

# CRIPPLE CREEK AND VICTOR GOLD MINING COMPANY: WEED MANAGEMENT REPORT

January 2018

*Prepared for:*

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## CONTENTS

Introduction.....	1
Permitting and Regulations.....	1
Pesticide Licensing and Applicator Requirements .....	1
Herbicide Application Records.....	2
Summary of Weed Management Activities.....	2
Discussion of Treatment Areas.....	3
Noxious Weed Survey and Data Collection .....	4
Treatment Locations Overview.....	4
Considerations and Recommendations for 2017 weed control.....	7
Conclusions.....	8

## Tables

Table 1: Noxious Weed Species Treated During 2017.....	1
Table 2: Summary of Herbicide Application Records.....	3

## Attachments

Attachment A: Herbicide Application Records .....	attachment
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## CC&V 2017 Integrated Weed Management Report

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### INTRODUCTION

Habitat Management, Inc. (Habitat Management) performed noxious weed management and ground sterilization activities at Cripple Creek & Victor Gold Mine (CC&V Gold Mine) for Newmont Mining Corporation during the 2017 growing season. Two herbicide treatment sessions were scheduled to treat weed species within the property boundary and surrounding locations. Weed species treated in 2017 are listed in Table 1.

Table 1: Noxious Weed Species Treated During 2017

Common Name ( <i>Latin Name</i> )	Common Name ( <i>Latin Name</i> )
Bull thistle ( <i>Cirsium vulgare</i> )	Dalmatian toadflax ( <i>Linaria dalmatica</i> )
Canada thistle ( <i>Cirsium arvense</i> )	Musk thistle ( <i>Carduus nutans</i> )
Common mullein ( <i>Verbascum thapsus</i> )	Yellow toadflax ( <i>Linaria vulgaris</i> )

### PERMITTING AND REGULATIONS

Habitat Management maintains compliance with the Colorado Water Quality Control Act and the Colorado Discharge Permit System (CDPS) for herbicide applications made to or near waters of the U.S. Habitat Management complies with the applicator responsibilities outlined in the CDPS Pesticide General Permit (PGP) and meets the requirements for record keeping and annual reporting. Habitat Management maintains records of linear feet sprayed to aquatic areas as defined by the PGP and keeps the total linear feet on file for annual threshold determination and reporting. Thresholds were not exceeded at CC&V Gold Mine during 2017 treatments, thus CDPS annual reporting isn't required.

#### ***Pesticide Licensing and Applicator Requirements***

Habitat Management conducted noxious weed control treatments under the state of Colorado Qualified Supervisor Applicator ID number 29724 held by Matthew Clark. Additionally, herbicides were applied by technicians trained in plant species identification, herbicide application, and pesticide safety. Applicator technician training is required by the state and is documented annually. Training records are kept for three years by Habitat Management and are available for Colorado Department of Agriculture inspections.

Federal law requires Commercial Pesticide Applicators follow all herbicide label requirements including restrictions on lands in which products can be applied to, application rates, and applicable Personal Protective Equipment (PPE). Herbicide applicators followed the Worker Protection Standards (WPS) enforced by the EPA. Herbicide labeling and Safety Data Sheets (SDS) were approved before herbicide products were brought onto CC&V Gold Mine property, and all herbicide labels and SDS pertaining to the herbicides applied at CC&V Gold Mine were available during the application process.

Under the Endangered Species Act, Commercial Pesticide Applicators are required to check monthly for herbicide treatment restrictions for counties that they operate in prior to commencing applications. There were no herbicide restrictions in place during the months of June and August for Teller County. Therefore, an Endangered Species Protection Bulletin is not required to be kept in the applicator's records.

### ***Herbicide Application Records***

The Colorado Department of Agriculture's regulations require Licensed Commercial Applicators maintain accurate pesticide application records for all herbicides applied. Application records must be retained by Habitat Management for a minimum period of three years and must include eleven requirements set forth by the Colorado Department of Agriculture's Rules and Regulations pertaining to the Administration and Enforcement of the Pesticide Applicators' Act. Application records were kept for all treatments implemented at CC&V Gold Mine and are included in Attachment A: Herbicide Application Records.

### **SUMMARY OF WEED MANAGEMENT ACTIVITIES**

All applicators were MSHA Part 46 & 48 trained prior to beginning work on the property, and applicators were trained by the Newmont Mining Environmental group as part of the annual contractor on-boarding program.

Habitat Management used Best Management Practices to prevent the potential spread of noxious weeds at CC&V Gold Mine. Herbicides were spot applied using Stihl SG20 backpack sprayers and a Kubota UTV-mounted spray rig. Equipment was cleaned prior to and after treatment activities, and equipment was calibrated prior to application and periodically checked during the application process. Herbicides were applied to reclaimed rangeland, disturbed areas, ephemeral drainageways, and dam faces and building perimeters. Equipment was triple rinsed between changing herbicide products.

A variety of herbicide combinations were used to target the specific growth characteristics of noxious and nuisance weed species present within CC&V Gold Mine property and surrounding areas. Herbicides with different active ingredients were combined to optimize treatment effectiveness on targeted plant species. Only broadleaf selective herbicides were chosen to treat noxious weed species within reclaimed rangeland and disturbed areas. Broadleaf selective herbicides have a very low potential for injury to surrounding desirable grass species. Herbicide application rates were carefully chosen to effectively treat plants while staying in compliance with recommended label rates for the target species. Herbicide combinations were varied from products applied at CC&V Gold Mine in 2016. Changing herbicide's "modes of action" each year will deliver the most consistent control, while minimizing the potential for herbicide resistance in targeted species and reducing chemical build up within the soil. A surfactant was used during all applications to increase leaf adhesion and absorption in dusty or wet conditions. Hi-Light Blue Indicator Dye was added for safety and as a visual aid for tracking applications which helps prevent under or over application of herbicides to targeted areas.

