

2020

# Nevada Abandoned Mine Lands Physical Hazards Report

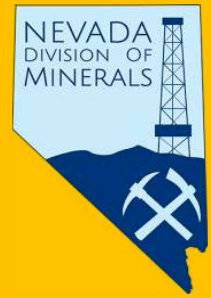


Commission on Mineral Resources

Division of Minerals

June 2021





2020

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**State of Nevada**  
**Commission on Mineral Resources**

Nigel Bain (Large-Scale Mining)  
Robert Felder (Exploration and Development)  
Randy Griffin, (Small-Scale Mining and Prospecting)  
Stephanie Hallinan (Large-Scale Mining)  
Arthur Henderson (Oil and Gas)  
Mary Korpi (General Public)  
Josh Nordquist (Geothermal Resources)

**Division of Minerals Staff**

Michael Visher, Administrator  
Robert Ghiglieri, Deputy Administrator  
Courtney Brailo, Field Specialist, Abandoned Mines/Fluid Minerals  
Sean Derby, Chief, Abandoned Mine Lands Program  
Rebecca Ely, Public Outreach/Field Specialist  
Valerie Kneefel, Program Officer II  
Cortney Luxford, Program Manager, Fluid Minerals  
Sherrie Nuckolls, Administrative Assistant IV  
Lucia Patterson, GIS/Field Specialist, Abandoned Mines  
Deborah Selig, Administrative Assistant IV  
Garrett Wake, Southern Nevada Programs Manager



*Photo 1 – Public reporting identified vandalized hazards in Washoe County, WA – 0102 was repaired in August 2020.*

Carson City Office  
400 W. King Street, Suite 106  
Carson City, Nevada 89703  
(775) 684-7040  
Fax (775) 684-7052

Las Vegas Office  
375 E. Warm Springs Rd. #205  
Las Vegas, NV 89119  
Phone: (702) 486-4343  
Fax: (702) 486-4345

Written By: Sean Derby

Cover Photo: Bill Macauley during filming of the “Stay Out, Stay Alive” 2020 Update  
Additional copies of this report may be obtained from the Division of Minerals office or  
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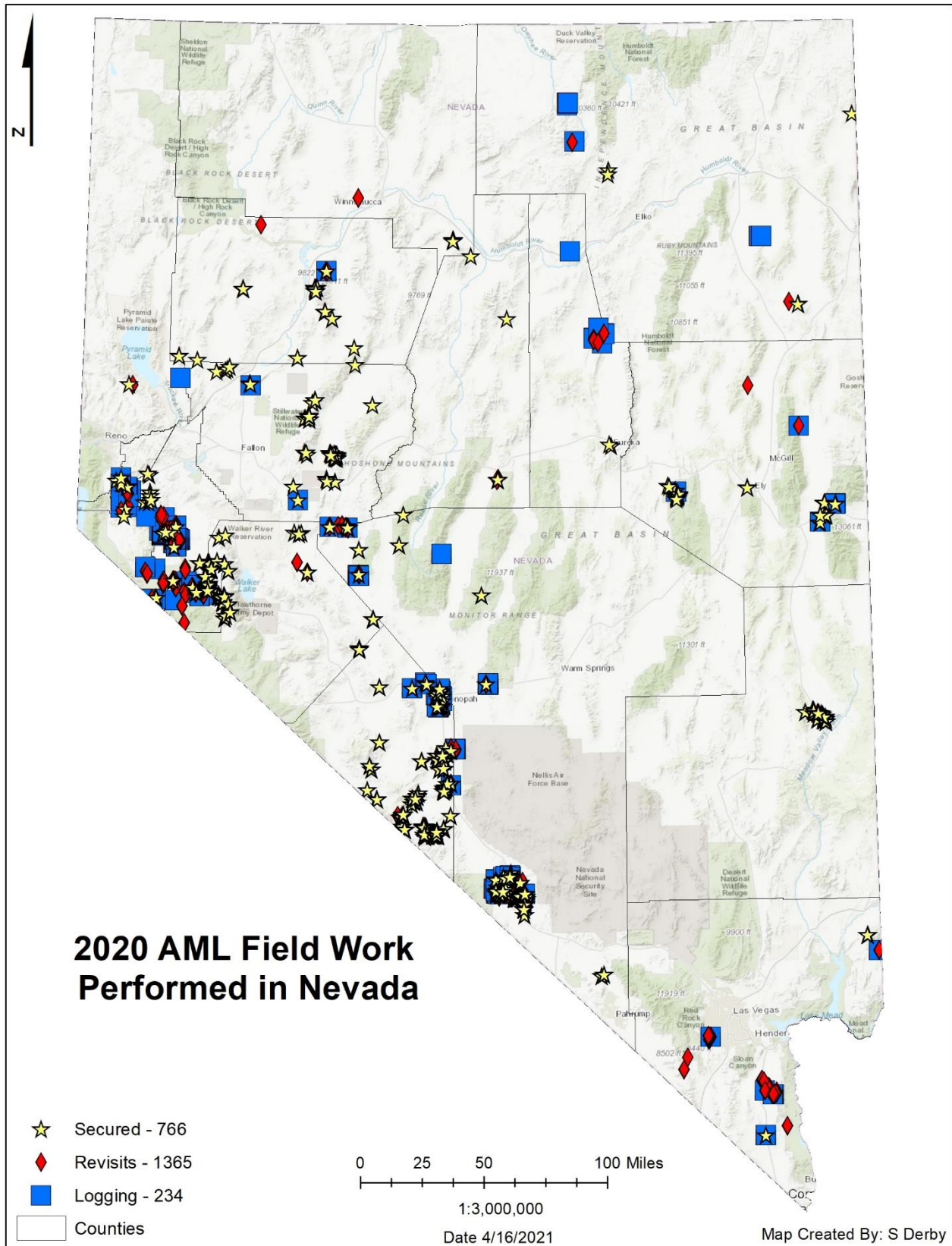
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Map 1 – Map showing AML field work performed in Nevada during the 2020 calendar year.

## 1. Executive Summary

The State of Nevada's Abandoned Mine Lands (AML) program, operated by the Nevada Division of Minerals (the Division), finished its 34<sup>th</sup> year in 2020. Details and milestones include:

- 1 reported abandoned mine incident involving a recovered dog and no fatalities; this was the first abandoned-mine-related incident reported since 2013.
- Over 134,000 historic mining related features cataloged since the inception of the AML program.
- 23,586 total hazards discovered and ranked since the beginning of the program; 19,683 hazards are currently recorded as secured.
- 234 hazards discovered and 766 hazards secured in 2020.
- 591 hazards were secured by the Division, 120 by mining claimants and private property owners, 51 by federal agencies, and four were naturally mitigated.
- 1,365 known hazards were revisited to confirm securing status and make repairs if necessary.
- 220 permanent closures completed in 9 of the 17 Nevada counties; 143 of which were completed by the Division's contractor.
- \$637,662 expended towards contracted closures statewide, of which \$19,127 was funded by partner organizations.
- Exceeded the performance indicators required by the State Legislature, with 80% of discovered hazards secured and public-awareness presentations (an average of 24 per staff member) for the year.
- Collaborated with the Bureau of Land Management (BLM), Nevada Department of Wildlife (NDOW), Nevada State Parks, Nevada State Historic Preservation Office and the US Forest Service (USFS) to secure abandoned mine land hazards across the state.



*Photo 2 - Headframe at Quartz Mountain, Nye County, NV.*



*Photo 3 - AML Interns building a fence, Washoe County, Nev.*

## 2. The Commission on Mineral Resources

The Nevada Division of Minerals, a part of the Commission on Mineral Resources (the Commission), is charged by statute to encourage and assist in the responsible exploration for, and the production of, minerals, oil, gas, and geothermal energy that are economically beneficial to the State; to provide for public safety by identifying, ranking and securing dangerous conditions at mines that are no longer operating; and to collect and disseminate information on exploration, production, and related topics. The seven-member commission is a public body appointed by the Governor to adopt regulations, formulate administrative policies for the Division, and advise the Governor and Legislature on policy relating to mineral resources. The Division focuses its efforts on four main areas: collection and dissemination of educational information; inventory and securing of abandoned mine hazards; regulation of oil, gas, geothermal drilling activities and dissolved mineral resource exploration; and the Nevada Reclamation Performance Bond Pool.

## 3. Background

Nevada's geology provides ideal conditions for a wide variety of valuable and useful minerals and has attracted the attention of miners and prospectors for over 150 years. The prospectors who traveled across the state exploring for this vast mineral wealth left behind a legacy of mining shafts, adits, glory holes, stopes, mill sites and other features that are potentially dangerous to people and animals. It is estimated that over 300,000 mining-related

features exist in the state. Of these, the Division estimates that 50,000 features present a significant physical safety hazard and require some form of exposure mitigation.

The Division's AML program was created by the Nevada Legislature in 1987 in response to incidents, both fatal and nonfatal, that had occurred at abandoned mines. The Legislature placed the program within the Division and mandated two primary functions enacted by Nevada Revised Statute (NRS) chapter 513, which can be found in Appendix A:

- 1) Establish a program to discover dangerous conditions that result from mining practices that took place at a mine that is now no longer operating; identify the owner or other person responsible for the condition, if feasible; and apply a hazard ranking based on the location and type of feature.
- 2) Develop a public awareness campaign to educate the public about dangerous conditions that exist as a result of historic mining activities.

In 1989, the Nevada Legislature expanded the program to include the responsibility of securing hazardous conditions on open public lands where no claimant or property owner could be identified. These are referred as "orphan" abandoned mine hazards. The Legislature also provided an opportunity for companies, individuals, and civic groups to voluntarily assist the program in the construction of a fence or other safeguard around a dangerous condition at an abandoned mine opening under a designated Good Samaritan law. (NRS 41.0331, Appendix A).

