017

Mr. Jack Henris, General Manager Cripple Creek & Victor Gold Mining Company Newmont Mining Corporation P.O. Box 191 Victor, CO 80860

Dear Mr. Henris:

BLM recently received information from Cripple Creek & Victor Gold Mining Company (CC&V) regarding a potential BLM structure located within 200-feet of the proposed affected area for the Cresson Project (M-1980-244) Reclamation Permit Application, along with a request for a signed structure agreement.

After review of the information provided, it has been determined that the "structure" in question appears to be a two track dirt road that is not a documented right-of-way or managed as part of the BLM road inventory.

Please accept this letter of explanation, rather than a signed structure agreement, due to the nature of the road's status and recent BLM discussions with the State of Colorado, Division of Reclamation, Mining and Safety regarding this request.

If you have any questions, please contact Stephanie Carter at 719.269.8551.

Sincerely,

Keith E. Berger Field Manager Royal Gorge Field Office
I, Meg Burt, declare as follows:

 I am Newmont Mining Corporation's ("Newmont") Environmental Manager for the Cripple Creek & Victor ("CC&V") mine site. I have served in this position for approximately one and a half years.

 As Environmental Manager, I oversee all aspects of the 112d(3) Hard Rock/Metal Mining Reclamation Permit Amendment Application, Cresson Project, Permit No. M-1980-244, AM-11 ("Amendment 11").

3. I have worked for Newmont in various operational capacities for 10 years.

4. I make this Affidavit in support of Newmont's compliance with the Department of Natural Resources, Division of Reclamation, Mining and Safety ("DRMS") Rule 6.4.20 EXHIBIT T – Permanent Man-Made Structures for approval of Newmont's application for Amendment 11.

5. Newmont has identified the mobile home on the surface estate of Nicholas A. Wagner as a structure (Drawing C1-a: #39) located within two hundred (200) feet of lands affected by mining operations.

6. Newmont provided the Structure Agreement attached as Exhibit A to Nicholas A. Wagner, the owner of the above-referenced structure, on 2/02/2017 at 12:00pm.

 Nicholas A. Wagner has not provided a response regarding the Structure Agreement.

the structure shall not be damaged by activities occurring at the mining operation. The Engineering Evaluation is attached hereto as Exhibit B.

9. This Affidavit and the attached exhibits demonstrate Newmont's compliance with DRMS Rule 6.4.20 EXHIBIT T.

I declare under penalty of perjury that the foregoing is true and correct and that if called and sworn, I could testify competently thereto.

Executed this 2nd day of February 2017.

STATE OF COLORADO

COUNTY OF TELLER

I hereby certify that on this day before me, an officer duly authorized in the State aforesaid and in the County aforesaid to take acknowledgments, personally appeared Meg Burt, known to me to be the person described in the foregoing instrument, and acknowledge before me that he executed the same.

) ss.

Witness my hand and official seal in the County and State last aforesaid as of this 2nd day of February, 2017.

(SEAL)

PENNY MARIE ROBERTS Notary Public - State of Colorado Notary ID 20124056348 ly Commission Expires Oct 3, 2020

2020

My commission expires:

101071

Notary Pub

80860

I, Meg Burt, declare as follows:

1. I am Newmont Mining Corporation's ("Newmont") Environmental Manager for the Cripple Creek & Victor ("CC&V") mine site. I have served in this position for approximately one and a half years.

 As Environmental Manager, I oversee all aspects of the 112d(3) Hard Rock/Metal Mining Reclamation Permit Amendment Application, Cresson Project, Permit No. M-1980-244, AM-11 ("Amendment 11").

3. I have worked for Newmont in various operational capacities for 10 years.

4. I make this Affidavit in support of Newmont's compliance with the Department of Natural Resources, Division of Reclamation, Mining and Safety ("DRMS") Rule 6.4.20 EXHIBIT T – Permanent Man-Made Structures for approval of Newmont's application for Amendment 11.

5. Newmont has identified the dirt road to a house (Drawing C1-a: #16) as a structure located within two hundred (200) feet of lands affected by mining operations.

6. Newmont provided the Structure Agreement attached as Exhibit A to Lonnie Hamacher, the owner of the above-referenced structure, on 1/26/2017 at 10:00am.

7. Lonnie Hamacher has not provided a response to the Structure Agreement.

8. Given Newmont's failed attempt to obtain a signed Structure Agreement from the structure owner, Newmont is providing herewith an Engineering Evaluation demonstrating that the structure shall not be damaged by activities occurring at the mining operation. The Engineering Evaluation is attached hereto as Exhibit B.

This Affidavit and the attached exhibits demonstrate Newmont's compliance with 9. DRMS Rule 6.4.20 EXHIBIT T.

I declare under penalty of perjury that the foregoing is true and correct and that if called and sworn, I could testify competently thereto.

Executed this 2nd day of February 2017.

Meg Burt

STATE OF COLORADO

COUNTY OF TELLER

I hereby certify that on this day before me, an officer duly authorized in the State aforesaid and in the County aforesaid to take acknowledgments, personally appeared Meg Burt, known to me to be the person described in the foregoing instrument, and acknowledge before me that he executed the same.

) SS.

Witness my hand and official seal in the County and State last aforesaid as of this 2nd day of February, 2017.

(SEAL)

PENNY MARIE ROBERTS Notary Public - State of Colorado Notary ID 20124056348 My Commission Expires Oct 3, 2020

My commission expires:

10103 2020

Notary Public 100

Address

I, Meg Burt, declare as follows:

 I am Newmont Mining Corporation's ("Newmont") Environmental Manager for the Cripple Creek & Victor ("CC&V") mine site. I have served in this position for approximately one and a half years.

 As Environmental Manager, I oversee all aspects of the 112d(3) Hard Rock/Metal Mining Reclamation Permit Amendment Application, Cresson Project, Permit No. M-1980-244, AM-11 ("Amendment 11").

3. I have worked for Newmont in various operational capacities for 10 years.

4. I make this Affidavit in support of Newmont's compliance with the Department of Natural Resources, Division of Reclamation, Mining and Safety ("DRMS") Rule 6.4.20 EXHIBIT T – Permanent Man-Made Structures for approval of Newmont's application for Amendment 11.

5. Newmont has identified the one-story single-family house and driveway (505 Bonanza Ave, Victor) (Drawing C1-a: #21) as structures located within two hundred (200) feet of lands affected by mining operations.

6. Newmont provided the Structure Agreement attached as Exhibit A to Carol Barron, the owner of the above-referenced structures, on 2/1/2017 at 10:00am.

7. Carol Barron has not provided a response to sign the Structure Agreement.

the structures shall not be damaged by activities occurring at the mining operation. The Engineering Evaluation is attached hereto as Exhibit B.

9. This Affidavit and the attached exhibits demonstrate Newmont's compliance with DRMS Rule 6.4.20 EXHIBIT T.

I declare under penalty of perjury that the foregoing is true and correct and that if called and sworn, I could testify competently thereto.

Executed this 2nd day of February 2017.