The locations of noxious weeds treated in 2017 were recorded using GPS Dataloggers, and specific information on the various species treated and their location is provided to Newmont Mining Corporation in shapefile format. Herbicide application records were filled out daily for all treatments performed. Application records include the date and time applications took place, names of applicators, what area the treatment occurred at, what products were applied, product application rates, targeted species, and current weather conditions. An Application Records Summary was compiled from field herbicide application records as an overview for treatment operations and is provided in Table 2. Note, cumulative acres treated, and the number of gallons applied are based off calibrated spray equipment. The total number of acres surveyed is the areas covered during the treatment process.

## CC&V 2017 Integrated Weed Management Report

Table 2: Summary of Herbicide Application Records

Areas Treated	Chemicals Applied	Application Rates in fluid ounces (fl oz) and weight ounce per acre and per gallon	Target Species	Cumulative Area Treated with Herbicide (acres)	Approximate Cumulative Area Surveyed (acres)
Phase 5, Phase 1	Milestone VM	6 fl oz/acre	Canda thistle, common mullein, dalmatian toadflax, musk thistle, yellow toadflax	1.25	110
	Overdrive	4 weight oz/acre			
	Weedestroy AM40	32 fl oz/acre			
	Induce	16 fl oz/acre			
	Hi- Light Blue Dye	16 fl oz/acre			
Lower Phase 5, ADR2, Squaw Gulch, Altman Backfill Slope	Milestone VM	6 fl oz/acre	Canada thistle, common mullein, dalmatian toadflax, musk thistle	1.50	
	Overdrive	4 weight oz/acre			
	Weedestroy AM40	32 fl oz/acre			
	Induce	16 fl oz/acre			
	Hi- Light Blue Dye	16 fl oz/acre			
Phase 2	Transline	10 fl oz/acre	Canada thistle, common mullein, dalmatian toadflax, musk thistle	2	
	Overdrive	4 weight oz/acre			
	Weedestroy AM40	32 fl oz/acre			
	Induce	16 fl oz/acre			
	Hi- Light Blue Dye	16 fl oz/acre			
ADR Transformer	Garlon 3A	1.5 fl oz/gallon	All vegetation	0.03	
	Viewpoint	1.6 fl oz/gallon			
	Induce	0.5 fl oz/gallon			
Miss Beard's, Gold Camp Trail, Ajax Road	Transline	10 fl oz/acre	Canada thistle, common mullein, dalmatian toadflax, musk thistle, yellow toadflax	3.00	
	Overdrive	4 weight oz/acre			
	Weedestroy AM40	32 fl oz/acre			
	Induce	16 fl oz/acre			
	Hi- Light Blue Dye	16 fl oz/acre			
Midway Fuel Island, Ironclad Warehouse, Crusher, Phase 1, Gold Storage Facility, Laboratory	Ranger Pro	156 fl oz/acre	All vegetation, Ground Sterilent	1.50	
	Viewpoint	18 weight oz/acre			
	MSO	51 fl oz/acre			
	Hi- Light Blue Dye	16 fl oz/acre			
Squaw Gulch, Carlton Stockpile, Battle Mountain, Altman Backfill, Ajax Road	Transline	10 fl oz/acre	bull thistle, Canada thistle, common mullein, dalmatian toadflax, musk thistle, yellow toadflax	4.25	
	Overdrive	4 weight oz/acre			
	Weedestroy AM40	32 fl oz/acre			
	Induce	16 fl oz/acre			
	Hi- Light Blue Dye	16 fl oz/acre			
Total Number of Area Treated (acres)				13.53	

### DISCUSSION OF TREATMENT AREAS

An Integrated Weed Management Program (IWMP) that includes prevention of noxious weed infestations, monitoring of noxious weed outbreaks, and alternative control strategies were reviewed. Chemical control of noxious and nuisance weeds was chosen as the most effective way to manage infestations at CC&V Gold Mine. Herbicide applications were scheduled to treat biennial noxious weeds prior to flowering, thus maximizing herbicide efficiency and minimizing seed production. Perennial/rhizomatous noxious weeds were treated while plants were actively growing, which is when herbicides are readily translocated into the plants root system. Spot-applications were used on targeted weeds, thereby minimizing herbicide impacts on desirable vegetation. A ground sterilant was applied around the electrical substation, transformers, and building perimeters where vegetation growth poses a fire and operational hazard. A non-selective broad-spectrum herbicide was added for faster knockdown of all vegetation that may have been growing in the treatment area. In addition, methylated seed oil was added to aid the ground sterilant in penetrating the ground surface. This application was broadcast through handheld spray guns using the Kubota UTV-mounted spray rig and backpack sprayer units.

Two treatment sessions were scheduled during the 2017 growing season to help manage weeds at acceptable levels required for the Newmont Mining Corporation's reclamation program. Noxious weed treatments were implemented to contain wide spread infestations and potentially eradicate isolated occurrences. Treatments were also implemented on new infestations that were not recently surveyed or treated by Habitat Management from previous years.