The AML program is administered under Nevada Administrative Code (NAC) chapter 513, found in Appendix B. Sections 513.320 through 513.360 of the chapter require that hazardous openings be given a hazard ranking based on its location and degree of danger. The Division notifies claimants and property owners of hazardous abandoned mining features on their claims or property and informs them of their responsibility to secure the hazards. The Division also notifies the county board of commissioners of hazardous conditions discovered within their respective counties. The appropriate county is also notified if a claimant fails to confirm the completion of securing to the Division or fails to make clear their intention to secure hazards within the timeframe specified by NAC 513.380. The county is authorized to take appropriate enforcement action, which may include warnings issued by the county sheriff, securing work performed under direction of the county at the owner's



expense, and possible fines of up to \$250 per violation.

No state general funds are used to operate this AML program. It is funded from the following three sources:

1. A \$4 fee collected by county recorders and remitted to the Division for every unpatented mining claim filed or retained on Federal land, (NAC 513.315).
2. A one-time fee of \$20 per acre for every acre of permitted disturbance associated with new or amended mining or exploration plans of operation on public lands (NRS 519A.250).
3. Assistance agreements in place with multiple partnering organizations including the Bureau of Land Management (BLM), the United States Forest Service (USFS), Clark County Real Property, and Clark County Desert Conservation Program, which provide financial assistance to enhance and accelerate both field investigation activities and work performed by staff, contractors, and volunteers to secure hazards.

Collected revenues are used for contracted closures, fencing, and inventory work; field supplies such as fence posts, signs and barbed wire, travel and vehicle expenses; required office supplies, hardware and software. The revenue is also used to support the AML public awareness program through school presentations, videos, handouts, classroom exercises, and other means of outreach. Table 1 shows the historical revenues received by the Division from each funding source.

Year	Assistance Agreements	Mining Claim Fees	Disturbance Fees	Total
2020	\$19,127	\$779,292	\$86,860	\$885,239
2020	\$258,087	\$792,940	\$29,026	\$1,080,053
2018	\$359,910	\$837,688	\$36,630	\$1,234,228
2017	\$137,198	\$802,372	\$84,640	\$1,024,210
2016	\$110,448	\$725,257	\$5,280	\$840,985
2015	\$60,000	\$432,242	\$64,300	\$556,542
2014	\$84,008	\$466,835	\$164,740	\$715,583
2013	\$69,031	\$494,967	\$228,220	\$792,218
2012	\$31,670	\$561,930	\$9,800	\$603,400
2011	\$0	\$481,584	\$139,360	\$620,944
2010	\$75,000	\$463,236	\$41,008	\$579,244

Table 1 - Dedicated revenue to the AML program for CY 2010-2020.

The Division’s AML program is separate from the Nevada Division of Environmental Protection’s AML program. The Division’s AML program is focused on the aspects of physical danger (falls, collapses, etc.), while the NDEP AML program is responsible for aspects of environmental safety. Both programs urge the public to recognize and avoid hazardous abandoned mines.

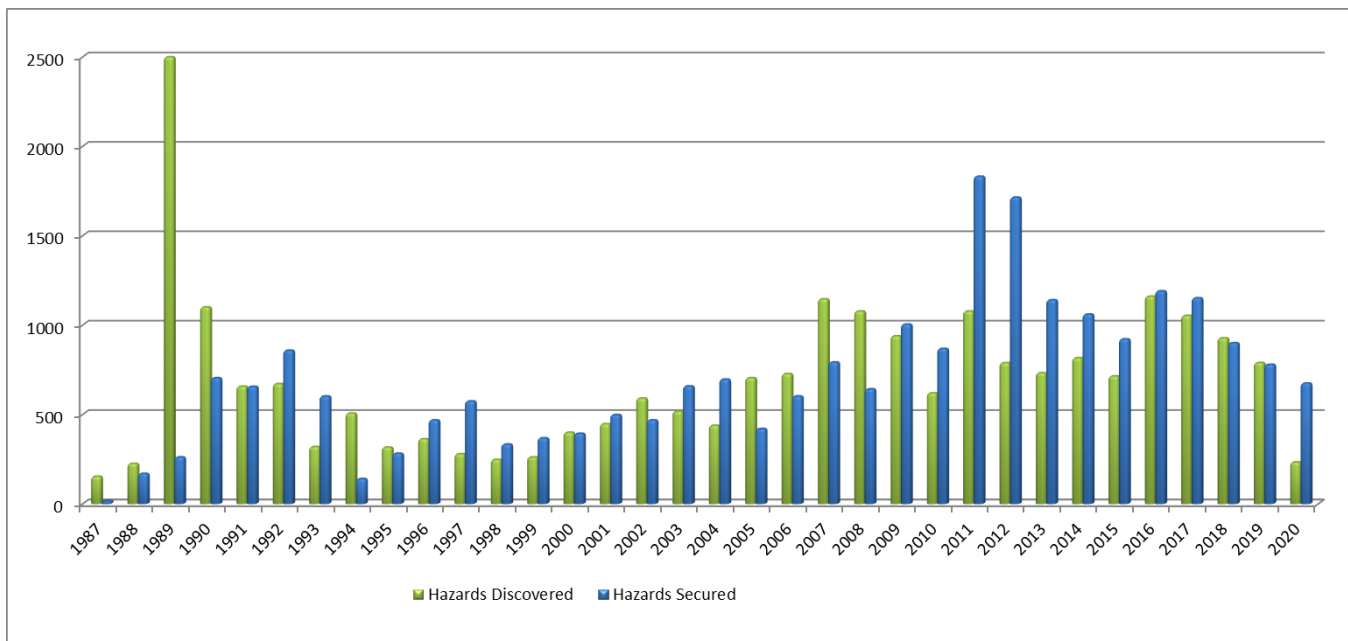


Figure 1 - Annual progression of hazards secured versus hazards discovered from 1987 – 2020.



## 4. Abandoned Mine Incidents in 2020

This was the seventh consecutive year without an abandoned-mine-related death in Nevada. One reported abandoned-mine-safety incident occurred this year involving a pet dog falling into an abandoned mine shaft. The pet was recovered alive and well about 48 hours after the incident occurred.

The first recorded AML incident in Nevada occurred in 1888 when a 14-year-old girl, while chasing her hat that was blowing in the wind, fell down a shaft in Virginia City. She was rescued within an hour by local miners without serious injuries. Appendix C lists a 60-year history of reported incidents related to abandoned or idle mines.

## 5. Inventory and Securings

In 2020, The Division’s AML program surpassed a milestone of 134,000 historic-mining-related features being inventoried to date. At the close of the year the Division’s cumulative totals of hazards discovered and ranked, and non-hazardous mining features characterized reached 23,586 and 110,722, respectively. Of the hazards discovered and ranked, 19,236 (80%) are currently secured. Figure 1 shows the progression of these securings by year; Table 2 lists hazards by county; and Figure 2 lists all hazards by securing method, 2020 securings by type, and 2020 securings by agency or group.

County	Discovered	Secured	% Secured
Carson City	84	72	85%
Churchill	903	782	86%
Clark	2,317	1,998	86%
Douglas	238	204	85%
Elko	1006	779	77%
Esmeralda	3,610	3,035	84%
Eureka	1,098	881	80%
Humboldt	1,006	827	82%
Lander	750	624	83%
Lincoln	1030	895	86%
Lyon	1,246	1,100	88%
Mineral	2,052	1,626	79%
Nye	3,333	2,651	79%
Pershing	2,008	1,578	78%
Storey	224	207	92%
Washoe	464	419	90%
White Pine	2,217	1,558	70%
<b>TOTAL (Since 1987)</b>	<b>23,586</b>	<b>19,236</b>	<b>80%</b>

Each year the Division utilizes its existing AML database and information on the locations of historic mining districts to rank each U.S. Geological Survey 7.5’ topographic map within the state to prioritize field work locations. The collection of digital data by tablet, the use of the two unmanned aircraft systems (UAS or drones), and the ranking of field areas has increased the efficiency of the Division’s AML field staff. In 2020, 1,365 hazardous sites were visited to catalog new hazards, revisit, or secure existing hazards. Of these, 766 securings were safeguarded: 530 by fencing or posting a warning sign, 149 by backfill or polyurethane expansive foam (PUF or foam plugged), 84 by bat-compatible closures (BCC), and two were found caved by nature.

In 2020, the Division or its contractors accounted for 98% of all hazards inventoried and 77% of all securings in the state (see Figure 2). Since 2017, the Division and its contractors have been responsible for 93% of all inventories and 55% of all securings within the state. The AML program focuses its securing efforts on “orphan” hazards.

While performing field work, it is the Division’s policy to secure a hazard while at the site, if possible, if the feature ranks as a moderate or high hazard, regardless of ownership or land status. This is to safeguard the public from the immediate safety risks. When these securings are on private land or federal land with an active claimant, they are called proactive securings.

The Division continues to incorporate new technology and systems to increase efficiencies. Recent innovations include: the use of customized digital tablets, which have increased data quality and processing time, increased location accuracy, and decreased data entry time; Google Earth and available Light Detecting and Ranging (LiDAR) imagery, which has enabled staff to identify new areas that need inventory work and has resulted in a more complete set of data to use when conducting field investigations; unmanned aircraft systems (UAS), which have enabled staff to investigate remote or difficult-to-reach sites very quickly; and an evolving SQL database and GIS software suite.