STATE OF COLORADO COUNTY OF TELLER

I hereby certify that on this day before me, an officer duly authorized in the State aforesaid and in the County aforesaid to take acknowledgments, personally appeared Meg Burt, known to me to be the person described in the foregoing instrument, and acknowledge before me that he executed the same.

) ss.

)

Witness my hand and official seal in the County and State last aforesaid as of this 2nd day of February, 2017.

(SEAL) **PENNY MARIE ROBERTS** Notary Public - State of Colorado Notary ID 20124056348 My Commission Expires Oct 3, 2020

DECA

My commission expires:

10

I, Meg Burt, declare as follows:

1. I am Newmont Mining Corporation's ("Newmont") Environmental Manager for the Cripple Creek & Victor ("CC&V") mine site. I have served in this position for approximately one and a half years.

 As Environmental Manager, I oversee all aspects of the 112d(3) Hard Rock/Metal Mining Reclamation Permit Amendment Application, Cresson Project, Permit No. M-1980-244, AM-11 ("Amendment 11").

3. I have worked for Newmont in various operational capacities for 10 years.

I make this Affidavit in support of Newmont's compliance with the Department of Natural Resources, Division of Reclamation, Mining and Safety ("DRMS") Rule 6.4.20
 EXHIBIT T – Permanent Man-Made Structures for approval of Newmont's application for Amendment 11.

5. Newmont has identified the four monitoring wells and a road (Drawing C1-a: #23 as structures located within two hundred (200) feet of lands affected by mining operations.

6. Newmont provided the Structure Agreement attached as Exhibit A to Marlene J. Chapman, the owner of the above-referenced structures, on 1/27/2017 at 11:25pm.

7. Marlene J. Chapman has declined to sign the Structure Agreement.

8. Given Newmont's failed attempt to obtain a signed Structure Agreement from the structure owner, Newmont is providing herewith an Engineering Evaluation demonstrating that the structures shall not be damaged by activities occurring at the mining operation. The Engineering Evaluation is attached hereto as Exhibit B.

9. This Affidavit and the attached exhibits demonstrate Newmont's compliance with DRMS Rule 6.4.20 EXHIBIT T.

I declare under penalty of perjury that the foregoing is true and correct and that if called and sworn, I could testify competently thereto.

Executed this 2nd day of February 2017.

Meg Burt

STATE OF COLORADO COUNTY OF TELLER

I hereby certify that on this day before me, an officer duly authorized in the State aforesaid and in the County aforesaid to take acknowledgments, personally appeared Meg Burt, known to me to be the person described in the foregoing instrument, and acknowledge before me that he executed the same.

)) ss.

Witness my hand and official seal in the County and State last aforesaid as of this 2nd day of February, 2017.

(SEAL)

PENNY MARIE ROBERTS Notary Public - State of Colorado Notary ID 20124056348 My Commission Expires Oct 3, 2020

My commission expires:

Dec

Address (

I, Meg Burt, declare as follows:

 I am Newmont Mining Corporation's ("Newmont") Environmental Manager for the Cripple Creek & Victor ("CC&V") mine site. I have served in this position for approximately one and a half years.

 As Environmental Manager, I oversee all aspects of the 112d(3) Hard Rock/Metal Mining Reclamation Permit Amendment Application, Cresson Project, Permit No. M-1980-244, AM-11 ("Amendment 11").

3. I have worked for Newmont in various operational capacities for 10 years.

4. I make this Affidavit in support of Newmont's compliance with the Department of Natural Resources, Division of Reclamation, Mining and Safety ("DRMS") Rule 6.4.20 EXHIBIT T – Permanent Man-Made Structures for approval of Newmont's application for Amendment 11.

5. Newmont has identified the mobile home on the surface estate of William Kelley Hakes as a structure (Drawing C1-a: #35) located within two hundred (200) feet of lands affected by mining operations.

6. Newmont provided the Structure Agreement attached as Exhibit A to Nicholas A. Wagner, the owner of the above-referenced structure, on 2/02/2017 at 12:00pm.

 Nicholas A. Wagner has not provided a response regarding the Structure Agreement.

the structure shall not be damaged by activities occurring at the mining operation. The Engineering Evaluation is attached hereto as Exhibit B.

This Affidavit and the attached exhibits demonstrate Newmont's compliance with 9. DRMS Rule 6.4.20 EXHIBIT T.

I declare under penalty of perjury that the foregoing is true and correct and that if called and sworn, I could testify competently thereto.

Executed this 2nd day of February 2017.

STATE OF COLORADO

COUNTY OF TELLER

I hereby certify that on this day before me, an officer duly authorized in the State aforesaid and in the County aforesaid to take acknowledgments, personally appeared Meg Burt, known to me to be the person described in the foregoing instrument, and acknowledge before me that he executed the same.

) ss.

Witness my hand and official seal in the County and State last aforesaid as of this 2nd day of February, 2017.

(SEAL)

PENNY MARIE ROBERTS Notary Public - State of Colorado Notary ID 20124056348 **Commission Expires Oct 3, 2020**

My commission expires:

10/03/2020

Notary P

Address

. 1

I, Meg Burt, declare as follows:

1. I am Newmont Mining Corporation's ("Newmont") Environmental Manager for the Cripple Creek & Victor ("CC&V") mine site. I have served in this position for approximately one and a half years.

 As Environmental Manager, I oversee all aspects of the 112d(3) Hard Rock/Metal Mining Reclamation Permit Amendment Application, Cresson Project, Permit No. M-1980-244, AM-11 ("Amendment 11").

3. I have worked for Newmont in various operational capacities for 10 years.

4. I make this Affidavit in support of Newmont's compliance with the Department of Natural Resources, Division of Reclamation, Mining and Safety ("DRMS") Rule 6.4.20 EXHIBIT T – Permanent Man-Made Structures for approval of Newmont's application for Amendment 11.

5. Newmont has identified the excavation area (Figure C1-a: #25) as a structure located within two hundred (200) feet of lands affected by mining operations.

6. Newmont provided the Structure Agreement attached as Exhibit A to William Perrenten, the owner of the above-referenced structure, on 1/31/2017 at 11:00am.

7. William Perrenten has not provided a response to the Structure Agreement.

8. Given Newmont's failed attempt to obtain a signed Structure Agreement from the structure owner, Newmont is providing herewith an Engineering Evaluation demonstrating that the structure shall not be damaged by activities occurring at the mining operation. The Engineering Evaluation is attached hereto as Exhibit B.

9. This Affidavit and the attached exhibits demonstrate Newmont's compliance with DRMS Rule 6.4.20 EXHIBIT T.

I declare under penalty of perjury that the foregoing is true and correct and that if called and sworn, I could testify competently thereto.

Executed this 2nd day of February 2017.

STATE OF COLORADO

COUNTY OF TELLER

I hereby certify that on this day before me, an officer duly authorized in the State aforesaid and in the County aforesaid to take acknowledgments, personally appeared Meg Burt, known to me to be the person described in the foregoing instrument, and acknowledge before me that he executed the same.