Noxious weeds were treated in accordance with the state of Colorado's rules and regulations regarding noxious weed control. The focus of the treatment sessions in 2017 were to locate and treat List "A" and List "B" species. The Colorado Noxious Weed Program states that land owners and land managers in Colorado are required to eradicate all List "A" species. No List "A" noxious weeds were located at CC&V Gold Mine during 2017 applications. The Colorado Noxious Weed Program also states that, in consultation with the state noxious weed advisory committee, local governments, and other interested parties, land owners and land managers develop and implement state noxious weed management plans designed to stop the continued spread of all List "B" species. Furthermore, land owners and managers are encouraged to develop and implement state noxious weed management plans for all List "C" species on private and public lands. List "C" species were treated where noxious weeds were currently impacting desirable vegetation communities within reclaimed areas of the mine.

### ***Noxious Weed Survey and Data Collection***

Noxious and nuisance weed locations were identified by Gary Horton and treatment priorities were given to each area before herbicide applications were performed. Additionally, information about previously treated areas by Habitat Management was used to provide locations of historic infestations. Over time, Habitat Management has collected survey data and developed a GIS database to track these weed infestations. This GIS database is updated annually to track infestations as herbicide applications take place. GIS data collected during 2017 treatments was collected using GPS Datalogger software that simultaneously records treatments as they are performed.

ArcMap 10.5.1 was used to post process the GIS data collected during each treatment. Treatment data was then compiled into shapfile format and submitted to CC&V Gold Mine. This data provides a record of known infestations and identifies new infestations. The data is a great resource that can be used in 2018 to direct the field crew to new treatment areas. Habitat Management surveyed approximately 110 acres of land in 2017, and herbicides were applied to 13.53 acres of weed infestations.

### ***Treatment Locations Overview***

Two treatment sessions were performed in the 2017 growing season. The first treatment session was implemented June 26 through June 29, 2017; and the second treatment session was implemented August 2 through August 4, 2017. Treatments concentrated on areas of reclamation, road corridors, topsoil stockpiles, hiking trail systems, and areas that are considered high vectors for weeds to spread. Herbicide applications were performed around Phase 1, Phase 2, and Phase 5, Altman Backfill, Carlton Topsoil Stockpile, Squaw Gulch, ADR2, Mrs. Beard's, Gold Camp Trail, and Poverty Gulch. A ground sterilant was applied around the Midway Fuel Island, Ironclad Warehouse perimeter and electrical transformers, the Crusher area, Phase 1 electrical transformers, Laboratory electrical transformers, and the Gold Storage Facility building electrical transformers and facility perimeters.

Treatments begin along Ajax Road from Battle Mountain trail system parking lot to the upper mine office facility buildings. Treatments were performed along the Ajax's road corridor in 2015 and 2016, however; treatments implemented in 2017 were much more extensive and extended away from the road corridor. Further treatments focused on reclamation slopes sounding the Battle Mountain trail and above County Road 81 were extensive Canada thistle treatments were performed in 2016. Additional, applications were performed along the Battle Mountain trail corridor to the road fork and bolder barricades. Habitat Management has not treated this area during previous years operations, and there were moderate infestations of common mullein and Dalmatian toadflax along the trail. Common mullein infestations extended down to the lower slopes of the trail and were left untreated.

The Altman backfill slope was treated from the northwest corner to the main haul road. Care was taken while treating noxious weeds on the upper west corner where tree seedlings had been planted on the west Altman slopes. 2017 applications concentrated on the upper and lower sections of the slope where extensive Canada thistle infestations were treated in 2016. Isolated, dense musk thistle infestations and minor Dalmatian toadflax infestations were also treated on the reclamation slope. There was no noticeable reduction in the extent or density of infestation treated on the Altman slope compared to treatments performed in the same areas in 2016. Canada thistle, common mullein and musk thistle infestations continued to populate mid sections of the Altman slope, and were left untreated due to accessibility of treatment equipment and budget time restraints.

Extensive treatments were performed at the Carlton Topsoil Stockpile during the 2015 growing season to target dense infestations of common mullein. Moderate treatments were implemented in this area during the 2017 growing season. Treatments performed in 2017 concentrated on the utility road that accesses the upper topsoil stockpile and the east facing slope. Areas were treated for moderate to high density populations of common mullein, which infested much of the east and southeast facing slopes. Isolated, dense Canada thistle infestations were scattered along mid-section of slope, and sporadic musk thistle infestations were confined to the toe of east facing slope and around utility powerlines. There was a noticeable reduction in the density in areas of common mullein infestations that had been treated on the east facing slope, compared to areas that had not been treated as extensively in the past. Approximately 2/3 of the east facing slope was treated, the southeast, south, and southwest facing slopes were left untreated due to time restraints.

