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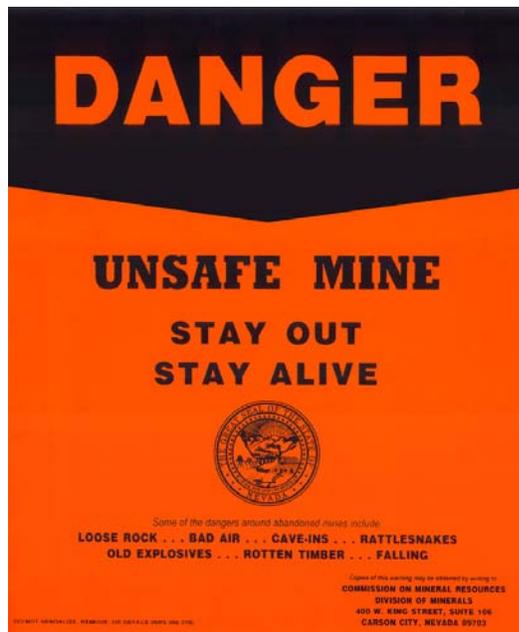
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**COMMISSION ON MINERAL RESOURCES
DIVISION OF MINERALS**

**NEVADA ABANDONED
MINE LANDS REPORT
2011**



By
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NEVADA COMMISSION ON MINERAL RESOURCES
Division of Minerals

The Nevada Division of Minerals, a part of the Commission on Mineral Resources, is responsible for administering programs and activities to promote, advance, and protect mining and the development and production of petroleum and geothermal resources in Nevada. The Division's mission is to conduct activities to further the responsible development and production of the State's mineral resources to benefit and promote the welfare of the people of Nevada. The seven-member Commission on Mineral Resources is a public body appointed by the Governor and directs mineral-related policy for the Division and advises the Governor and Legislature on matters relating to mineral resources. The Division focuses its efforts on three main areas: Industry relations and public affairs; regulation of oil, gas, and geothermal drilling activities and well operations; and abandoned mine lands.

The agency is involved in a wide array of activities relating to mineral development. Staff compiles annual data on all active mines in Nevada and maintains the State's mine registry. Information concerning mining operations and production is made available to the public through this yearly publication. Educational documents and materials concerning many aspects of the minerals industry are also produced. The Division participates in governmental activities affecting policies and laws concerning the minerals industry and resource development. The Division administers the State's reclamation bond pool.

The Division is responsible for permitting, inspecting, and monitoring all oil, gas, and geothermal drilling activities on both public and private lands in Nevada. Staff also monitors production of oil, gas, and geothermal resources to insure proper management and conservation. The Administrator is the Governor's Official Representative to the Interstate Oil and Gas Compact Commission.

The Division's abandoned mine lands program provides for public safety by identifying and ranking dangerous conditions at mines that are no longer operating, and by securing dangerous orphaned mine openings. The program continually urges the public to recognize and avoid hazardous abandoned mines.

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Executive Summary

The State of Nevada's Abandoned Mine Lands (AML) program entered its **26th year in 2011**. Key points for the program in 2011 include the following:

- There were two AML-related incidents in 2011, including one fatality.
- The total number of AML hazards discovered and ranked since the beginning of the program reached 16,386 hazards. The total number of hazards currently recorded as secured reached 12,720.
- 1,133 hazards were discovered and ranked in 2011, an 89% increase from 2010.
- 1,779 hazards were secured in 2011, a 218% increase from 2010. Mining claimants and private property owners secured 745 hazards. 560 orphan hazards (hazards located on public land where no claimant or property owner exists) were secured by Nevada Division of Minerals (NDOM) staff, contractors and volunteers, an increase of 45% compared to the 387 securings in 2010.
- Permanent AML closure projects took place in Clark, Humboldt, Lander, Lincoln, and Pershing Counties.
- Public awareness activities: 178 presentations brought the "Stay Out and Stay Alive" message to more than 20,000 people. These included classroom presentations, other school and community functions, industry conventions and smaller special interest groups. Students and teachers were given brochures, bumper stickers, magnets, "hard hat" stickers, temporary tattoos, and pencils bearing the "Stay Out and Stay Alive" message. A total of nearly 82,000 AML brochures were distributed to every 4th and 8th grade student in the state and the "Stay Out and Stay Alive" video was sent to all new schools in the state.
- The Summer Intern Program included 8 students in 2011. The interns were all students from the Mackay School of Earth Sciences and Engineering, University of Nevada, Reno.
- 21 hazards were secured and 19 previously secured hazards were repaired by 8 Eagle Scout candidates in 2011. Since 1992, 124 Scout projects have been completed resulting in 600 secured orphan hazards and 93 repairs to existing fences.
- The Division met or surpassed both of the AML performance indicators approved by the State Legislature. Total secured hazards divided by total discovered hazards was 77.6% (70% required) and total public awareness presentations averaged 17.8 per staff member (12 required).
- Total dedicated funding for the AML program from mining claim filings, fees on permitted surface disturbance associated with new mining operations on public lands, and Bureau of Land Management (BLM) grants totaled \$620,944 in fiscal 2011, as compared with \$579,244 in fiscal 2010.