The impact of these enhancements is evident when looking at the consistent yearly increase in the recording of non-hazardous features in the Division’s AML database (see Figure 3), which implies that field areas are more

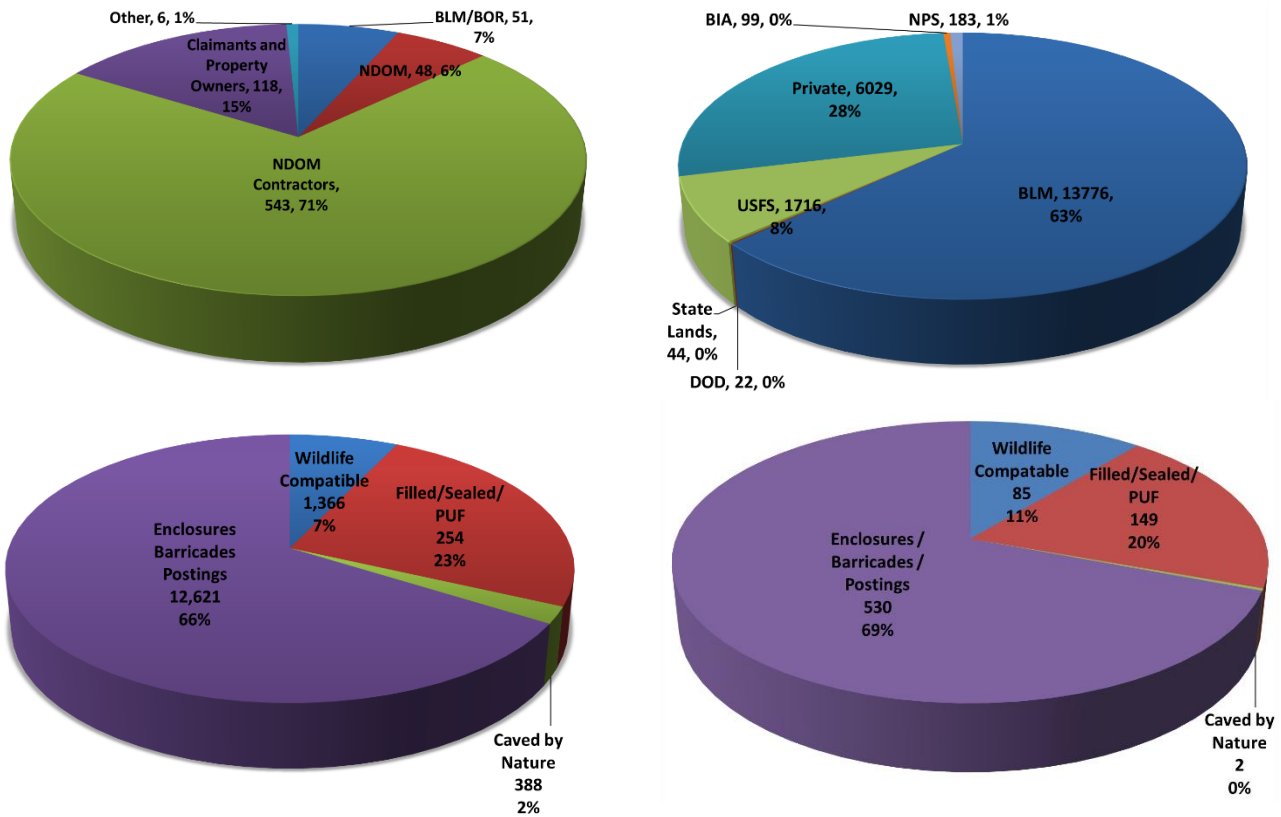


Figure 2 - Securings by Agency 2020 (top-left), land status (top-right), securing by type to date (bottom-left), and by type 2020 (bottom-right).

thoroughly investigated. In 2019 alone, over 9,000 non-hazardous mining features were inventoried by staff and interns.

### Tonopah NV Point Inventory Project, Nye, and Esmeralda Counties

In 2019, the AML program developed and tested a hazard identification method using helicopter survey and GPS tracking. This type of survey was found to be especially effective in identifying AML features in basins and on alluvial fans where a high density of potential hazards are suspected. Work completed north of the Tonopah area identified more than 3,000 non hazards and 38 new hazards. In January of 2020, the Division’s contractor, Environmental Protection Services (EPS) completed inventory and securing of these newly identified hazards.

### Lida, Esmeralda County

The town of Lida, NV experienced a protracted period of exploration and mine development in the late 19th century and contains a high density of historic AML features near the town and State Route 266. Hundreds of hazards were inventoried between 2016 and 2018 by summer interns and Division staff. In the spring of 2020,

EPS, spent two months safeguarding 98 orphan hazards via fencing and barricades within the historic mining district.

### Quartz Mountain, Mineral and Nye County

As a result of multiple public call-ins and notifications from the BLM, the Division became aware of high density of hazardous sites in the Quartz Mountain area in Mineral and Nye counties. The Division had a further interest in this area due to a proposed highway expansion project by NDOT, bringing Quartz Mountain historical mining resources features within the viewshed of the expansion. Between May and August of 2020, EPS secured 28 sites at this location, including enclosures of historical cultural resources, such as headframes and other structures.

### Queen of Sheba, Pershing County

The Queen of Sheba mine is a remote and historic AML site in Pershing County. Four sites were secured at the mine in 2020, triggered by the first AML incident in 7 years. The incident occurred when a local resident hiking with his dog encountered an unsecured shaft. The dog became excited by birds inhabiting the hazards and fell into the open shaft. The owner was able to rig a retrieval system and hoist the animal out of shaft unharmed.

## Wonder Mountain, Churchill County

In September 2020, the University of Nevada, Reno (UNR), approached the Division regarding 38 hazardous AML features on patented lands recently transferred to the UNR foundation. The foundation did not have the resources to complete the necessary closures. The Division opted to fund and execute the securing project through a contract with EPS. Work was completed in December 2020.

## Local Work, Multiple Counties

As a result of travel restrictions resulting from the COVID-19 virus, the Division opted to target local clusters of orphan hazards within Lyon, Carson, Douglas, Washoe, Pershing, and Churchill counties. The Division contracted with EPS to safeguard 52 sites in these counties.

## NDOW BCC Revisit Project, Statewide

Over the past few years, the Nevada Department of Wildlife (NDOW) has taken a proactive stance in performing wildlife surveys at proposed AML closure sites. NDOW has planned to revisit all known BCC closures in the state between 2020 and 2021. Over 1,200 BCCs have been constructed in Nevada. Many of these closures are at least 20 years old.

NDOW contracted with Great Basin Institute (GBI) and began a revisit program in March of 2020. COVID-19 related restrictions halted work just two weeks later. In the Fall of 2020, the GBI biologists were able to restart the program revisiting and documenting over 600 BCCs with the allotted funding. NDOW staff then continued the program where GBI left off.

In total over 800 hazards were revisited during this project in 2020 and the remaining gates will be completed in 2021. The data collected in this project will identify longevity of the gates, vandalism rates and hotspots, effectiveness of the gates, and QAQC of the Division's AML database.

## 6. Permanent Closure Projects

In 2020 there were 237 hazards permanently secured, including 50 by the BLM, 150 by the Division, and 11 by owners or claimants. Prioritization for permanent closures is based on a risk assessment. This assessment may include a recorded accident or incident, hazard rank, and the proximity to public or recreation areas. Hazardous sites might also be considered as permanent closure candidates when exclusionary fencing or barricading has been

repeatedly vandalized and are determined to not be a suitable securing method.

Permanent closures include backfills, bat-compatible closures, foam plugs, or a combination of these methods. Unlike fencing or barricade securings, permanent closure of an abandoned mine opening may result in alteration of the landscape and character of the site. Under the guidelines of the National Environmental Policy Act (NEPA), all mine openings proposed for permanent closure on federal lands must be evaluated for cultural and biological resource impacts. Closure methods are determined based on the outcome of the biological and cultural resource surveys, as well as the safety risk present at the site.

The Division completed six closure projects and started a seventh in 2020. Out of the 237 permanent closures completed throughout the year, 85 were completed as bat-compatible closures. All the Division and NDOW contracted closure work was completed by Environmental Protection Services. BOR and BLM partnered for all federal permanent closures.



Picture 3 – Cupola constructed near Goldfield, Esmeralda County, Nev.

## Boulder City, Clark County

EPS contracted with Boulder City to permanently close eight hazards within the city limits. Several abandoned mines were located near recreation trails and the I-11 corridor leading into Boulder City. Some of these hazards were directly adjacent to a bicycle path and posed a significant threat. All eight hazards were secured using polyurethane expansive foam and covered with native rock and dirt.



## Pioche, Lincoln County

From 2018 to 2020, the Division and the BLM collaborated to plan a closure project of all hazards on BLM lands surrounding the town of Pioche. The Division completed inventory and revisit work and NDOW conducted wildlife surveys for the project. Cultural and cadastral survey were conducted by the BLM. During the Fall of 2020, the Bureau of Reclamation completed 40 hard closure securings around the town.

## Nevada Eagle Mine, Esmeralda County

From 2016 to 2019, the Division and the BLM collaborated to plan closure project of all hazards on BLM lands west of US95 near the town of Goldfield. Again, the Division completed inventory and revisits and NDOW conducted wildlife surveys for the project. Cultural and cadastral surveys were conducted by the BLM. During August of 2020, the Bureau of Reclamation completed 40 hard closure securings in this area.

## Snake and Schell Creek Range, White Pine County

In 2016, NDOW and the National Park Service Great Basin National Park (GBNP), worked together on a Southern Nevada Public Land Management Act (SNLPMA) grant application for studying and enhancing bat habitat in and around GBNP. The SNLPMA grant included funding towards protecting habitat at abandoned mine sites on BLM lands within the Snake Range.

NDOW surveyed all known hazards provided by the Division and identified 22 hazards with significant bat habitat. The Division submitted a NEPA categorical exclusion (CX) request to the BLM Ely District Office in 2019. The District office archeologist performed the cultural surveys and the CX was issued in 2020. EPS was contracted to perform closure work in summer of 2020, resulting in the securing of 22 hazards by bat gate, with a total construction cost of \$110,388.

## Walker River State Park, Lyon County

In 2017, the Division assessed inventory efforts within a five-mile buffer around the newly proposed 12,856 acre Walker River State Park (WRSP) lands. The Division prioritized upcoming field work to finish inventorying and revisiting known AML hazards in the area and began developing a closure plan. The Division used an UAS to help with the inventory efforts.

Inventory and revisit efforts were completed with 164 AML hazards and 935 non-hazardous mining related



Picture 4 – Helicopter sling line aided delivery of closure supplies at WRSP permanent closure project, Lyon County, Nev.

features being identified within the buffer zone and within BLM land surrounding the Park. A total of 102 hazards on BLM lands within buffer radius were selected for closure.