Phase 2 slope utility road sides and slopes below the Highway 67 Viaduct bridge were treated for sporadic infestations of common mullein, Dalmatian toadflax, and musk thistle. Periodic, sparsely populated infestations of Canada thistle were treated on the utility road sides leading below the Highway 67 Viaduct bridge to the lower Phase 2 valley. Extensive herbicide applications were performed in these area during spring 2016 treatments, where herbicide applications targeted dense Canada thistle populations. There was a reduction in the density of Canada thistle infestation compared to last year, and in some locations Canada thistle infestations were eradicated. The Phase 1 area had not been treated by Habitat Management during previous years operations. Treatments focused on the utility road leading away from Phase 3 that runs adjacent to Highway 64. Treatments also focused on the Highway 64 and Phase 2 access gateway and the two-track ramp accessing the utility road above the gateway. Extensive, dense infestations of common mullein occupied most of the disturbed and non-disturbed areas above the Highway 64 and Phase 2 access gateway. Extensive musk thistle populations were also treated in this area. Dense infestations of Dalmatian toadflax and common mullein continued along the utility road berm to the lower Phase 2 area, and these infestations were also treated. The upper and lower Phase 5 slope was treated for

moderately, dense infestations of Canada thistle, common mullein, Dalmatian toadflax, musk thistle, and yellow toadflax. Minor infestations of common mullein were treated on the upper Phase 5 slope pumphouse terrace, and along the lower Phase 5 two track road above the main mine facility buildings. These areas were treated extensively during 2015 and 2016 applications, and there was a noticeable reduction in the density of noxious weeds treated in these areas in 2017 compared to herbicide applications performed there during previous years treatments. The mid Phase 5 slope was left untreated due to accessibility of treatment equipment and budget time restraints.

The ADR2 reclamation slope along Highway 67 was treated in 2016 and more extensive treatments were performed in 2017. Sporadic infestations of Canada thistle, common mullein, Dalmatian toadflax, and musk thistle were treated along the reclamation slope. Moderately dense infestations of common mullein were treated in the southwest corner and the west side of the main facilities buildings. Common mullein infestations spread along the west side of the main facilities buildings were left untreated in 2016, and more densely populated infestation of common mullein were persistent in 2017. An ephemeral ditch draining off Highway 67 below ADR2 and on the west side of the dam embankment was identified in 2016 as containing extremely dense infestations of common mullein. The ditch was treated using backpack sprayers because of its steep aspect and accessibility. The ditch was retreated in 2017 for moderate infestations of common mullein, and treatments performed in 2017 were more extensive throughout the ditch area and the slope face.

Applications continued in the upper and lower Squaw Gulch area. Treatments began at the top of Squaw Gulch around the sediment ponds. This area was treated extensively in 2016, and a reduction in the density of common mullein infestations was apparent. The surrounding area and ephemeral drainageway basin stretching from the sediment ponds to County Road 88 was treated for infestations of musk thistle, and isolated patches of Canada thistle. Infestations of musk thistle were extensive, and spread across much of the east side of the ephemeral drainageway and utility powerline corridor. These infestations were left untreated due to time restraints. The utility road corridor embankments and the two-track road on the upper west side of the drainageway, which accesses utility powerlines, was treated extensively for widespread densely populated infestations of common mullein and musk thistle. Applications in the Squaw Gulch area concluded with herbicide treatments being performed around the Squaw Gulch road triangle and the County Road 88 road side. The road side along the west side of County Road 88, and next to Cripple Creek, had not been previously treated by Habitat Management. Densely populated Canada thistle and musk thistle infestations were extensive throughout this area. Infestations that extend away from the road side corridor and along Cripple Creek channel were left untreated. Musk thistle plants in the Squaw Gulch area were coming into full flower at the time treatments were implemented.

Mrs. Beards reclamation area was treated extensively in 2016, and extensive treatments continued in 2017 to target dense common mullein and Dalmatian toadflax stands that had populated much of the upper Mrs. Beards slopes. Isolated Canada thistle and musk thistle infestations were treated around the reclamation area and the lower Mrs. Beards valley swale. There was a noticeable reduction in the density of infestations surveyed in 2017 compared to infestations identified and treated during 2016. Noxious weeds infestations in the upper Mrs. Beards Valley and below the railway line were left untreated.

Habitat Management treated areas along the Gold Camp Trail, and utility road corridor from the bone yard below the Gold Camp Trail head to the upper mining area. This area was treated



predominantly for yellow toadflax and common mullein infestations. Yellow toadflax infestations that had established amongst aspen groves were left untreated. This area has not been treated by Habitat Management in previous treatments, and wide spread infestations were extensive in most of the Poverty Gulch area.

Ground sterilization activities were performed on June 29, 2017 and consisted of treatments made in new and historic areas around the mine. Habitat Management was escorted to each treatment area to apply ground sterilant as a pre-emergent, and Glyphosate as a post-emergent treatment to eliminate vegetation around these facilities. A higher application rate than 2016 rates was used to treat substation perimeters in 2017. In some locations, vegetation had grown back into areas designated for bare ground and retreatments were necessary. A 25-foot buffer was treated around transformers and a bare ground buffer was sprayed around building perimeters and other structures identified for treatment by Newmont electrical and environmental personnel.

### **CONSIDERATIONS AND RECOMMENDATIONS FOR 2017 WEED CONTROL**

Concentrated herbicide treatments should continue within similar locations until noxious weed infestations are at acceptable levels of control. Reclamation, topsoil stockpiles, and frequently visited road corridors and trail system networks should also be considered when prioritizing treatment priorities. Concentrating treatments to areas where previous treatments have taken place will help eradicate noxious weeds prior to infestation establishment. Additionally, eliminating infestations prior to establishment will encourage the desired plant community to flourish within the reclamation. Herbicide treatments are recommended to be scheduled in mid-June 2018 and again in late July 2018, prior to plants setting seed.