)) ss.

)

Witness my hand and official seal in the County and State last aforesaid as of this 2nd day of February, 2017.

(SEAL) PENNY MARIE ROBERTS Notary Public - State of Colorado Notary 1D 20124056348 My Commission Expires Oct 3, 2020

My commission expires:

otary 100 Address

I, Meg Burt, declare as follows:

 I am Newmont Mining Corporation's ("Newmont") Environmental Manager for the Cripple Creek & Victor ("CC&V") mine site. I have served in this position for approximately one and a half years.

 As Environmental Manager, I oversee all aspects of the 112d(3) Hard Rock/Metal Mining Reclamation Permit Amendment Application, Cresson Project, Permit No. M-1980-244, AM-11 ("Amendment 11").

3. I have worked for Newmont in various operational capacities for 10 years.

4. I make this Affidavit in support of Newmont's compliance with the Department of Natural Resources, Division of Reclamation, Mining and Safety ("DRMS") Rule 6.4.20 EXHIBIT T – Permanent Man-Made Structures for approval of Newmont's application for Amendment 11.

5. Newmont has identified the storage area and two roads (19A and 19B) (Drawing C1-a: #19) as structures located within two hundred (200) feet of lands affected by mining operations.

6. Newmont provided the Structure Agreement attached as Exhibit A to Gold States Mining Corporation, the owner of the above-referenced structures, on 1/26/2017 at 5:09pm.

7. Gold States Mining has not provided a response to sign the Structure Agreement.

the structures shall not be damaged by activities occurring at the mining operation. The Engineering Evaluation is attached hereto as Exhibit B.

 This Affidavit and the attached exhibits demonstrate Newmont's compliance with DRMS Rule 6.4.20 EXHIBIT T.

I declare under penalty of perjury that the foregoing is true and correct and that if called and sworn, I could testify competently thereto.

Executed this 2nd day of February 2017.

STATE OF COLORADO

COUNTY OF TELLER

I hereby certify that on this day before me, an officer duly authorized in the State aforesaid and in the County aforesaid to take acknowledgments, personally appeared Meg Burt, known to me to be the person described in the foregoing instrument, and acknowledge before me that he executed the same.

) ss.

Witness my hand and official seal in the County and State last aforesaid as of this 2nd day of February, 2017.

Address

(SEAL)	PENNY MARIE ROBERTS
(BLAL)	Notary Public - State of Colorado Notary ID 20124056348
	My Commission Expires Oct 3, 2020

Notary Public

My commission expires:

DEDE

I, Meg Burt, declare as follows:

1. I am Newmont Mining Corporation's ("Newmont") Environmental Manager for the Cripple Creek & Victor ("CC&V") mine site. I have served in this position for approximately one and a half years.

 As Environmental Manager, I oversee all aspects of the 112d(3) Hard Rock/Metal Mining Reclamation Permit Amendment Application, Cresson Project, Permit No. M-1980-244, AM-11 ("Amendment 11").

3. I have worked for Newmont in various operational capacities for 10 years.

4. I make this Affidavit in support of Newmont's compliance with the Department of Natural Resources, Division of Reclamation, Mining and Safety ("DRMS") Rule 6.4.20 EXHIBIT T – Permanent Man-Made Structures for approval of Newmont's application for Amendment 11.

5. Newmont has identified the outside storage area and road (Drawing C1-a: #20) as structures located within two hundred (200) feet of lands affected by mining operations.

6. Newmont provided the Structure Agreement attached as Exhibit A to James E. Watson and Sarah R. Watson, the owners of the above-referenced structures, on 1/26/2017 at 5:09pm.

 James E. Watson and Sarah R. Watson has not provided a response to sign the Structure Agreement.

the structures shall not be damaged by activities occurring at the mining operation. The Engineering Evaluation is attached hereto as Exhibit B.

9. This Affidavit and the attached exhibits demonstrate Newmont's compliance with DRMS Rule 6.4.20 EXHIBIT T.

I declare under penalty of perjury that the foregoing is true and correct and that if called and sworn, I could testify competently thereto.

Executed this 2nd day of February 2017.

STATE OF COLORADO

COUNTY OF TELLER

I hereby certify that on this day before me, an officer duly authorized in the State aforesaid and in the County aforesaid to take acknowledgments, personally appeared Meg Burt, known to me to be the person described in the foregoing instrument, and acknowledge before me that he executed the same.

) ss.

Witness my hand and official seal in the County and State last aforesaid as of this 2nd day of February, 2017.

(SEAL)

PENNY MARIE ROBERTS Notary Public - State of Colorado Notary ID 20124056348 **Commission Expires Oct 3, 2020**

My commission expires:

10/03/2020

Notary Public

ON 309 St 1 Address

I, Meg Burt, declare as follows:

1. I am Newmont Mining Corporation's ("Newmont") Environmental Manager for the Cripple Creek & Victor ("CC&V") mine site. I have served in this position for approximately one and a half years.

 As Environmental Manager, I oversee all aspects of the 112d(3) Hard Rock/Metal Mining Reclamation Permit Amendment Application, Cresson Project, Permit No. M-1980-244, AM-11 ("Amendment 11").

3. I have worked for Newmont in various operational capacities for 10 years.

4. I make this Affidavit in support of Newmont's compliance with the Department of Natural Resources, Division of Reclamation, Mining and Safety ("DRMS") Rule 6.4.20 EXHIBIT T – Permanent Man-Made Structures for approval of Newmont's application for Amendment 11.

5. Newmont has identified Mollie Kathleen Road (CR-82), CR 821, CR 81, Beaver Valley Road, Elkton and Cresson Mine road, Shelf road (CR-88), CR 88 near Carlton Tunnel, Road 1, CR 831 and CR 84 (Figure C1-a: # 2 - 7, 37, 43, 44 and 45) - as structures located within two hundred (200) feet of lands affected by mining operations.

6. Newmont provided the Structure Agreement attached as Exhibit A to Teller County, the owner of the above-referenced structures, on 2/26/2017 at 2:00pm.

7. Teller County has not provided a response to sign the Structure Agreement.

the structures shall not be damaged by activities occurring at the mining operation. The Engineering Evaluation is attached hereto as Exhibit B.

 This Affidavit and the attached exhibits demonstrate Newmont's compliance with DRMS Rule 6.4.20 EXHIBIT T.

I declare under penalty of perjury that the foregoing is true and correct and that if called and sworn, I could testify competently thereto.

Executed this 2nd day of February 2017.

Meg Burt

STATE OF COLORADO

COUNTY OF TELLER

I hereby certify that on this day before me, an officer duly authorized in the State aforesaid and in the County aforesaid to take acknowledgments, personally appeared Meg Burt, known to me to be the person described in the foregoing instrument, and acknowledge before me that he executed the same.

) ss.

Witness my hand and official seal in the County and State last aforesaid as of this 2nd day of February, 2017.