The Division worked with the BLM Nevada State Office and BLM Carson District Office to start the NEPA CX process. Due to the size of the project, 102 mine closures within a 152-square-mile area around the WRSP

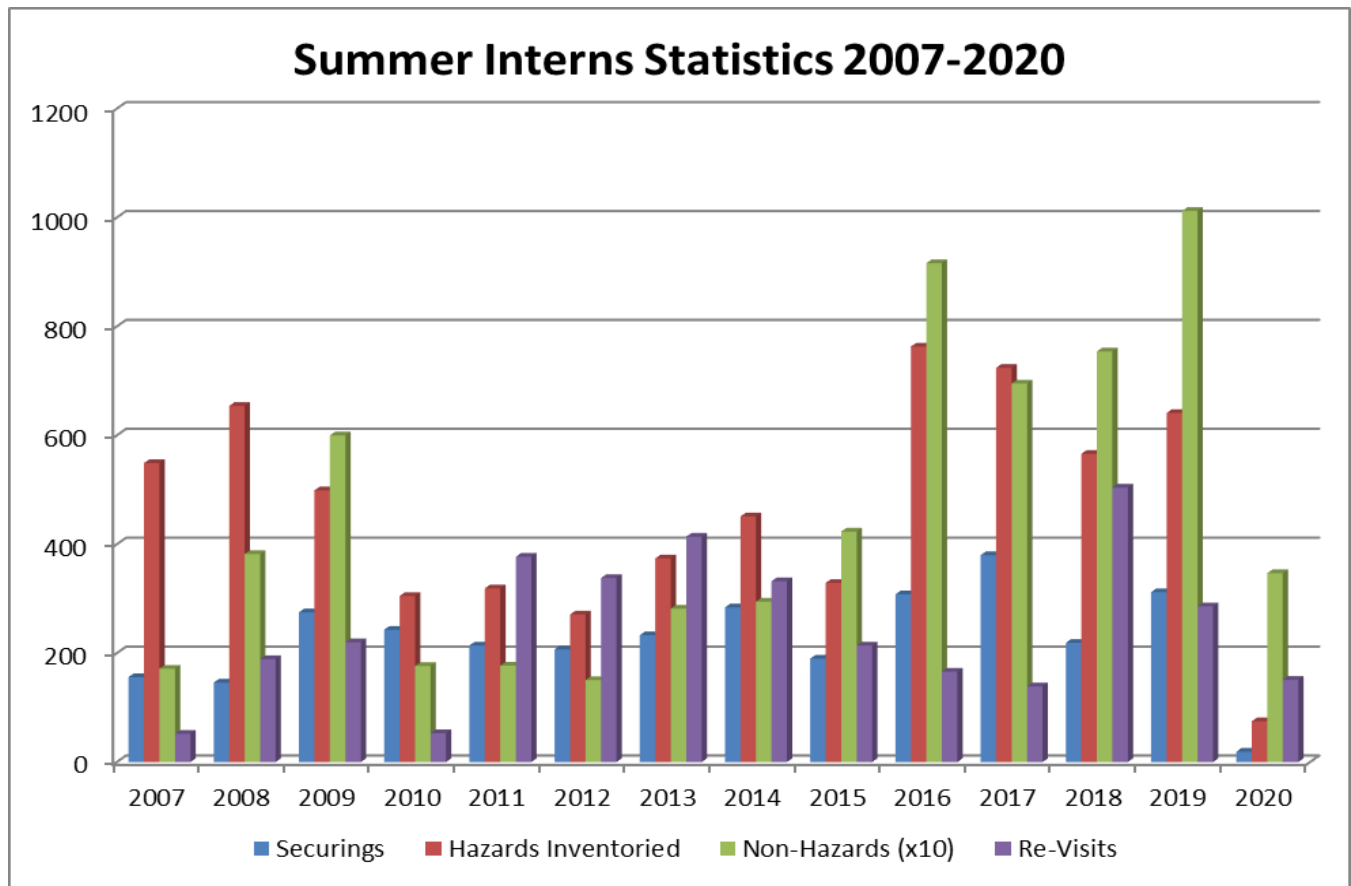


Figure 3 - Summer intern statistics from 2007 through 2020.

lands, the BLM and the Division reached out to the BLM Archeological Crew in Medford, Ore., to complete the cultural surveys. NDOW began wildlife surveys in 2018 and finished in late 2019.

Planning and permitting for the project took two years and the construction was completed in two main phases: the first began in February of 2020, and the second in May of the same year. The project finished in June, 2020, on time and under budget, for a total cost of \$333,313.

## 7. Intern Program

The Division employs college students majoring in the geosciences and related fields to assist with inventorying, revisiting, and safeguarding of hazardous AML features throughout the state. The intern program began in 2000 and has since expanded from two to eight students in the summer and four to six in the winter. These interns are trained and supervised by Division staff throughout the program.

The internship lasts 13 weeks over the summer months, and four weeks during the winter. Interns in this program are trained in field safety, first aid, operation of

4WD vehicles, GPS data collection, map reading, and working in teams. The work is physically demanding and involves dry camping in remote areas for extended periods of time. However, 2020 presented significant logistical challenges due to the global COVID-19 pandemic. For this reason, the Division rehired only two past interns from the 2019 season. These interns were already trained to perform the work, which enabled them to bypass much of the training conducted in a normal year; this training would have not been possible due to social distancing requirements and the Division’s Communicable Disease Plan. Each intern was provided a truck, briefed on the Division’s communicable disease plan, and provided with the necessary sterilization supplies.

While the Division was only able to operate with one-quarter of the number of interns it normally employs, the amount of work accomplished by the two seasoned interns was above expectation, given the difficult circumstances. No injuries or instances of COVID-19 transmission occurred during the intern season. The two interns, Kahler Angelo and Danner Hillman were able to complete 18 securings, logged 75 hazards, and revisited 150 known hazards, and documented 363 non – hazards. Mr. Hillman and Mr. Angelo planned and executed a great

deal of field work when compared with some 8 intern groups the Division has employed in previous summers.

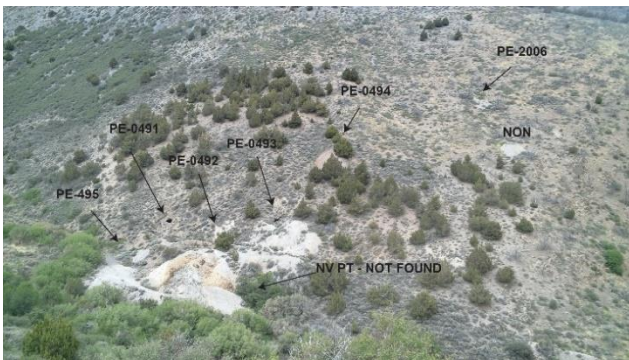
## 8. Public Awareness

The Division’s message to the public regarding abandoned mines is to “Stay Out, Stay Alive”. This message is presented to the public through several mediums, including a new 10-minute “Stay Out, Stay Alive” video available on the Division’s YouTube channel, a shorter 5-minute version, a 30-second PSA, informational brochures, curriculum guides and classroom material targeting fourth-grade students.

In 2020, the Division contracted with THS-Visuals (Stateline, Nev.) to produce the updated “Stay Out, Stay Alive” videos. Filming occurred over a 2-month period, including shooting locations in Tonopah, Yerington, and Virginia City (see cover photo). Deliverables from this production are being used to develop a large-scale public awareness campaign to continue to spread our “Stay Out, Stay Alive” message.

Curriculum guides have been distributed to every school and library in Nevada and are downloadable from the Division’s website. The classroom materials include an AML exercise detailing Nevada’s historic mining legacy. This project-based learning module was developed in cooperation with the Alice Maxwell Elementary School in Sparks and includes applicable Nevada Academic Content Standards.

The pandemic presented unforeseen logistical challenge to the division’s outreach and education program. Nonetheless, the Division’s AML program continued their commitments to the citizens of Nevada. Outreach to K-12 schools and other youth avenues



Picture 5 – Queen of Sheba mine complex, Pershing County, Nev. Site of 1<sup>st</sup> AML incident in 7 years, secured in June 2020.

consisted mostly of video conferences and included 49 separate schools visited, 5,753 students reached through

174 presentations, and 16 distance learning videos published to YouTube and other online portals. Outreach to the public included an estimated audience of 14,000 citizens through 65 presentations, 151 virtual events, and 16 videos. Other audiences included conferences, trade shows, industry events, civic groups, clubs, and professional organizations.

## 9. Performance Indicators

The Legislatively-approved performance indicators for the abandoned mine lands public safety program are:

1. Maintain a 70% securing rate, which is the percentage of secured hazardous mine openings compared to the total number of hazardous mine openings inventoried. The Division finished 2020 with 80% of hazards secured (see Table 2).
2. Maintain a minimum of 18 public awareness and education presentations per year, per staff member, including topics concerning the Nevada mineral industry and abandoned mines. Division staff averaged 24 presentations per each staff member in 2020.

## 10. Summary

The Division continued its legislative mandate to inventory and secure AML hazards statewide while continuously improving efficiencies within the program. Considering the Covid-19 Pandemic, 2020 was very productive for the Division’s AML program, with above average securing numbers. The Division continued advancing AML efforts by streamlining field work with digital data collection, incorporating the use of UAS, and improving its field-accessible database. Maintaining strong relationships with federal and state land management agencies, the mining industry, and numerous volunteers proved vital in the advancement of the program.

Regardless of continued growth in state population, increased recreation, and out of state tourism on public lands in Nevada there has been a decrease in the number of reported safety incidents related to abandoned mine hazards in the state. The efforts of Nevada’s AML public safety program have clearly helped save lives and decrease incidents. The public can report hazards using the report of an Abandoned Mine Hazard from, Appendix D.



## 11. Acknowledgements

We would like to recognize: John Callan and the entire Nevada BLM AML team for their commitment and assistance to the State’s AML program; Ken Maas, Humboldt-Toiyabe National Forest, for all his inventory and closure work completed on USFS managed land and congratulations on a well-earned retirement from federal service; the AML crew of the Bureau of Reclamation for their closure work; Jason Williams and the entire NDOW AML team for their statewide biological survey efforts; our partners at NDEP and their contributions to AML documentation; BLM Medford who aided in documenting, maintaining, and preserving our precious cultural resource; Bill Macauley for his contributions to the filming of the “Stay Out, Stay Alive” video 2020 Update . Lastly, we would also like to call attention to, and thank, the many claimants and landowners who work with the Division to secure AML sites statewide.