In areas of reclamation, native vegetation is already abundant. Care was taken while treating reclamation areas during previous years treatment, and as a result desirable vegetation has become more prolific. Continuing to control noxious weeds using selected herbicides and careful treatments methods will eradicate weed species and in turn allow more desirable native vegetation to continue to grow. Herbicide combinations should be changed from 2017 applications to minimize potential chemical resistance in plant species and chemical buildup within the soil. Chemicals will be carefully selected for optimum effectiveness on the identified species present at CC&V Gold Mine, while staying in compliance with herbicide rates and labeling. Habitat Management recommends 2018 treatment areas be prioritized based on the following conditions:

- 1) Colorado State Listed A, B, and C noxious weed species
- 2) Infestation levels
- 3) Potential to spread.

Colorado State listed weed species will be targeted by their designated treatment priorities assigned by the state's and/or county treatment program. Priority of treatment will also focus on each plant species' growth habits and characteristics, and potential to establish large, uncontrollable populations within a short period of time. During 2017 applications, five List "B" species (bull thistle, Canada thistle, Dalmatian toadflax, musk thistle, and yellow toadflax) were mapped and treated inside the property boundary and surrounding areas of the mine. Canada thistle, Dalmatian toadflax, common mullein, and musk thistle were the most prominent species treated during 2017. Canada thistle and Dalmatian toadflax Are List "B" species and should be of the highest concern due to their aggressive growth characteristics. Furthermore, musk thistle is a prolific seed producer, and can out compete desirable vegetation. Common mullein is a List "C" species and

not required by the state for eradication or to stop the continued spread of this species, however; common mullein was rampant over much of the areas treated, and densely populated infestations were impacting the establishment of desirable vegetation in reclamation and non-disturbed areas.

Infestation levels can be measured by evaluating population extent and density. Infestations can then be ranked for priority of treatment based on these parameters. Most of the infestations treated in 2017 were moderate to high density, and infestations were widely dispersed. Widespread and densely populated infestations will be treated from the outside, and from the upper most part of the slope to contain infestations from extending further into reclamation and non-disturbed areas. Treatments should also be concentrated on low-level infestations for potential eradication in 2018. Widespread and densely populated infestations were most noticeable in reclamation areas on the Carlton Topsoil Stockpile, Ajax road sides and sounding areas, Phase 5, Phase 1, Squaw Gulch, Mrs. Beards, and the Gold Camp Trail. Moderate level infestations were predominately located along around Phase 2 and Battle Mountain trail system.

The potential for infestations to spread will be determined by inspecting each species' impact to surrounding areas. Infestations in areas with a high potential to spread by means of water, wind, equipment, vehicular and foot traffic are given the highest priority. The Carlton Topsoil Stockpile, Ajax Road, and the ADR2 drainageway from County Road 67 that flows into Squaw Gulch and eventually into Cripple Creek are considered a high priority of treatment due to their availability to spread noxious weeds to surrounding areas. The is of high priority of control. Infestation that boarder one another potential for infestations to spread from one location to the next by means of wind and water movement, and it is anticipated that re-establishment will occur unless the entire infestations is treated. This is apparent in Phase 5 and the Aultman back fill where 2015, 2016, and 2017 applications have only partly treated the overall infestations. Furthermore, noxious weed infestations were persistent in other mining and reclamation areas around the property and these infestations were left untreated in 2017. It is expected that these untreated infestations will continue to infest post-treated areas.

## CONCLUSIONS

Road corridors, topsoil stockpiles, and drainageways continue to be high vectors for weeds to spread around the property. It has been identified in this report that priority areas for 2018 treatments will include the Carlton Topsoil Stockpile, Ajax road side and sounding areas, Phase 5 upper and lower areas, Phase 2 area, and Mrs. Beards. There was a noticeable decline in the density and extent of infestations treated in these areas, and treatments should continue to concentrate on these areas where infestations have the potential to be eradicated through persistent herbicide application. List "B" and List "C" species were dominate on CC&V Gold Mine property where daily operations occur, and by the surrounding trail head and trail systems that are visited by numerous vehicles and foot traffic. Persistent treatments performed in these reclamation and disturbed areas will suppress infestations levels and reduce the chances for weeds to spread to other areas of the mine. However, treatments that are implemented in areas where noxious weeds have the means to spread have the potential to outcompete treatment efforts. Partial treatments in these areas are not an effective form of treatment, and a more thorough, long-term control strategy at CC&V Gold Mine should be considered. Priority areas for treatment should include the Altman Backfill, the Phase 5 Slope, and Squaw Gulch. Areas such as building perimeters and transformers that received ground sterilization treatment in 2016 and 2017, should be inspected again in 2018

## **CC&V 2017 Integrated Weed Management Report**

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to determine if sterilization treatments are required to prevent germination of undesirable vegetation, and eradicate existing vegetation.

Furthermore, GIS mapping of infestations and noxious weed locations will assist in prioritizing areas for future treatment operations, and help to track the progress of these applications made from one year to the next. Timing of herbicide applications continues to be a key strategy for control, and by prioritizing treatment locations, herbicides applications will continue to be an effective tool in helping Newmont Mining Company establish a healthy plant community.