(SEAL)

PENNY MARIE ROBERTS Notary Public - State of Colorado Notary ID 20124056348 My Commission Expires Oct 3, 2020

My commission expires:

200

Notary Public

Address

I, Meg Burt, declare as follows:

1. I am Newmont Mining Corporation's ("Newmont") Environmental Manager for the Cripple Creek & Victor ("CC&V") mine site. I have served in this position for approximately one and a half years.

 As Environmental Manager, I oversee all aspects of the 112d(3) Hard Rock/Metal Mining Reclamation Permit Amendment Application, Cresson Project, Permit No. M-1980-244, AM-11 ("Amendment 11").

3. I have worked for Newmont in various operational capacities for 10 years.

4. I make this Affidavit in support of Newmont's compliance with the Department of Natural Resources, Division of Reclamation, Mining and Safety ("DRMS") Rule 6.4.20 EXHIBIT T – Permanent Man-Made Structures for approval of Newmont's application for Amendment 11.

5. Newmont has identified the one-story single-family ranch house, road, and shed (1000 S 4th St, Cripple Creek) (Figure C1-a: #27) as structures located within two hundred (200) feet of lands affected by mining operations.

6. Newmont provided the Structure Agreement attached as Exhibit A to Norman and Diana Puetz, the owners of the above-referenced structures, on 1/31/2017 at 10:00am.

7. Norman & Diana Puetz have not provided a response to the Structure Agreement.

the structures shall not be damaged by activities occurring at the mining operation. The Engineering Evaluation is attached hereto as Exhibit B.

This Affidavit and the attached exhibits demonstrate Newmont's compliance with 9. DRMS Rule 6.4.20 EXHIBIT T.

I declare under penalty of perjury that the foregoing is true and correct and that if called and sworn, I could testify competently thereto.

Executed this 2nd day of February 2017.

STATE OF COLORADO

COUNTY OF TELLER

I hereby certify that on this day before me, an officer duly authorized in the State aforesaid and in the County aforesaid to take acknowledgments, personally appeared Meg Burt, known to me to be the person described in the foregoing instrument, and acknowledge before me that he executed the same.

) ss.

Witness my hand and official seal in the County and State last aforesaid as of this 2nd day of February, 2017.

(SEAL)

PENNY MARIE ROBERTS Notary Public - State of Colorado Notary ID 20124056348 My Commission Expires Oct 3, 2020

Notary Pu

My commission expires:

10103/2020

Address

I, Meg Burt, declare as follows:

1. I am Newmont Mining Corporation's ("Newmont") Environmental Manager for the Cripple Creek & Victor ("CC&V") mine site. I have served in this position for approximately one and a half years.

 As Environmental Manager, I oversee all aspects of the 112d(3) Hard Rock/Metal Mining Reclamation Permit Amendment Application, Cresson Project, Permit No. M-1980-244, AM-11 ("Amendment 11").

3. I have worked for Newmont in various operational capacities for 10 years.

4. I make this Affidavit in support of Newmont's compliance with the Department of Natural Resources, Division of Reclamation, Mining and Safety ("DRMS") Rule 6.4.20 EXHIBIT T – Permanent Man-Made Structures for approval of Newmont's application for Amendment 11.

5. Newmont has identified Colorado HWY 67, and a bridge located thereon, as structures located within two hundred (200) feet of lands affected by mining operations.

6. Newmont provided the Structure Agreement attached as Exhibit A to CDOT, the owner of the above-referenced structures on 1/26/2017 at 2:00pm.

7. CDOT has not provided a response to sign the Structure Agreement.

8. Given Newmont's failed attempt to obtain a signed Structure Agreement from the structure owner, Newmont is providing herewith an Engineering Evaluation demonstrating that the structure shall not be damaged by activities occurring at the mining operation. The Engineering Evaluation is attached hereto as Exhibit B.

9. This Affidavit and the attached exhibit demonstrate Newmont's compliance with DRMS Rule 6.4.20 EXHIBIT T.

I declare under penalty of perjury that the foregoing is true and correct and that if called and sworn, I could testify competently thereto.

Executed this 2nd day of February 2017.

Meg Burt

STATE OF COLORADO)
) ss.
COUNTY OF TELLER)

I hereby certify that on this day before me, an officer duly authorized in the State aforesaid and in the County aforesaid to take acknowledgments, personally appeared Meg Burt, known to me to be the person described in the foregoing instrument, and acknowledge before me that he executed the same.

Witness my hand and official seal in the County and State last aforesaid as of this 2nd day of February, 2017.

(SEAL)

PENNY MARIE ROBERTS Notary Public - State of Colorado Notary ID 20124056348 **Commission Expires Oct 3, 2020**

My commission expires:

(010312

I, Meg Burt, declare as follows:

1. I am Newmont Mining Corporation's ("Newmont") Environmental Manager for the Cripple Creek & Victor ("CC&V") mine site. I have served in this position for approximately one and a half years.

As Environmental Manager, I oversee all aspects of the 112d (3) Hard
 Rock/Metal Mining Reclamation Permit Amendment Application, Cresson Project, Permit No.
 M-1980-244, AM-11 ("Amendment 11").

3. I have worked for Newmont in various operational capacities for 10 years.

4. I make this Affidavit in support of Newmont's compliance with the Department of Natural Resources, Division of Reclamation, Mining and Safety ("DRMS") Rule 6.4.20 EXHIBIT T – Permanent Man-Made Structures for approval of Newmont's application for Amendment 11.

5. Newmont has identified the two-story single-family house and driveway (319 N 6th St, Victor) (Figure C1-a: #22) as structures located within two hundred (200) feet of lands affected by mining operations.

6. Newmont provided the Structure Agreement attached as Exhibit A to Matthew & Leana Herbert, the owners of the above-referenced structures, on 1/27/2017 at 11:00am.

 Matthew & Leana Herbert have not provided a response to sign the Structure Agreement.

the structures shall not be damaged by activities occurring at the mining operation. The Engineering Evaluation is attached hereto as Exhibit B.

9. This Affidavit and the attached exhibits demonstrate Newmont's compliance with DRMS Rule 6.4.20 EXHIBIT T.

I declare under penalty of perjury that the foregoing is true and correct and that if called and sworn, I could testify competently thereto.

Executed this 2nd day of February 2017.

STATE OF COLORADO

COUNTY OF TELLER

I hereby certify that on this day before me, an officer duly authorized in the State aforesaid and in the County aforesaid to take acknowledgments, personally appeared Meg Burt, known to me to be the person described in the foregoing instrument, and acknowledge before me that he executed the same.

) ss.

Witness my hand and official seal in the County and State last aforesaid as of this 2nd day of February, 2017.



My commission expires:

Notary Pub

2080800

. 1

I, Meg Burt, declare as follows:

1. I am Newmont Mining Corporation's ("Newmont") Environmental Manager for the Cripple Creek & Victor ("CC&V") mine site. I have served in this position for approximately one and a half years.

 As Environmental Manager, I oversee all aspects of the 112d(3) Hard Rock/Metal Mining Reclamation Permit Amendment Application, Cresson Project, Permit No. M-1980-244, AM-11 ("Amendment 11").