*Picture 6 – Deputy Administrator Rob Ghiglieri and Field Geologist Lucia Patterson completing a securing near Virginia City, Nev.*

## 12. Appendix A

### Nevada Revised Statutes (NRS) pertinent to the AML Program

NRS 455.010 Erection of fence or other safeguard around excavation, hole or shaft required. Any person or persons, company or corporation, who shall dig, sink or excavate, or cause the same to be done, or being the owner or owners, or in the possession under any lease or contract, of any shaft, excavation or hole, whether used for mining or otherwise, or whether dug, sunk or excavated for the purpose of mining, to obtain water, or for any other purpose, within this State, shall, during the time they may be employed in digging, sinking or excavating, or after they may have ceased work upon or abandoned the same, erect, or cause to be erected, good and substantial fences or other safeguards, and keep the same in good repair, around such works or shafts, sufficient to guard securely against danger to persons and animals from falling into such shafts or excavations.

NRS 41.510 Limitation of liability; exceptions for malicious acts if consideration is given or other duty exists.

1. Except as otherwise provided in subsection 3, an owner of any estate or interest in any premises, or a lessee or an occupant of any premises, owes no duty to keep the premises safe for entry or use by others for participating in any recreational activity, or to give warning of any hazardous condition, activity or use of any structure on the premises to persons entering for those purposes.

2. Except as otherwise provided in subsection 3, if an owner, lessee or occupant of premises gives permission to another person to participate in recreational activities upon those premises:

(a) The owner, lessee or occupant does not thereby extend any assurance that the premises are safe for that purpose or assume responsibility for or incur liability for any injury to person or property caused by any act of persons to whom the permission is granted.

(b) That person does not thereby acquire any property rights in or rights of easement to the premises.

3. This section does not:

(a) Limit the liability which would otherwise exist for:

(1) Willful or malicious failure to guard, or to warn against, a dangerous condition, use, structure or activity.

(2) Injury suffered in any case where permission to participate in recreational activities was granted for a consideration other than the consideration, if any, paid to the landowner by the State or any subdivision thereof. For the purposes of this subparagraph, the price paid for a game tag sold pursuant to [NRS 502.145](#) by an owner, lessee or manager of the premises shall not be deemed consideration given for permission to hunt on the premises.

(3) Injury caused by acts of persons to whom permission to participate in recreational activities was granted, to other persons as to whom the person granting permission, or the owner, lessee or occupant of the premises, owed a duty to keep the premises safe or to warn of danger.

(b) Create a duty of care or ground of liability for injury to person or property.

4. As used in this section, "recreational activity" includes, but is not limited to:

(a) Hunting, fishing or trapping;

(b) Camping, hiking or picnicking;

(c) Sightseeing or viewing or enjoying archaeological, scenic, natural or scientific sites;

(d) Hang gliding or paragliding;

(e) Spelunking;

(f) Collecting rocks;

(g) Participation in winter sports, including cross-country skiing, snowshoeing or riding a snowmobile, or water sports;

(h) Riding animals, riding in vehicles or riding a road or mountain bicycle;

(i) Studying nature;

(j) Gleaning;

(k) Recreational gardening; and

(l) Crossing over to public land or land dedicated for public use.

NRS 455.030 Board of county commissioners to transmit information concerning dangerous condition at mine no longer operating to sheriff or constable; service of notice upon owner or responsible person.

1. If a board of county commissioners receives information from the division of minerals of the commission on mineral resources that there is in the county a dangerous condition that results from mining practices which took place at a mine that is no longer operating, if the information identifies a person responsible for the condition, the board shall transmit this information to the sheriff or the constable of the township where the condition exists.

2. Upon receipt of information pursuant to subsection 1 or upon the filing of the notice, as provided for in NRS 455.020, the sheriff or constable shall serve a notice, in the same manner and form as a summons, upon each person identified as owner or otherwise responsible.

[3:16:1866; B §§ 111; BH §§ 292; C §§ 273; RL §§ 3235; NCL §§ 5632]—(NRS A 1983, 905; 1987, 1869; 1993, 1625; 1999, 3624)

NRS 455.040 Contents of notice; judgment; criminal penalty.

1. The notice served pursuant to subsection 2 of NRS 455.030 must require the person or persons to appear before the justice of the peace of the township where the hole, excavation, shaft or other condition exists, or any municipal judge who may be acting in his place, at a time to be stated therein, not less than 3 days nor more than 10 days from the service of the notice, and show, to the satisfaction of the court, that the provisions of NRS 455.010 to 455.180, inclusive, or the standards established by the commission on mineral resources for the abatement of dangerous conditions have been complied with, or if he or they fail to appear, judgment will be entered against him or them for double the amount required to abate the condition.

2. All proceedings had therein must be as prescribed by law in civil cases.

3. Such persons, in addition to any judgment that may be rendered against them, are liable and subject to a fine not exceeding the sum of \$250 for each violation of the provisions of NRS 455.010 to 455.180, inclusive, which judgments and fines must be adjudged and

collected as provided for by law.

[4:16:1866; B § 112; BH § 293; C § 274; RL § 3236; NCL § 5633]—(NRS A 1979, 1476; 1987, 1869; 1993, 881)

NRS 513.094 Additional fee; administrator to establish program to discover dangerous conditions of nonoperating mines; employment of qualified assistant; regulations.

1. An additional fee, in an amount established pursuant to subsection 4, is imposed upon all filings to which NRS 517.185 applies. Each county recorder shall collect and pay over the additional fee, and the additional fee must be deposited in the same manner as provided in that section.

2. The administrator shall, within the limits of the money provided by this fee, establish a program to discover dangerous conditions that result from mining practices which took place at a mine that is no longer operating, identify if feasible the owner or other person responsible for the condition, and rank the conditions found in descending order of danger. The administrator shall annually during the month of January, or more often if the danger discovered warrants, inform each board of county commissioners concerning the dangerous conditions found in the respective counties, including their degree of danger relative to one another and to those conditions found in the state as a whole. In addition, the administrator shall work to educate the public to recognize and avoid those hazards resulting from mining practices which took place at a mine that is no longer operating.

3. To carry out this program and these duties, the administrator shall employ a qualified assistant, who must be in the unclassified service of the state and whose position is in addition to the unclassified positions otherwise authorized in the division by statute.

4. The commission shall establish by regulation:

(a) The fee required pursuant to subsection 1, in an amount not to exceed \$4 per claim.

(b) Standards for determining the conditions created by the abandonment of a former mine or its associated works that constitute a danger to persons or animals and for determining the relative degree of danger. A condition whose existence violates a federal or state statute or regulation intended to protect public health or safety is a danger because of that violation.

(c) Standards for abating the kinds of dangers usually found, including, but not limited to, standards for excluding persons and animals from dangerous open excavations.

(Added to NRS by 1987, 1867; A 1993, 298, 1683; 1995, 579; 1999, 890, 3627; 2001, 66)

NRS 513.103 Account for the Division of Minerals: Creation; sources, lapse and use of money in Account.

1. The Account for the Division of Minerals is hereby created in the State General Fund.

2. The following special fees and money must be deposited in the Account:

(a) All fees collected pursuant to [NRS 513.094](#), [517.185](#) and [chapter 522](#) of NRS.

(b) All money collected pursuant to [NRS 235.016](#).

(c) Any money received by the Division from a county pursuant to [NRS 513.108](#).

(d) All fees collected pursuant to [NRS 534A.080](#).

(e) Any money appropriated to the Division from the State General Fund.

3. No money except that appropriated from the State General Fund lapses to the State General Fund.

4. The money in the Account is appropriated to the Division. The money deposited in the Account pursuant to paragraph (a) of subsection 2, and the interest earned thereon, must be expended for the purposes of administering [chapter 522](#) of NRS and the provisions of this chapter, except for [NRS 513.108](#). The money deposited pursuant to paragraphs (b) and (c) of subsection 2, and the interest earned thereon, must be distributed to the counties pursuant to [NRS 513.108](#), except that portion required to pay the cost of administering the provisions of that section. All interest earned on the Account must remain in the Account.

(Added to NRS by 1983, 2070; A 1985, 303; 1987, 1868; 1989, 141; 1991, 1779; 1993, 111, 1684; 1995, 509)

NRS 513.108 Abatement of dangerous condition of non-operating mines; reimbursement of Division.

1. The board of county commissioners in each county may apply to the Division for money to abate a dangerous condition resulting from mining practices which took place at a mine that is no longer operating.

2. The Division shall, within the limits of the money available pursuant to paragraphs (b) and (c) of subsection 2 of [NRS 513.103](#), provide counties with money to abate such dangerous conditions based on the relative degree of danger of those conditions.

3. If a county which receives money from the Division subsequently receives monetary compensation from the mine owner or other person responsible for the existence of the dangerous condition, it shall reimburse the Division to the extent of the compensation received. Any money received by the Division pursuant to this subsection must be deposited in the Account for the Division of Minerals created pursuant to [NRS 513.103](#). (Added to NRS by 1989, 141; A 1991, 1780; 1993, 1684)

#### FEE FOR FILING PLAN OF OPERATION

NAC 519A.634 Amount of fee. (NRS 519A.250) The amount of the fee that an operator must pay pursuant to subsection 1 of NRS 519A.250 is \$20 per acre or part of an acre.

(Added to NAC by Commission on Mineral Resources by R069 -99, eff. 8-19-99)

## 13. Appendix B

### Nevada Administrative Code (NAC) pertinent to the AML Program

#### DANGEROUS CONDITIONS CREATED BY ABANDONMENT OF MINES

NAC 513.200 Definitions. (NRS 513.094) As used in NAC 513.200 to 513.390, inclusive, unless the context otherwise requires, the words and terms defined in NAC 513.205 to 513.290, inclusive, have the meanings ascribed to them in those sections. (Added to NAC by Commission on Mineral Resources, eff. 12-21-88; A by R069 -99, 8-19-99)

NAC 513.205 “Administrator” defined. “Administrator” means the administrator of the division.