## **CC&V 2017 Integrated Weed Management Report**

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### **Attachment A: Herbicide Application Records**

**Habitat Management, Inc.**  
**Commercial Herbicide Applicator (CO #11318)**  
**Herbicide Application Record**



**Location:** Cresson Project - CC&V Gold Mine      **County:** Teller County

Phase 5 & Phase 1

**Date:** 6/27/2017 9:35 AM to 4:00 PM

**Customer:** Newmont Mining Corporation 100 N. 3rd St. Victor, CO 80860

**Qualified Supervisor:** Matt Clark #29724

**Applicators:** Matt Clark, Stacey Birlson, Drew Gramer

**Weather:** Sunny 78 degrees F.    **Wind:** 2 mph out of NW

**Site/Crop:** Rangeland

**Target Plants:** Mullen, common - Verbascum thapsus - List C, Thistle, Canada - Cirsium arvense - List B, Thistle, Musk - Carduus nutans - List B, Toadflax, Dalmatian - Linaria dalmatica/genistifolia- List B, Toadflax, Yellow- Linaria vulgaris - List B

**Application Equipment:** Orange Kubota #2    **Application Method:** Spot-Spraying    **Carrier:** Water

Herbicide Applied	Application Rate	Total Amount Applied	Dilution Rate
Induce - Adjuvant	16 fl oz per acre	20 fl oz	0.40 fl oz per gallon
Spray Indicator - Blue Dye	16 fl oz per acre	20 fl oz	0.40 fl oz per gallon
Milestone - 62719537 - Aminopyralid	6 fl oz per acre	7.5 fl oz	0.15 fl oz per gallon
Overdrive - 7969150 - Diflufenzopyr	4 Oz (weight) per acre	5 Oz (weight)	0.10 Oz (weight) per gallon
Weedestroy AM40 - 228145 - 2,4-D	32 fl oz per acre	40 fl oz	0.80 fl oz per gallon

**Total Application:** 1.25 acre

**NPDES COMPLIANCE (Only Applicable to Aquatic Sites)**

**Aquatic site:** No

Use Pattern: Weeds and Algae

Is equipment properly calibrated?

Did you conduct visual monitoring for adverse incidents?

Were any adverse incidents identified?

**Habitat Management, Inc.**  
**Commercial Herbicide Applicator (CO #11318)**  
**Herbicide Application Record**



**Location:** Cresson Project - CC&V Gold Mine      **County:** Teller County

Lower Phase 5, ADR2, Squaw Gulch

**Date:** 6/28/2017 7:33 AM to 3:00 PM

**Customer:** Newmont Mining Corporation 100 N. 3rd St. Victor, CO 80860

**Qualified Supervisor:** Matt Clark #29724

**Applicators:** Matt Clark, Stacey Birlson, Drew Gramer

**Weather:** Clear 47 degrees F.    **Wind:** 1 mph out of NW

**Site/Crop:** Disturbed Area

**Target Plants:** Mullen, common - Verbascum thapsus - List C, Thistle, Canada - Cirsium arvense - List B, Thistle, Musk - Carduus nutans - List B, Toadflax, Dalmatian - Linaria dalmatica/genistifolia- List B

**Application Equipment:** Orange Kubota #2    **Application Method:** Spot-Spraying    **Carrier:** Water

Herbicide Applied	Application Rate	Total Amount Applied	Dilution Rate
Induce - Adjuvant	16 fl oz per acre	24 fl oz	0.40 fl oz per gallon
Spray Indicator - Blue Dye	16 fl oz per acre	24 fl oz	0.40 fl oz per gallon
Milestone - 62719537 - Aminopyralid	6 fl oz per acre	9 fl oz	0.15 fl oz per gallon
Overdrive - 7969150 - Diflufenzopyr	4 Oz (weight) per acre	6 Oz (weight)	0.10 Oz (weight) per gallon
Weedestroy AM40 - 228145 - 2,4-D	32 fl oz per acre	48 fl oz	0.80 fl oz per gallon

**Total Application:** 1.5 acre

Treated lower Phase 5 utility road and main facilities area.

**NPDES COMPLIANCE (Only Applicable to Aquatic Sites)**

**Aquatic site:** No

Use Pattern: Weeds and Algae

Is equipment properly calibrated?

Did you conduct visual monitoring for adverse incidents?

Were any adverse incidents identified?

**Habitat Management, Inc.**  
**Commercial Herbicide Applicator (CO #11318)**  
**Herbicide Application Record**



**Location:** Cresson Project - CC&V Gold Mine      **County:** Teller County

Midway Fuel Island, Ironclad Warehouse, Crusher, Phase 1, Gold Storage Facility, Laboratory

**Date:** 6/29/2017 6:30 AM to 3:00 AM

**Customer:** Newmont Mining Corporation 100 N. 3rd St. Victor, CO 80860

**Qualified Supervisor:** Matt Clark #29724

**Applicators:** Matt Clark, Stacey Birlson, Drew Gramer

**Weather:** Sunny 50 degrees F.    **Wind:** 1 mph out of NW

**Site/Crop:** Electrical Station

**Target Plants:** All Vegetation (Bare Ground Treatment)

**Application Equipment:** Orange Kubota #2    **Application Method:** Spot-Spraying    **Carrier:** Water

Herbicide Applied	Application Rate	Total Amount Applied	Dilution Rate
Ranger Pro - 524517 - Glyphosate	156 fl oz per acre	234 fl oz	3.90 fl oz per gallon
Viewpoint - 352847 - Imazapic	18 Oz (weight) per acre	27 Oz (weight)	0.45 Oz (weight) per gallon
MSO - Adjuvant	51 fl oz per acre	76.5 fl oz	1.28 fl oz per gallon
Spray Indicator - Blue Dye	16 fl oz per acre	24 fl oz	0.40 fl oz per gallon

**Total Application:** 1.5 acre

Applied ground sterilant around electrical transformers to 25 feet if necessary, propane tanks, and property building perimeters.

**NPDES COMPLIANCE (Only Applicable to Aquatic Sites)**

**Aquatic site:** No

Use Pattern: Weeds and Algae

Is equipment properly calibrated?