3. I have worked for Newmont in various operational capacities for 10 years.

4. I make this Affidavit in support of Newmont's compliance with the Department of Natural Resources, Division of Reclamation, Mining and Safety ("DRMS") Rule 6.4.20 EXHIBIT T – Permanent Man-Made Structures for approval of Newmont's application for Amendment 11.

5. Newmont has identified the equipment storage shed and road (Drawing C1-a:#15) as structures located within two hundred (200) feet of lands affected by mining operations.

6. Newmont provided the Structure Agreement attached as Exhibit A to Jeff Regester, the owner of the above-referenced structures, on 1/27/2017 at 9:00am.

7. Jeff Regester has not provided a response to sign the Structure Agreement.

8. Given Newmont's failed attempt to obtain a signed Structure Agreement from the structure owner, Newmont is providing herewith an Engineering Evaluation demonstrating that the structures shall not be damaged by activities occurring at the mining operation. The Engineering Evaluation is attached hereto as Exhibit B.

9. This Affidavit and the attached exhibits demonstrate Newmont's compliance with DRMS Rule 6.4.20 EXHIBIT T.

I declare under penalty of perjury that the foregoing is true and correct and that if called and sworn, I could testify competently thereto.

Executed this 2nd day of February 2017.

Meg Burt

STATE OF COLORADO)
) ss.
COUNTY OF TELLER)

I hereby certify that on this day before me, an officer duly authorized in the State aforesaid and in the County aforesaid to take acknowledgments, personally appeared Meg Burt, known to me to be the person described in the foregoing instrument, and acknowledge before me that he executed the same.

Witness my hand and official seal in the County and State last aforesaid as of this 2nd day of February, 2017.

(SEAL)

PENNY MARIE ROBERTS Notary Public - State of Colorado Notary ID 20124056348 My Commission Expires Oct 3, 2020

 $\frac{100 \text{ N. St}}{\text{Address}}$

My commission expires:

1

I, Meg Burt, declare as follows:

 I am Newmont Mining Corporation's ("Newmont") Environmental Manager for the Cripple Creek & Victor ("CC&V") mine site. I have served in this position for approximately one and a half years.

 As Environmental Manager, I oversee all aspects of the 112d(3) Hard Rock/Metal Mining Reclamation Permit Amendment Application, Cresson Project, Permit No. M-1980-244, AM-11 ("Amendment 11").

3. I have worked for Newmont in various operational capacities for 10 years.

 I make this Affidavit in support of Newmont's compliance with the Department of Natural Resources, Division of Reclamation, Mining and Safety ("DRMS") Rule 6.4.20
 EXHIBIT T – Permanent Man-Made Structures for approval of Newmont's application for Amendment 11.

5. Newmont has identified the Cripple Creek & Victor Narrow Gauge Railroad (Figure C-1a: #32) as a structure located within two hundred (200) feet of lands affected by mining operations.

6. Newmont provided the Structure Agreement attached as Exhibit A to Laura and Jim Birmingham, the owners of the above-referenced structures, on 1/19/2017 at 11:00am.

7. Laura and Jim Birmingham have not provided a response / have declined to sign the Structure Agreement.

the structure shall not be damaged by activities occurring at the mining operation. The Engineering Evaluation is attached hereto as Exhibit B.

9. This Affidavit and the attached exhibits demonstrate Newmont's compliance with DRMS Rule 6.4.20 EXHIBIT T.

I declare under penalty of perjury that the foregoing is true and correct and that if called and sworn, I could testify competently thereto.

Executed this 2nd day of February 2017.

STATE OF COLORADO

COUNTY OF TELLER

I hereby certify that on this day before me, an officer duly authorized in the State aforesaid and in the County aforesaid to take acknowledgments, personally appeared Meg Burt, known to me to be the person described in the foregoing instrument, and acknowledge before me that he executed the same.

) ss.

Witness my hand and official seal in the County and State last aforesaid as of this 2nd day of February, 2017.

(SEAL)

PENNY MARIE ROBERTS Notary Public - State of Colorado Notary ID 20124056348 My Commission Expires Oct 3, 2020

My commission expires:

1013/2020

Address

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Attachment T-2 – CNI Backup information for Slope Stability of North Mines

Attachment T-2 – CNI Backup information for Slope Stability of North Mines

Design Sector	Recommended Interramp Slope Angle	Mining Area	Design Control	Bench (S/D)	<u>Design Parame</u> Mean Catch- Bench Width (ft)	<u>ters^{1,2}</u> Mean Bench- Face Angle	Comments
1	30°	WHEX and Schhist Island portion of North Cresson	Global	S	40.4	60°	Foliation Dips Towards Excavation
2	52°	Schist Island portion of North Cresson	Bench	D	34.6	74°	
3	46°	Schist Island portion of North Cresson	Bench	D	43.5	71°	
4	39°	Globe Hill portion of North Cresson	Global	S	23.0	60°	Weak Globe Hill Pipe Zone
5	40°	Globe Hill portion of North Cresson	Global	S	21.5	60°	Weak Globe Hill Pipe Zone
6	44°	Globe Hill portion of North Cresson	Global	S	19.9	65°	Weak Globe Hill Pipe Zone
7	38°	Globe Hill portion of North Cresson	Global	S	24.6	60°	Weak Globe Hill Pipe Zone
8	51°	Globe Hill portion of North Cresson	Bench	D	35.3	73°	
9	40°	Globe Hill portion of North Cresson	Global	S	21.5	60°	Weak Globe Hill Pipe Zone
10	53°	Globe Hill and WHEX portion of North Cresson	Bench	D	37.9	78°	
11	51°	Globe Hill and WHEX portion of North Cresson	Bench	D	37.9	75°	
12	50°	WHEX portion of North Cresson	Bench	D	40.0	75°	
13	40°	WHEX portion of North Cresson	Bench	D	57.9	70°	
14	45°	WHEX portion of North Cresson	Bench	D	44.5	70°	

Table 1-1. Recommended Interramp Slope Angles

1. Slopes should be designed and excavated to the mean catch-bench widths and bench-face angles listed above. After excavation, back break along the bench crests will reduce the catch-bench widths to the required 80 percent reliability of achieving 26 feet for double benching and 19 feet for single benching for sectors controlled by back break.

2. A mid-bench offset of 8 feet was assumed for double benching based on previous experience at Cripple Creek. If the offset created between benches during mining is greater than 8 feet, inadequate catch-bench widths will be achieved. The offset can be completely avoided by drilling the pre-split row the full double bench height in a single pass.

3. Slopes mined in dump, fill, colluvium, or weathered material should be mined at a continuous 34° slope.



CALL & NICHOLAS, INC.

2475 N. Coyote Drive Tucson, Arizona 85745 U.S.A.

 Tel:
 520.670.9774

 Fax:
 520.670.9251

 E-Mail:
 cni@cnitucson.com

<u>Principals</u> P. F. Cicchini, P.E. T. M. Ryan, P.E. R. C. Barkley, P.E.