(Added to NAC by Commission on Mineral Resources, eff. 12-21-88) (Substituted in revision for NAC 513.250)



NAC 513.210 “Animal” defined. “Animal” means any member of the bovine, equine, porcine or caprine species as well as dogs, cats or other animals under the restraint or control of a person.

(Added to NAC by Commission on Mineral Resources, eff. 12-21-88)

NAC 513.220 “Commission” defined. “Commission” means the commission on mineral resources.

(Added to NAC by Commission on Mineral Resources, eff. 12-21-88)

NAC 513.230 “Dangerous condition” defined. “Dangerous condition” means a condition resulting from mining practices which took place at a mine that is no longer operating or its associated works that could reasonably be expected to cause substantial physical harm to persons or animals.

(Added to NAC by Commission on Mineral Resources, eff. 12-21-88)

NAC 513.240 “Division” defined. “Division” means the division of minerals of the commission on mineral resources.

(Added to NAC by Commission on Mineral Resources, eff. 12-21-88)

NAC 513.270 “Owner” defined. “Owner” means the owner of real property who is shown to be the owner on records located in the courthouse of the county in which the real property is located.

(Added to NAC by Commission on Mineral Resources, eff. 12-21-88)

NAC 513.280 “Person” defined. “Person” means a natural person.

(Added to NAC by Commission on Mineral Resources, eff. 12-21-88)

NAC 513.290 “Responsible person” defined. “Responsible person” means the owner of a patented claim or the claimant of an unpatented claim.

(Added to NAC by Commission on Mineral Resources, eff. 12-21-88)

NAC 513.300 Scope. The provisions of NAC 513.200 to 513.390, inclusive, apply to all owners or other responsible persons for dangerous conditions on private or public land.

(Added to NAC by Commission on Mineral Resources, eff. 12-21-88)

NAC 513.310 Waiver of provisions. Upon the approval of the administrator, the division may grant a waiver from any provision of NAC 513.200 to 513.390, inclusive, if the waiver does not defeat the purpose of NRS 513.094.

(Added to NAC by Commission on Mineral Resources, eff. 12-21-88)

NAC 513.315 Additional fee. (NRS 513.094) The amount of the additional fee that is imposed on filings pursuant to subsection 1 of NRS 513.094 is \$4 per claim.

(Added to NAC by Commission on Mineral Resources by R069 -99, eff. 8-19-99; A by R199-08, eff. 8-14-2008)

NAC 513.320 Assignment of points to dangerous condition. The administrator or his representative shall assign a dangerous condition one to five points for the location of the condition and an additional one to five points for the degree of danger associated with the condition. The condition must then be ranked according to the total number of points for location and degree of danger. (Added to NAC by Commission on Mineral Resources, eff. 12-21-88)

NAC 513.330 Rating of location. The location of a dangerous condition must be rated in the following manner:

1. One point must be assigned to a dangerous condition located at least 5 miles from an occupied structure or a public road maintained by some governmental entity.
2. Two points must be assigned to a dangerous condition located between 1 and 5 miles from an occupied structure or a public road maintained by some governmental entity.
3. Three points must be assigned to a dangerous condition located ½ to 1 mile, inclusive, from a town.
4. Four points must be assigned to a dangerous condition located not more than ½ mile from a town or not more than 1 mile from an occupied structure or a public road maintained by some governmental entity.
5. Five points must be assigned to a dangerous condition located within a town or within 100 feet of an occupied structure or a public road maintained by some governmental entity.

The Administrator or his or her representative may assign a different rating to a dangerous condition in a location if other factors affecting accessibility warrant the modification, but the rating for a dangerous condition in a single location may not be scored higher than five points.

(Added to NAC by Commission on Mineral Resources, eff. 12-21-88; A by R127-15, 6-28-2016)

NAC 513.340 Rating of degree of danger. The degree of danger for a dangerous condition must be rated in the following manner:

1. One point must be assigned to a dangerous condition consisting of:
  - (a) A vertical or near vertical hole 8 to 20 feet, inclusive, in depth and highly visible upon approach;
  - (b) An inclined hole less than 50 feet deep from which a person could climb out;
  - (c) A horizontal hole with no associated stopes, winzes or raises; or
  - (d) A high wall of an open pit.
2. Two points must be assigned to a dangerous condition consisting of:
  - (a) A vertical or near vertical hole 8 to 20 feet, inclusive, in depth which is not visible upon approach;
  - (b) Any vertical or near vertical hole 20 to 50 feet, inclusive, in depth; or
  - (c) Any inclined hole greater than 50 feet deep from which a person could climb out with no associated stopes, winzes or raises.
3. Three points must be assigned to a dangerous condition consisting of:

- (a) Any vertical or near vertical hole 50 to 100 feet, inclusive, in depth; or
  - (b) Any horizontal or inclined hole with associated stopes, winzes or raises with less than a 20 -foot vertical opening.
4. Four points must be assigned to a dangerous condition consisting of:
- (a) Any vertical or near vertical hole which is at least 100 feet deep and visible upon approach; or
  - (b) Any horizontal or inclined hole with associated stopes, winzes or raises with a vertical opening greater than 20 feet.
5. Five points must be assigned to a dangerous condition consisting of any vertical or near vertical hole which is at least 100 feet deep and not visible upon approach.

The administrator or his representative may assign a higher degree of danger to a dangerous condition if other factors such as loose ground or the presence of water increase the danger, but the degree of danger for a single dangerous condition may not be scored higher than five points.

(Added to NAC by Commission on Mineral Resources, eff. 12-21-88)

NAC 513.350 Dangerous condition causing fatality or injury. Any dangerous condition that has been the cause of a documented fatality or injury must be ranked as a high hazard, regardless of its numerical score.

(Added to NAC by Commission on Mineral Resources, eff. 12-21-88)

NAC 513.360 Ranking of dangerous condition. Dangerous conditions must be rated as follows:

1. A dangerous condition with a total number of 2 or 3 points is a minimal hazard;
2. A dangerous condition with a total number of 4 or 5 points is a low hazard;
3. A dangerous condition with a total number of 6 or 7 points is a moderate hazard; and
4. A dangerous condition with a total number of at least 8 points is a high hazard.

(Added to NAC by Commission on Mineral Resources, eff. 12-21-88; A by R127-15, 6-28-2016)

NAC 513.380 Period after notification to secure dangerous condition. If notified by the Commission of the existence of a dangerous condition, the owner or responsible person shall:

1. Post within 180 days a warning sign in a prominent location near a dangerous condition ranked as a minimal hazard; and
2. In the manner prescribed in NAC 513.390:
  - (a) Secure within 180 days a dangerous condition ranked as a low hazard;
  - (b) Secure within 120 days a dangerous condition ranked as a moderate hazard; and
  - (c) Secure within 60 days a dangerous condition ranked as a high hazard .

(Added to NAC by Commission on Mineral Resources, eff. 12-21-88; A by R127-15, 6-28-2016)

NAC 513.390 Methods for securing dangerous condition; approval by Administrator to modification of method.

1. Except as otherwise provided in subsection 4, a dangerous condition ranked as a low, moderate or high hazard must be secured by one or more of the following:
  - (a) A barricade or other structure, including, without limitation, a structure consisting of metal posts and four strands of barbed wire, or other durable materials, constructed to prevent a person or animal from accidentally exposing himself or herself to the dangerous condition.
  - (b) Permanently anchored seals constructed of material not subject to rapid decomposition and, if used to secure a vertical opening, strong enough to support the weight of any person or animal.
  - (c) Backfilling so that no void spaces remain.
2. In addition to securing a dangerous condition pursuant to subsection 1, if the dangerous condition ranked as a low, moderate or high hazard is secured only by the method set forth in paragraph (a) of subsection 1, the owner or responsible person must post a warning sign in a prominent location near the dangerous condition. The warning sign must be posted within the period set forth in subsection 2 of [NAC 513.380](#) for securing the dangerous condition.
3. Regardless of the method used pursuant to subsection 1 to secure a dangerous condition, the owner or responsible person shall maintain the integrity of that structure.
4. The Administrator or his or her representative may approve the modification of a method of securing a dangerous condition to accommodate features or characteristics that are specific to the location of the dangerous condition.

(Added to NAC by Comm'n on Mineral Resources, eff. 12-21-88; A by R127-15; 6-28-2016)