Did you conduct visual monitoring for adverse incidents?

Were any adverse incidents identified?

**Habitat Management, Inc.**  
**Commercial Herbicide Applicator (CO #11318)**  
**Herbicide Application Record**



**Location:** Cripple\_Creek\_&\_Victor\_Gold\_Mine      **County:** Teller County

Phase 2

**Date:** 8/1/2017 10:12 AM to 4:17 PM

**Customer:** Newmont Mining Corporation 100 N. 3rd St. Victor, CO 80860

**Qualified Supervisor:** Matt Clark #29724

**Applicators:** Matt Clark, Mark Ray, Drew Gramer

**Weather:** Partly Cloudy 70 degrees F.    **Wind:** 3 mph out of E

**Site/Crop:** Reclamation/Revegetation Area

**Target Plants:** Mullen, common - Verbascum thapsus - List C, Thistle, Canada - Cirsium arvense - List B, Thistle, Musk - Carduus nutans - List B, Toadflax, Dalmatian - Linaria dalmatica/genistifolia- List B

**Application Equipment:** Orange Kubota #2    **Application Method:** Spot-Spraying    **Carrier:** Water

Herbicide Applied	Application Rate	Total Amount Applied	Dilution Rate
Induce - Adjuvant	16 fl oz per acre	32 fl oz	0.40 fl oz per gallon
Spray Indicator - Blue Dye	16 fl oz per acre	32 fl oz	0.40 fl oz per gallon
Transline - 62719-259 - Clopyralid	10 fl oz per acre	20 fl oz	0.25 fl oz per gallon
Overdrive - 7969150 - Diflufenzopyr	4 Oz (weight) per acre	8 Oz (weight)	0.10 Oz (weight) per gallon
Weedestroy AM40 - 228145 - 2,4-D	32 fl oz per acre	64 fl oz	0.80 fl oz per gallon

**Total Application:** 2 acre

Treated along toe of phase 2. Heavily infested with common mullein and musk thistle.

**NPDES COMPLIANCE (Only Applicable to Aquatic Sites)**

**Aquatic site:** No

Use Pattern: Weeds and Algae

Is equipment properly calibrated?

Did you conduct visual monitoring for adverse incidents?

Were any adverse incidents identified?



**Habitat Management, Inc.**  
**Commercial Herbicide Applicator (CO #11318)**  
**Herbicide Application Record**



**Location:** Cripple\_Creek\_&\_Victor\_Gold\_Mine\_      **County:** Teller County

Miss Beard's, Poverty Gulch, & Ajax Road

**Date:** 8/2/2017 6:19 AM to 3:23 PM

**Customer:** Newmont Mining Corporation 100 N. 3rd St. Victor, CO 80860

**Qualified Supervisor:** Matt Clark #29724

**Applicators:** Matt Clark, Mark Ray, Drew Gramer

**Weather:** Sunny 60 degrees F.    **Wind:** 1 mph out of N

**Site/Crop:** Reclamation/Revegetation Area

**Target Plants:** Mullen, common - Verbascum thapsus - List C, Thistle, Canada - Cirsium arvense - List B, Thistle, Musk - Carduus nutans - List B, Toadflax, Dalmatian - Linaria dalmatica/genistifolia- List B, Toadflax, Yellow- Linaria vulgaris - List B

**Application Equipment:** Orange Kubota #2    **Application Method:** Spot-Spraying    **Carrier:** Water

Herbicide Applied	Application Rate	Total Amount Applied	Dilution Rate
Induce - Adjuvant	16 fl oz per acre	48 fl oz	0.40 fl oz per gallon
Spray Indicator - Blue Dye	16 fl oz per acre	48 fl oz	0.40 fl oz per gallon
Overdrive - 7969150 - Diflufenzopyr	4 Oz (weight) per acre	12 Oz (weight)	0.10 Oz (weight) per gallon
Transline - 62719-259 - Clopyralid	10 fl oz per acre	30 fl oz	0.25 fl oz per gallon
Weedestroy AM40 - 228145 - 2,4-D	32 fl oz per acre	96 fl oz	0.80 fl oz per gallon

**Total Application:** 3 acre

Treated upper and lower Miss Beard's. Sprayed disturbed area of poverty gulch and trail system. Treated road corridor of Ajax road and extended 20 feet off either side.

**NPDES COMPLIANCE (Only Applicable to Aquatic Sites)**

**Aquatic site:** No

Use Pattern: Weeds and Algae

Is equipment properly calibrated?

Did you conduct visual monitoring for adverse incidents?

Were any adverse incidents identified?

**Habitat Management, Inc.**  
**Commercial Herbicide Applicator (CO #11318)**  
**Herbicide Application Record**



**Location:** Cripple\_Creek\_&\_Victor\_Gold\_Mine\_      **County:** Teller County

Altman Backfill, Ajax Road/Battle Mountain, and Squaw Gulch

**Date:** 8/3/2017 6:12 AM to 3:09 PM

**Customer:** Newmont Mining Corporation 100 N. 3rd St. Victor, CO 80860

**Qualified Supervisor:** Matt Clark #29724

**Applicators:** Matt Clark, Mark Ray, Drew Gramer

**Weather:** Partly Cloudy 65 degrees F.    **Wind:** 5 mph out of N

**Site/Crop:** Reclamation/Revegetation Area

**Target Plants:** Mullen, common - Verbascum thapsus - List C, Thistle, Bull - Cirsium vulgare - List B, Thistle, Canada - Cirsium arvense - List B, Thistle, Musk - Carduus nutans - List B, Toadflax, Dalmatian - Linaria dalmatica/genistifolia- List B, Toadflax, Yellow- Linaria vulgaris - List B