MEMORANDUM

То:	Mr. Erik Munroe \ Cripple Creek & Victor (CCV) Ms. Poppy Staub \ Geosyntec Consultants, Inc.
Cc:	Mr. Jofreé Durán \ Cripple Creek & Victor (CCV)
From:	Mr. Scott Cylwik $\$ Call & Nicholas, Inc. (CNI) Mr. Ross Barkley $\$ Call & Nicholas, Inc. (CNI)
Date:	31 October 2016
Subject:	Responses to October 2016 DRMS Adequacy Review of Cripple Creek & Victor Amendment 11

1.0 INTRODUCTION

This memorandum presents the Call & Nicholas, Inc. (CNI) responses to the second adequacy review comments from the Colorado Division of Reclamation, Mining and Safety (DRMS) regarding the 2015 CNI technical report titled "Geotechnical Slope Recommendations for the North Area Underground Mining Areas." The CNI report was assembled as part of CCV's Mined Land Reclamation Permit M-1980-244 / Amendment 11 application. This memorandum was requested by Mr. Erik Munroe of CCV.

The only second round DRMS comment applicable to the CNI report is number 30b. The original DRMS comments and the CNI responses are detailed below. Some of the figures from the 2015 CNI report were updated for this memorandum. The same figure numbers from the original report were used for simplicity of comparison.

2.0 QUESTIONS AND RESPONSES

30b. <u>Appendix 5 – Scope and Purpose Clarification</u>. The response confirms the purpose of Appendix 5 is to satisfy the requirements of Rule 1.5. However, the response fails to demonstrate the Division's stated Factors of Safety pursuant to Rule 6.5(3) are or will be met with respect to Teller County Road 82. Please address the following:

CALL & NICHOLAS, INC.

- (i) <u>Attachment 8 (September 2016 submittal)</u>. The CNI Figure 6-18 Section GH-4 Global Analysis and Geology (Looking NW) depicts a failure surface with a "FOS = 1.52". The failure surface daylights on the opposite side of Teller County Road 82 from the high wall in question, indicating the road itself has a FOS less than 1.52. The response to Comment 31.b (second bullet) states "CNI agrees that a FOS of 1.5 for failure mechanisms that may impact critical structures is appropriate, provided no prior experience has been gained in historical mining of slopes in rocks with the same rock mass characteristics and strengths... " where "...CNI advocates for a minimum FOS of 1.3..." This response does not explicitly offer any "historical mining" that would support the acceptance of a FOS less than 1.5 for this area. Please provide analysis results for a failure surface daylighting on the slope side of County Road 82 and if it is less than 1.5, provide support that historical mining has provided appropriate testing of similar rock for characteristics and strengths to achieve a FOS of at least 1.3.
- <u>Attachment 8 (September 2016 submittal)</u>. The CNI Figure 6-32 Section GH-6 Global Analysis and Geology (Looking NE) depicts a failure surface which daylights a considerable distance on the opposite side of Teller County Road 82 from the high wall in question, indicating the road itself may have a FOS considerably less than 2.219. Again referring to the response to Comment 31.b (second bullet), please provide analysis results for a failure surface daylighting on the slope side of County Road 82 and if it is less than 1.5, provide support that historical mining has provided appropriate testing of similar rock for characteristics and strengths to achieve a FOS of at least 1.3.

RESPONSE: The original reported slip surfaces and factors of safety in Figures 6-18 and 6-32 were the lowest factors of safety identified during the study. When the cross sections were analyzed for stability, the factors of safety for hundreds of different trial slip surfaces were analyzed. These slip surfaces all had different entry points, exit points, and radius of curvature (depth). Hundreds of analyzed trial slip surfaces were located both in front of and behind County Road 82. For clarity and simplicity, only the critical (lowest) factor of safety values and the corresponding slip surfaces were plotted on Figures 6-18 and 6-32. These are the slip surfaces shown in red.

To demonstrate factor of safety values for different slip surface entry points, the entry point was fixed at various locations along the crest of sections GH-4 and GH-6. Hundreds of potential slip surfaces were analyzed with these fixed entry points, and the resulting slip surfaces with the lowest factors of safety were then optimized. The resulting shear surfaces from this exercise are plotted in purple on the attached revised Figures 6-18 and 6-32. As can be seen in the figures, all resulting trial optimized slip surfaces are above a factor of safety of 1.50 both in front of and behind the county road. The only exception to this is the fully saturated case for cross section GH-6. However, CNI considers this case to be conservative and unlikely under actual field conditions. Experience at CCV has shown that water from precipitation is transient and is transmitted downward below the proposed mining levels to the extensive network of historic underground workings.

CALL & NICHOLAS, INC.
























Attachment T-3 – Blasting Information, Monitoring Data and Results

Attachment T-3 – Blasting Information, Monitoring Data and Results

To: Greg Lewicki From: Gary Horton Date 1/31/17 Re: Blast Monitoring Overview at CC&V

Brief description of original design

The Cresson Project is delineated into 4 primary pits called the Main, South, East (includes WHEX), and North (Globe Hill and Schist Island). From 1995-2016 10 blast attenuation studies have been performed to establish scale distances that predict within a 95% confidence interval a value that will prevent ground motion velocities from exceeding the permit level of 0.5" per second at a non-company owned structure.

Pre-Blast surveys

Pre-blast surveys have been performed at the request of the private citizen over the years since the Cresson Project has been in operation. The pre-blast survey is performed by a third party consultant and consists of the consultant taking video documentation of the residence both inside and outside and provides narrative of any and all structural issues found in the process of the review. Three copies are made, one copy to the homeowner, one to CC&V, and one to the State of Colorado. In Fall of 2016, South Cresson was being considered for development. As a pro-active step CC&V mailed all Victor residents an offer for pre-blast surveys. Over 30 surveys were completed.

Monitoring Stations

CC&V has 7 monitoring stations currently in operation (see Figure 1). The two compliance monitors are Victor City Hall and the "Flowershop" in the City of Victor. These monitors have been in place since 1997. In addition CC&V has two monitors at private residences in Victor and Goldfield. These monitors were placed at the homeowners request and have been in place intermittently since 2011 and fulltime since 2013. The Ajax monitor is the closest monitor to the Main Cresson (this pit is closest to Victor and Goldfield) and has been an optional monitor and can be removed at CC&V's discretion. It has been in operation also since 1997. The Goldfield City Hall monitor is in place to monitor ground vibration at the historic structure. CC&V monitors at this site as a benefit to the community. The Deadhorse monitor on the Deadhorse Claim is located on Tenderfoot Hill overlooking Cripple Creek. This monitor is a baseline monitor and monitors the attenuation from the WHEX shots. It also provides CC&V ground motion information that can be used to extrapolate PPV at one residence 300' to the west.

Monitoring is generally 24hr and all monitors are on line or solar power. 24 hr monitoring provides CC&V with information that may or may not corroborate citizen's concerns.