## 14. Appendix C

**Table 1: History of Nevada AML Incidents Since 1961**

Date	Incident	County
May '20	Dog fell down shaft, rescued two days later	Pershing
Sep. '13	17 year old male received minor injuries in fall down 60-foot deep mine shaft (rider on motorcycle)	Lyon
Nov. '12	Adult male (33) received moderate injuries after falling 35' down a winze	Clark
Jul. '11	Dog fell down shaft, rescued 8 days later	White Pine
Mar. '11	Adult male (28) suffered fatal injuries after falling 190 feet down a shaft	Pershing
May. '09	Dog fell down inclined shaft, rescued 10 days later	Esmeralda
Oct. '08	Adult male (62) suffered fatal injuries after falling 60' down a winze	Lyon
Sep. '08	Dog reportedly fell down 100' shaft, not recovered	Washoe
Aug. '08	Adult male (58) injured in 50' fall down inclined winze	Esmeralda
May. '07	Adult male (mid-20's) injured in fall down ~200' inclined winze	Clark
May. '07	Adult male (63) suffered fatal injuries after rolling his jeep ~450' into the Loring Pit in Virginia City	Storey
May. '06	Dog rescued from 22 foot-deep mine shaft	Washoe
May. '05	Woman of unknown age, received cuts and bruises from fall down a 35 ft. winze	Carson
Apr. '04	30 year-old man received moderate injuries from fall down 25 ft. winze near Las Vegas	Clark
Jan. '03	Dog fell down shaft	Humboldt
Jan. '03	62 year-old man received minor injuries from fall down 25 ft. winze (same as 10/2002)	Clark
Oct. '02	37 year-old CA male received severe injuries from fall down 25 ft. winze	Clark
Jul. '02	41 year-old male drowned swimming in open pit lake	Storey
Dec. '00	Dog rescued from fall down 60 ft. winze. Minor injury to hip	Pershing
Nov. '00	Dog rescued from fall down 40 ft. mine shaft. Moderate injury to hip	Storey
Oct. '99	Adult male (62) killed in mine cave-in	Lyon
Oct. '99	Female juvenile (11) killed in fall down 130 ft. deep mine shaft near Beatty	Nye
Jun. '99	Male juvenile (15) drowned swimming in open pit lake	Lander
Oct. '98	Two male adults seriously injured in fall down 50 ft. winze near Las Vegas	Clark
Sep. '98	Dog rescued from 20 ft. deep mine shaft	Douglas
Jul. '98	Male adult (20's) slightly injured in fall down mine winze in Brougner Divide Mine near Tonopah,	Esmeralda
Apr. '97	Two male adults (50's) injured in fall down hand dug well in town of Luning	Mineral
Oct. '96	Male juvenile (16) injured in fall down 19 ft. deep hole in concrete at American Flats millsite	Storey
Sep. '96	Two male adults (35) killed in mine adit near Virginia City by suffocation	Storey
May. '96	Male adult (44) fatally injured in fall off ATV at American Flats millsite	Storey
Mar. '96	Male adult (31) injured in fall down mine winze on west side of Las Vegas	Clark
Jun. '95	Male adult (30) killed scuba diving in mine shaft filled with water at the old Crown Copper Under	Humboldt
Nov. '93	Dog rescued from 30 ft. deep mine shaft near Iron Mtn. Estates	Storey
Jan. '93	Dog rescued from 25 ft. deep shaft	Humboldt
Oct. '92	Male adult (27) news reporter injured in dynamite blast at Happy Creek in the Jackson Mountains	Humboldt
Sep. '92	Female adult (28) injured (cuts and bruises) in fall down mine shaft Hot Springs Mtn.	Douglas
Dec. '91	Male adult (44) killed in fall down a mine winze at an abandoned copper mine in the Malachite	Lyon
May. '91	Male juvenile (13) injured (minor) in fall down 20 ft. deep mine shaft	Washoe
Feb. '91	Male adult (40) killed in fall down mine winze	Douglas
May. '90	Dog killed in mine shaft at the MGL Mine near Winnemucca Dry Lake	Pershing
Mar. '90	Male juvenile lost for 19 hours in mine shaft at Mizpah mine in Tonopah	Nye
Sep. '89	Male adult seriously injured in fall down a mine winze near Henderson	Clark
Sep. '88	Body of elderly male found at bottom of mine shaft	Lyon
May. '87	Female child (5) injured in fall down 35 ft. deep mine shaft	Washoe
Feb. '86	Young adult male (20) killed in fall down a mine winze	Lyon
Apr. '79	Two teenagers killed in fall down mine shaft at the Oest Mine	Lyon
Dec. '78	Juvenile killed in fall down mine shaft (Ninety-Nine Mine), body never recovered	Clark
Apr. '75	Two male juveniles killed when motorcycles fell into mine shaft near Searchlight	Clark
May. '71	Male juvenile (15) injured in fall down 200 ft. deep mine shaft on Duck Hill	Carson
Nov. '70	Male juvenile (12) injured in fall down 110 ft. deep mine shaft	Washoe
Jan. '61	Male juvenile (15) injured in 50 ft. fall down mine ventilation shaft	Storey



## 15. Appendix D

**State of Nevada**  
Abandoned Mine Lands  
**Report of Abandoned Mine Land Hazard**

Person Reporting the Hazard:

Name: \_\_\_\_\_

Please keep my name confidential:

Phone #: \_\_\_\_\_

E-mail: \_\_\_\_\_

---

Date Found: \_\_\_\_\_

County Hazard is Located In: \_\_\_\_\_

Hazard Location \_\_\_\_\_ UTM E/Long. \_\_\_\_\_ UTM N/Lat.

(Coordinate Type - Select One):  UTM NAD27  UTM NAD83 (WGS84)

Longitude/Latitude  Do Not Know

Photo or Image of Hazard is Enclosed/Attached

Additional Comments or Information (if desired):

Please send this form along with any photos (if available) to:

**Attention: Abandon Mine Lands**

**Nevada Division of Minerals**

400 W. King St. #106

Carson City, NV 89703

Phone: 775-684-7040

Fax: 775-684-7052

Email: [ndom@minerals.nv.gov](mailto:ndom@minerals.nv.gov)

or

or

or

375 E. Warm Spring Rd. #205

Las Vegas, NV 89119

702-486-4343

702-486-4345

[ndomlv@minerals.nv.gov](mailto:ndomlv@minerals.nv.gov)

expense, and possible fines of up to \$250 per violation.

No state general funds are used to operate this AML program. It is funded from the following three sources:

1. A \$4 fee collected by county recorders and remitted to the Division for every unpatented mining claim filed or retained on Federal land, (NAC 513.315).
2. A one-time fee of \$20 per acre for every acre of permitted disturbance associated with new or amended mining or exploration plans of operation on public lands (NRS 519A.250).
3. Assistance agreements in place with multiple partnering organizations including the Bureau of Land Management (BLM), the United States Forest Service (USFS), Clark County Real Property, and Clark County Desert Conservation Program, which provide financial assistance to enhance and accelerate both field investigation activities and work performed by staff, contractors, and volunteers to secure hazards.

Collected revenues are used for contracted closures, fencing, and inventory work; field supplies such as fence posts, signs and barbed wire, travel and vehicle expenses; required office supplies, hardware and software. The revenue is also used to support the AML public awareness program through school presentations, videos, handouts, classroom exercises, and other means of outreach. Table 1 shows the historical revenues received by the Division from each funding source.

Year	Assistance Agreements	Mining Claim Fees	Disturbance Fees	Total
2020	\$19,127	\$779,292	\$86,860	\$885,239
2020	\$258,087	\$792,940	\$29,026	\$1,080,053
2018	\$359,910	\$837,688	\$36,630	\$1,234,228
2017	\$137,198	\$802,372	\$84,640	\$1,024,210
2016	\$110,448	\$725,257	\$5,280	\$840,985
2015	\$60,000	\$432,242	\$64,300	\$556,542
2014	\$84,008	\$466,835	\$164,740	\$715,583
2013	\$69,031	\$494,967	\$228,220	\$792,218
2012	\$31,670	\$561,930	\$9,800	\$603,400
2011	\$0	\$481,584	\$139,360	\$620,944
2010	\$75,000	\$463,236	\$41,008	\$579,244

Table 1 - Dedicated revenue to the AML program for CY 2010-2020.

The Division’s AML program is separate from the Nevada Division of Environmental Protection’s AML program. The Division’s AML program is focused on the aspects of physical danger (falls, collapses, etc.), while the NDEP AML program is responsible for aspects of environmental safety. Both programs urge the public to recognize and avoid hazardous abandoned mines.

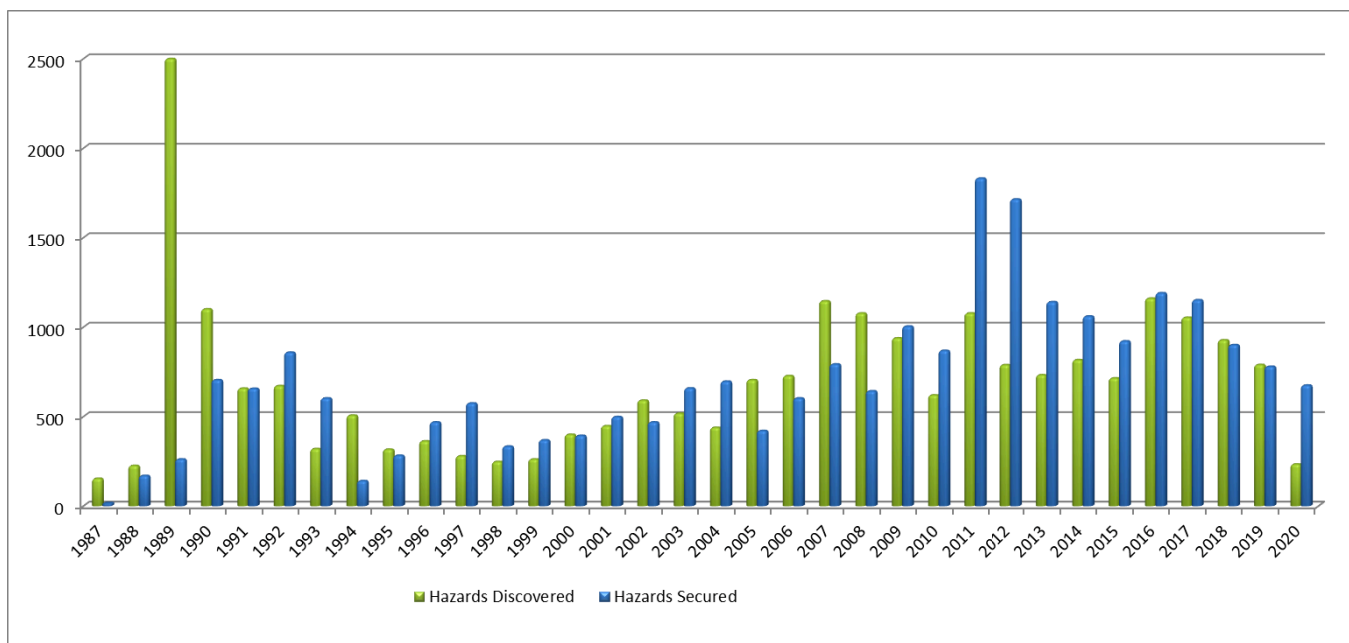


Figure 1 - Annual progression of hazards secured versus hazards discovered from 1987 – 2020.