**Application Equipment:** Orange Kubota #2    **Application Method:** Spot-Spraying    **Carrier:** Water

Herbicide Applied	Application Rate	Total Amount Applied	Dilution Rate
Induce - Adjuvant	16 fl oz per acre	32 fl oz	0.40 fl oz per gallon
Spray Indicator - Blue Dye	16 fl oz per acre	32 fl oz	0.40 fl oz per gallon
Overdrive - 7969150 - Diflufenzopyr	4 Oz (weight) per acre	8 Oz (weight)	0.10 Oz (weight) per gallon
Weedestroy AM40 - 228145 - 2,4-D	32 fl oz per acre	64 fl oz	0.80 fl oz per gallon
Transline - 62719-259 - Clopyralid	10 fl oz per acre	20 fl oz	0.25 fl oz per gallon

**Total Application:** 2 acre

Treated Altman Backfill upper and lower south facing slope, couldn't reach middle of slope due to access with hose. Treated weeds carefully around newly planted bristle cone pines. Treated both sides of Ajax road, including a buffer area off the road

**NPDES COMPLIANCE (Only Applicable to Aquatic Sites)**

**Aquatic site:** No

Use Pattern: Weeds and Algae

Is equipment properly calibrated?

Did you conduct visual monitoring for adverse incidents?

Were any adverse incidents identified?

**Habitat Management, Inc.**  
**Commercial Herbicide Applicator (CO #11318)**  
**Herbicide Application Record**



**Location:** Cripple\_Creek\_&\_Victor\_Gold\_Mine\_      **County:** Teller County

Squaw Gulch and Carlton Top Soil Stockpile

**Date:** 8/4/2017 6:16 AM to 2:18 PM

**Customer:** Newmont Mining Corporation 100 N. 3rd St. Victor, CO 80860

**Qualified Supervisor:** Matt Clark #29724

**Applicators:** Matt Clark, Mark Ray, Drew Gramer

**Weather:** Sunny 70 degrees F.    **Wind:** 1 mph out of N

**Site/Crop:** Reclamation/Revegetation Area

**Target Plants:** Mullen, common - Verbascum thapsus - List C, Thistle, Canada - Cirsium arvense - List B, Thistle, Musk - Carduus nutans - List B, Toadflax, Dalmatian - Linaria dalmatica/genistifolia- List B, Toadflax, Yellow- Linaria vulgaris - List B

**Application Equipment:** Orange Kubota #2    **Application Method:** Spot-Spraying    **Carrier:** Water

Herbicide Applied	Application Rate	Total Amount Applied	Dilution Rate
Induce - Adjuvant	16 fl oz per acre	36 fl oz	0.40 fl oz per gallon
Spray Indicator - Blue Dye	16 fl oz per acre	36 fl oz	0.40 fl oz per gallon
Overdrive - 7969150 - Diflufenzopyr	4 Oz (weight) per acre	9 Oz (weight)	0.10 Oz (weight) per gallon
Transline - 62719-259 - Clopyralid	10 fl oz per acre	22.5 fl oz	0.25 fl oz per gallon
Weedestroy AM40 - 228145 - 2,4-D	32 fl oz per acre	72 fl oz	0.80 fl oz per gallon

**Total Application:** 2.25 acre

Treated basin and county road in squaw gulch. Treated north facing slope of Carlton topsoil stockpile.

**NPDES COMPLIANCE (Only Applicable to Aquatic Sites)**

**Aquatic site:** No

Use Pattern: Weeds and Algae

Is equipment properly calibrated?

Did you conduct visual monitoring for adverse incidents?

Were any adverse incidents identified?

**Habitat Management, Inc.**  
**Commercial Herbicide Applicator (CO #11318)**  
**Herbicide Application Record**



**Location:** Cripple\_Creek\_&\_Victor\_Gold\_Mine\_      **County:** Teller County

ADR Transformer

**Date:** 8/4/2017 3:40 PM to 2:50 PM

**Customer:** Newmont Mining Corporation 100 N. 3rd St. Victor, CO 80860

**Qualified Supervisor:** Matt Clark #29724

**Applicators:** Matt Clark

**Weather:** Cloudy 70 degrees F.    **Wind:** 5 mph out of SE

**Site/Crop:** Electrical Station

**Target Plants:** All Vegetation (Bare Ground Treatment)

**Application Equipment:** Backpack Sprayer **Application Method:** Spot-Spraying **Carrier:** Water

Herbicide Applied	Application Rate	Total Amount Applied	Dilution Rate
Garlon 3A - 6271937 - Triclopyr	1.5 fl oz per gallon	1.5 fl oz	0.05 fl oz per gallon
Induce - Adjuvant	0.5 fl oz per gallon	0.5 fl oz	0.02 fl oz per gallon
Viewpoint - 352847 - Imazapic	1.6 fl oz per gallon	1.6 fl oz	0.05 fl oz per gallon

**Total Application:** 1 gallon

Treated the perimeter of the ADR transformer with glyphosate.

**NPDES COMPLIANCE (Only Applicable to Aquatic Sites)**

**Aquatic site:** No

Use Pattern: Weeds and Algae

Is equipment properly calibrated?

Did you conduct visual monitoring for adverse incidents?

Were any adverse incidents identified?