Historically peak particle velocities are well below the permit limit 0.5 ips (inch per second). CC&V monitors are set to trigger at 0.05 ips which is 10 times lower than the limit. The lowest threshold for human perception is 0.02 ips. Statistically, peak particle velocity has generally been between 0.06 ips – 0.1 ips measured at the Flowershop compliance monitor. Victor City Hall in the last 10 years has rarely triggered suggesting strong attenuation.

Resonant frequencies of most homes in Cripple Creek and Victor are generally between 2-20 Hz therefore, in addition to measuring PPV, close attention is paid to these frequencies. Most frequencies are in the higher end of the range when events are recorded. That said, blasting events generally last 1-2 sec unlike earthquakes whose durations are considerably longer and cause considerable damage.

Air overpressure is measured if the geophone is triggered. Values measured in Db(L) are generally in the 90-115 Hz range well below the pressure to break windows or other damage. This is not to say that these values don't shake pictures or rattle windows.

Complaint/Concerns

Complaints and concerns are all dealt with on a case by case basis and recorded in a central database or historically a file in the SER administrative office. All complaints or concerns are dealt with corresponding with the individual as to what was nature of the concern, what they felt, what time they felt it, and any other observations were of concern. SER personnel contact management and the Blasting Crew and alerts them of the communication. SER personnel collect data from the monitors closest to the affected party to see if the monitor triggered and recorded an event. If the monitor registered, that report will be sent to the blast dept. and management for review. Additional data will be compiled. This will include meteorological data, blast pattern, scale distance, direction of relief, home orientation, stopes, underground workings, etc. to determine if there are any other possible contributing factors that may have caused the concern.

Damage to Structures

In the 20 years of the Cresson Project there have been a handful of allegations of structural damage to existing structures. Monitoring instruments, conversely, have never registered any event that would suggest blasting events contributed to structural damage placed against the OSMRE, Bureau of Mines limits.

Current blasting patterns are reviewed and designed for a scale distance of 120 well above the threshold for potentially incurring damage to a residence (see Matheson attachments)

It should be noted that 99% of the private residences in Victor were built from 1894-1899 and on post and pillar foundations.



Figure 1: Seismic monitoring locations around the CC&V Mine.

Summary of Ground Vibration Attenuation Studies for

Cripple Creek & Victor Gold Mining Company

Matheson mining Consultants, Inc. conducted seven Ground Motion Attenuation Studies between May 1997 and February 2004. Below is a summary of the studies. Each Study incorporated a statistically valid data sample of test blasts and the Scaled Distance reported is to not exceed 0.50 inches per second with a 95% probability.

Site	Scaled Distance	Date
AJAX Test Site	47.6	May 1997
Ridge Road	34.0	May 1997
Leach Pad Construction	n 13.4	October 1997
North Cresson	43.8	February 2000
East Cresson - A	34.1	February 2004
East Cresson – B	32.4	February 2004
East Cresson –C	31.4	February 2004

The Leach Pad Construction test site data is not applicable to modeling production blasting. The AJAX scaled distance has proven to be extremely conservative when measured against the on-going monitoring program. The MLE-2 mining area is most closely associated with the North East Cresson test area.



December 22, 2011

Mr. Timm Comer Manager, Environmental Resources Cripple Creek & Victor Gold Mining Company P. O. Box 191 Victor, CO 80860

Re: Ground Motion Attenuation Studies: Cresson Project Mine Life Extension 2

Dear Mr. Comer,

Matheson Mining Consultants, Inc. (MMC) has completed a technical evaluation of the proposed mining areas as part of Cripple Creek & Victor Gold Mining Company's (CC&V) Cresson Project Mine Life Extension 2 (MLE2) Project as it relates to current blasting and monitoring programs at the Cresson Project. The current production blast monitoring program and conclusions presented and approved from previous evaluations conducted at the Cresson Project are sufficient for the proposed mining areas presented within the MLE2 Project at the Cresson Project.

MMC has conducted seven separate Ground Motion Attenuation Studies for CC&V at the Cresson Project. CC&V had two similar studies completed by Vibra-Tech Engineers prior to 1997. Those studies were conducted to develop site-specific scaled distance criteria for each mining area. Those site-specific scaled distances criteria remain valid for the proposed mining areas associated with the proposed MLE2 Project. Summaries of those studies are attached to this evaluation. The various studies show a high degree of consistency and the ground vibrations created by the production blasting at the Cresson Project have never exceeded the peak particle velocities predicted by the studies. Slight variations in ground motion attenuation have been noted in varying directions and varying production blasting locations. All of the principle directions from production blasting areas toward residential structures have been studied and ongoing production blast vibration monitoring has confirmed the conclusions of the studies. Further ground motion attenuation studies are not warranted for development of the proposed mining areas associated with the MLE 2 Project.

CC&V has had an on-going monitoring program in place where five or more seismographs are set out and monitor every production blast at various points of concern surrounding the Cresson Project. Peak particle velocities measured at the closest occupied non-mine owned structure have never exceeded 33% of the current permit level and typically are less than 20% of the permit level of 0.5 inches per second (IPS) of ground vibration. All blast vibrations data that have been measured at the closest off-site structure during production blasting at the Cresson Project have been in compliance with United States Bureau of Mines Report of Investigations 8507, Colorado Department of Natural Resources Division of Reclamation, Mining and Safety and all mining permits. Compliance with the blast vibration regulations precludes any probability of damage to even the most sensitive structural elements in homes including historically significant structures.

MMC has conducted periodic reviews of the blast vibration and air overpressure monitoring program, and all subsequent data obtained from those programs. The instrumentation used for production blast monitoring has been annually calibrated and meets or exceeds industry standards. Field procedures are consistent and thorough and meet or exceed the guidelines outlined by the International Society of Explosives Engineers and the United States Bureau of Mines. Complaints that may be received from production blasts at the Cresson Project are investigated and seismographs are deployed at complainant structures to quantify potential production blast effects at those individual structures.

CC&V has a unique situation, a large production mine in a historic mining district with towns relatively close to the mining activity. CC&V goes above and beyond regulatory compliance to document all potential production blast effects on neighboring structure, investigate and respond to complaints and proactively work toward minimizing effects from blasting activity. The ongoing monitoring program is more than sufficient to document potential blast effects and demonstrate compliance with all permit constraints as part of CC&V proposed MLE2 Project.

Sincerely,

- M. Matheron

Colin M. Matheson, President



January 20, 2016

Mr. Erik Munroe Newmont Cripple Creek & Victor Gold Mine 100 Victor Avenue Victor, CO 80860

Re: Blasting and vibration levels at Molly Kathleen Mine

Dear Mr. Munroe;

Seven blast vibration studies have been conducted at Cripple Creek and Victor Gold Mining Company (CC&V). Years of vibration measurement has demonstrated compliance with non-damage standards and has confirmed the predictions in the Ground Motion Attenuation Studies. The study that was conducted closet to the Mollie Kathleen Mine resulted in the following equation:

$PPV = 313.3(SD)^{-1.825}$

Using a not to exceed Peak Particle Velocity (PPV) of 2.0 inches per second (ips), a conservative vibration limit for underground openings, the resulting Scaled Distance is 15.95. It is very likely that this Scaled Distance is overly conservative but with no underground vibration data measured at CC&V to utilize it is the best data available. It is not unusual to see PPV limits of 4 ips or greater to protect underground workings.