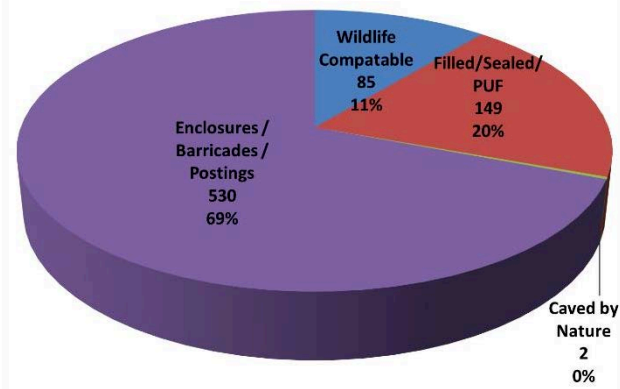
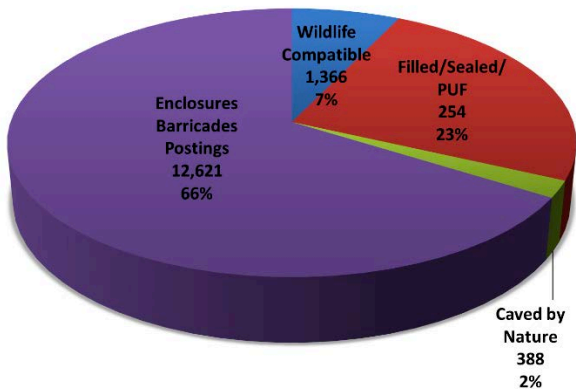
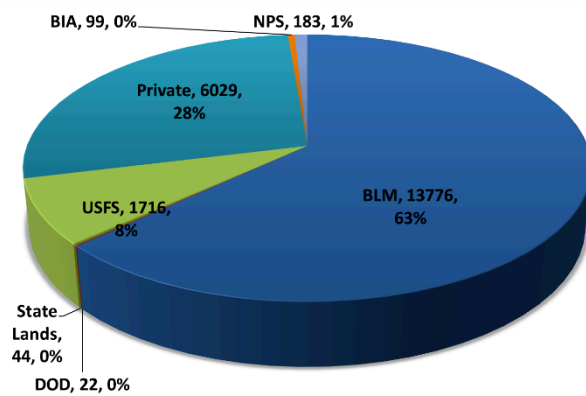
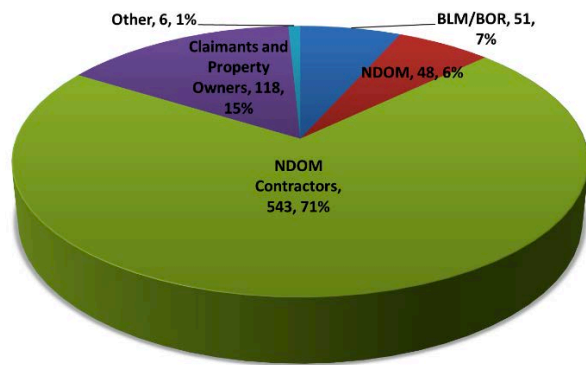


Figure 2 - Securings by Agency 2020 (top-left), land status (top-right), securing by type to date (bottom-left), and by type 2020 (bottom-right).

thoroughly investigated. In 2019 alone, over 9,000 non-hazardous mining features were inventoried by staff and interns.

### Tonopah NV Point Inventory Project, Nye, and Esmeralda Counties

In 2019, the AML program developed and tested a hazard identification method using helicopter survey and GPS tracking. This type of survey was found to be especially effective in identifying AML features in basins and on alluvial fans where a high density of potential hazards are suspected. Work completed north of the Tonopah area identified more than 3,000 non hazards and 38 new hazards. In January of 2020, the Division’s contractor, Environmental Protection Services (EPS) completed inventory and securing of these newly identified hazards.

#### Lida, Esmeralda County

The town of Lida, NV experienced a protracted period of exploration and mine development in the late 19th century and contains a high density of historic AML features near the town and State Route 266. Hundreds of hazards were inventoried between 2016 and 2018 by summer interns and Division staff. In the spring of 2020,

EPS, spent two months safeguarding 98 orphan hazards via fencing and barricades within the historic mining district.

#### Quartz Mountain, Mineral and Nye County

As a result of multiple public call-ins and notifications from the BLM, the Division became aware of high density of hazardous sites in the Quartz Mountain area in Mineral and Nye counties. The Division had a further interest in this area due to a proposed highway expansion project by NDOT, bringing Quartz Mountain historical mining resources features within the viewshed of the expansion. Between May and August of 2020, EPS secured 28 sites at this location, including enclosures of historical cultural resources, such as headframes and other structures.

#### Queen of Sheba, Pershing County

The Queen of Sheba mine is a remote and historic AML site in Pershing County. Four sites were secured at the mine in 2020, triggered by the first AML incident in 7 years. The incident occurred when a local resident hiking with his dog encountered an unsecured shaft. The dog became excited by birds inhabiting the hazards and fell into the open shaft. The owner was able to rig a retrieval system and hoist the animal out of shaft unharmed.



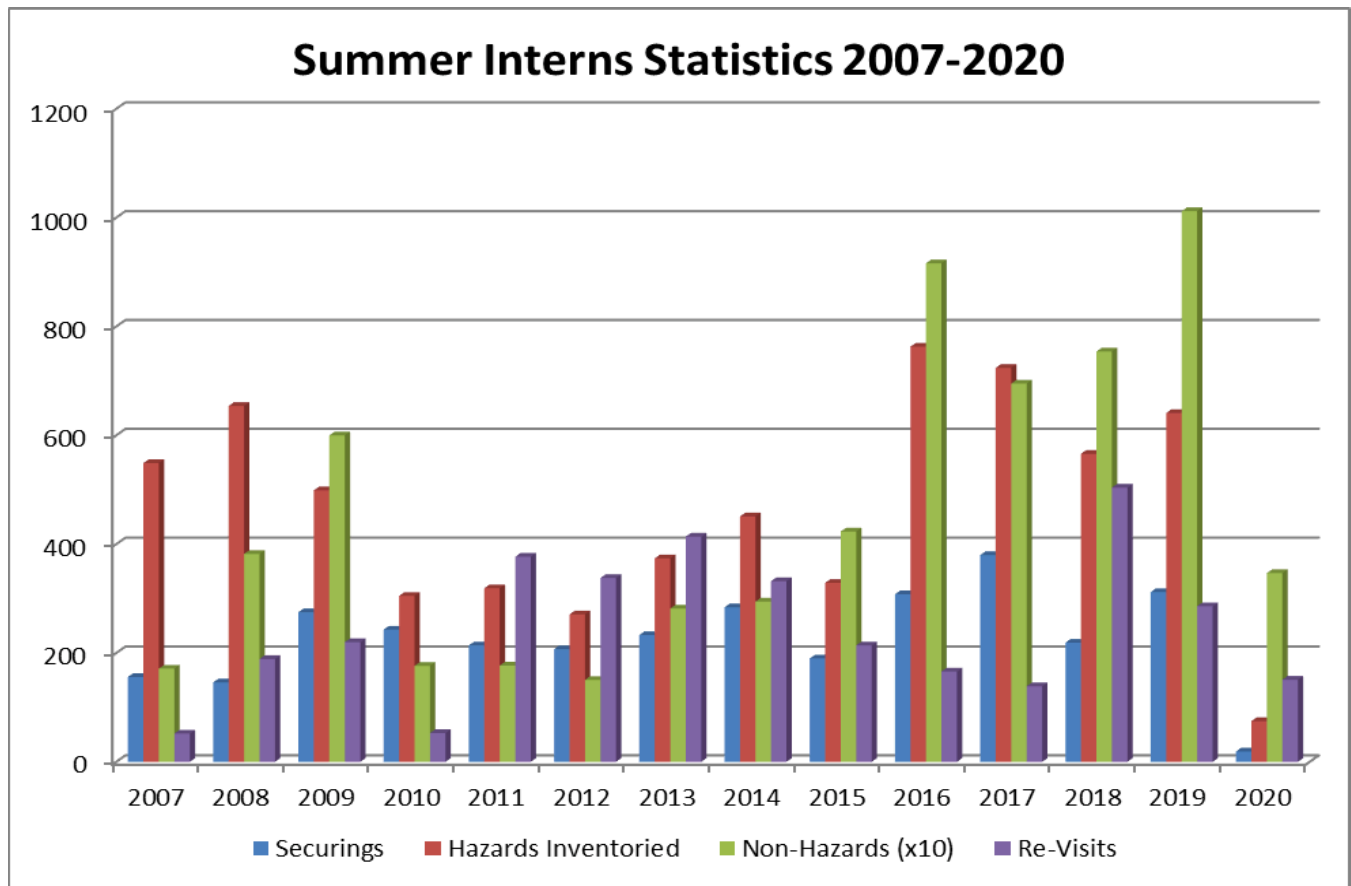


Figure 3 - Summer intern statistics from 2007 through 2020.

lands, the BLM and the Division reached out to the BLM Archeological Crew in Medford, Ore., to complete the cultural surveys. NDOW began wildlife surveys in 2018 and finished in late 2019.

Planning and permitting for the project took two years and the construction was completed in two main phases: the first began in February of 2020, and the second in May of the same year. The project finished in June, 2020, on time and under budget, for a total cost of \$333,313.

## 7. Intern Program

The Division employs college students majoring in the geosciences and related fields to assist with inventorying, revisiting, and safeguarding of hazardous AML features throughout the state. The intern program began in 2000 and has since expanded from two to eight students in the summer and four to six in the winter. These interns are trained and supervised by Division staff throughout the program.

The internship lasts 13 weeks over the summer months, and four weeks during the winter. Interns in this program are trained in field safety, first aid, operation of

4WD vehicles, GPS data collection, map reading, and working in teams. The work is physically demanding and involves dry camping in remote areas for extended periods of time. However, 2020 presented significant logistical challenges due to the global COVID-19 pandemic. For this reason, the Division rehired only two past interns from the 2019 season. These interns were already trained to perform the work, which enabled them to bypass much of the training conducted in a normal year; this training would have not been possible due to social distancing requirements and the Division’s Communicable Disease Plan. Each intern was provided a truck, briefed on the Division’s communicable disease plan, and provided with the necessary sterilization supplies.

While the Division was only able to operate with one-quarter of the number of interns it normally employs, the amount of work accomplished by the two seasoned interns was above expectation, given the difficult circumstances. No injuries or instances of COVID-19 transmission occurred during the intern season. The two interns, Kahler Angelo and Danner Hillman were able to complete 18 securings, logged 75 hazards, and revisited 150 known hazards, and documented 363 non – hazards. Mr. Hillman and Mr. Angelo planned and executed a great