The closest distance from the Mollie Kathleen underground drifts to the projected approach of underground mining at in the Chicago Tunnel Mine is approximately 250 feet so the resulting maximum allowable charge weight would be 245.7 lbs. per delay.

The maximum charge weight per 8 millisecond delay used in a surface burn pattern of 2200 lbs. would require the distance to be no less than 749 feet. Below is Table 1. Showing Distance and Maximum Charge Weight per 8 millisecond delay period for a SD of 15.95. The closest anticipated surface blasting to the Molly Kathleen underground workings is 1,135 feet. Using the above equation, the maximum allowable charge weight per 8 millisecond delay period would be 5063.7 lbs. which is far in excess of the maximum anticipated surface blasting charge weight of 2200 lbs.

Distance (ft)	Max. Charge Weight (lbs.)
250	245.7
280	308.2
320	402.5
360	509.4
400	628.9
440	761.0
480	905.7
520	1062.9
560	1232.7
600	1415.1
640	1610.0
680	1817.6
720	2037.7
760	2270.4
800	2515.7
840	2773.5
880	3044.0
920	3327.0
960	3622.6
1000	3930.8
1135	5063.7

Table 1: Charge weight per 8 millisecond delay versus distance for SD=15.95

It is recommended that vibration measurements be conducted underground at varying distances from both underground and surface blasting to collect site specific data to modify the equation above. It is not possible to collect such data until underground mining commences.

A PPV limit of 0.5 inches per second is advisable to limit blast effects on surface structures. The Scaled Distance for a 95% confidence using the above equation is 34.09. As demonstrated in table 2. At 1,135 feet the maximum allowable charge weight per 8 millisecond delay is 1108.5 lbs.

Table 2: Charge weight per 8 millisecond delay period for SD=34.09

Distance (ft)	Max. Charge Weight (lbs.)
360	111.5
400	137.8
440	166.6
480	198.3
520	232.7
560	269.8
600	309.8

640	352.5
680	397.9
720	446.1
760	497.0
800	550.7
840	607.2
880	666.4
920	728.3
960	793.0
1000	860.5
1135	1108.5

The above Scaled Distances (15.95 and 34.09) as mentioned are conservative. Collection of data both underground and on the surface form both types of blasting (underground and surface) will allow modification of the equation used and would likely result in higher charge weights per 8 millisecond delay to be detonated. Using the two PPV (2.0 for underground workings and 0.50 for surface structures) precludes any probability of damage to the relevant structures. Therefore proposed underground blasting from the Chicago Tunnel Mine and surface blasting from the North Cresson Mine will not adversely affect the Mollie Katthleen Tourist Mione underground workings or surface structures.

Sincerely,

Sincerely,

P. M. Matheren

Colin M. Matheson, President, Matheson Mining Consultants, Inc.

Attachment T-4 – Table T-1 Cresson Project Structural Agreement Listing -Entities requiring structure agreements

		Table T-1 - Cresson Project Structural Agreement Listing - Entities requiring structure agreements			
	Note: Many structures owned by CC&V are not include See Map C-1a for locations of a				
Structure(s) as shown on Map C-1a	Entity Owner	Structure(s) Description	Structure Agreement/Dama Waiver Status (Pending vs. Approved)		
1	City of Cripple Creek	Heritage Visitor Center	Approved		
2	Teller County	Mollie Kathleen Road (CR82)	Awaiting response		
3	Teller County	CR821	Awaiting response		
4	Teller County	CR81	Awaiting response		
5	Teller County	Beaver Valley Road	Awaiting response		
6	Teller County	Elkton and Cresson Mine road	Awaiting response		
7	Teller County	CR88 (shelf road)	Awaiting response		
8	CDOT	Colorado HWY 67, including bridge	Awaiting response		
9	City of Victor	Light Industrial Shell Buildings	Approved		
10	City of Victor	dump road	Approved		
11	City of Victor	dirt road (Tejon Ranch Rd) & cemetery	Approved		
12	BLM	dirt two track road	Refused		
13	Providence Mining, LLC.	road	Approved		
14	Murphy Mining & Exploration, LLC.	foundations of former buildings and roads	Approved		
15	Jeff Regester	equipment storage shed and road	Awaiting response		
16	Lonnie Hamacher	dirt road to house	Awaiting response		
17	Trent & Melissa Lanning	1 story single family house, out building, road	Approved		
18	Randall M. Stewart	vacant house and out building	Approved		
19	Gold States Mining Corp.	storage area and road (2 locations 19A and 19B)	Awaiting response		
20	James E. Watson and Sarah R. Watson	outside storage area and road	Awaiting response		
21	Carol Barron	1 story single family house and driveway	Awaiting response		
22	Matthew & Leana Herbert	2 story single family house and driveway	Awaiting response		
23	Marlene J. Chapman	monitoring wells (4x) and road	Refused		
24	El Paso Lode, Inc. (previously Shiloh Plain, Inc.)	road to excavation area	Approved		
25	William Perreten	excavation area	Awaiting response		
26	Rexanne Rowe	Cripple Creek & Victor Narrow Gauge Railroad tracks.	Approved		
27	Norman and Diana Puetz	1 story single family ranch house, road, and shed or barn	Awaiting response		
28	CC&V (previously Katinka Mining Corp.)	road	CC&V		
29	CC&V	Monitoring well VIN 2B-140 on land owned by David J. Pescador	CC&V		
30	CC&V (previously Jessie Frost)	storage structures, containers, and road	CC&V		
31	CC&V (previously Daniel and Elizabeth Rosenbaum)	road	CC&V		
32	Laura and Jim Birmingham	Cripple Creek &Victor Narrow Gauge Railroad	Awaiting response		
33	Conley Construction	Brick building, trailer, access road	Approved		
34	CC&V	Substation owned by Black Hills Energy	Approved		
35	William Kelley Hakes	Access road, outbuildings	Awaiting response		
36	Conley Construction	Storage Bldg on CC&V Property	Approved		
37	Teller County	Road 1	Awaiting response		
38	City of Victor	Emergency Services Radio Tower and access road at Little Grouse Mountain	Awaiting response		
39	Nicholas A. Wagner	Mobile home on surface estate of William Kelley Hakes	Awaiting response		
40	Conley Construction	Office BLDG on CC&V Property	Approved		
41	CC&V	CC&V road 1	CC&V		
42	CC&V	cabin	CC&V		
43	Teller County	CR 88 near Carlton Tunnel	Awaiting response		
44	Teller County	County Road 831	Awaiting response		
45	Teller County	County Road 84	Awaiting response		
46	Black Hills Energy	electricity lines	Approved		
47	Century Link	phone lines	Approved		
48	CC&V City of Victor	fiber optic cables	Approved		