Program Background

Nevada's geology provides ideal conditions for the deposition of a large variety of valuable and useful minerals. These mineral deposits have attracted the attention of miners and prospectors for over 150 years. The hearty souls who searched across the state exploring for this vast mineral wealth left behind a legacy of shafts, adits, glory holes, stopes, mill sites and other features that are potentially dangerous to unwary or curious people and to wild and domestic animals. Over time, most of the mine openings have become unstable because of exposure to the elements and decay of support timbers. It is estimated that 200,000 to 300,000 of these mining-related features exist in the state. Of these, the Division estimates that 50,000 are significant hazards that require some type of securing. Appendix A lists the hazards discovered and hazards secured by the AML program from 1987 through 2011 and includes a map showing the location of hazards discovered and secured in 2011.

The State of Nevada AML program was created by the Nevada Legislature in 1987 in response to a number of incidents, both fatal and nonfatal, that had occurred in abandoned mine openings. Table 1 shows a 50-year history of reported incidents related to abandoned or idle mines. The legislation placed the program with the NDOM and mandated two primary functions: 1) Investigation and inventory of mining-related openings and structures at mining sites that are currently idle or abandoned, and 2) Development and maintenance of an aggressive public awareness campaign to educate the public about dangerous conditions that exist as a result of historic mining activities. The primary Nevada Revised Statutes (NRS) governing the AML program can be found in Appendix B.

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 (so-called "orphan" mine openings). The legislation also provided an opportunity for companies, individuals, and civic groups to voluntarily assist the program in securing orphan mine openings under a designated Good Samaritan law (NRS 41.0331); see Appendix B.

The AML program is administered under Nevada Administrative Code (NAC) 513. The pertinent regulations can be found in Appendix C. Sections 513.320 through 513.360 provide for the openings or structures to be given a hazard ranking based on the location and type of feature. The regulations also require that land ownership status be conducted at the county courthouse to determine whether a current claimant or landowner is responsible for abating hazardous conditions on lands under their control.

The AML program is primarily funded by fees on mining claim filings. The county recorder collects the fees for the Division at the time the claims are filed. The program is also funded by a fee paid by mining companies or individuals for new mining operations or expansions occurring on public lands. The Division has cooperative agreements in place with both the Bureau of Land Management (BLM) and the United States Forest Service (USFS). Under these agreements, the BLM and USFS may provide assistance grants to enhance and accelerate both field investigation activities and work performed by staff and volunteers to secure orphan hazards.

Table 1. Reported AML Incidents through 2011

Date	NEVADA DIVISION OF MINERALS Reported Abandoned Mine Lands Incidents	County
1/1961	Male juvenile (15) injured in 50 ft. down mine ventilation shaft	Storey
11/1970	Male juvenile (12) injured in fall down 110 ft. deep mine shaft	Washoe
5/1971	Male juvenile (15) injured in fall down 200 ft. deep mine shaft on Duck Hill	Carson City
4/1975	Two male juveniles killed when motorcycles fall into mine shaft near Searchlight	Clark
12/1978	Juvenile killed in fall down mine shaft (Ninety-Nine Mine), body never recovered	Clark
4/1979	Two teenagers killed in fall down mine shaft (Oest Mine)	Lyon
2/1986	Young adult male (20) killed in fall down winze in adit	Lyon
5/1987	Female child (5) injured in fall down 35 ft. deep mine shaft	Washoe
9/1988	Body of elderly male found at bottom of mine shaft	Lyon
9/1989	Male adult seriously injured in fall down winze in mine near Henderson	Clark
3/1990	Male juvenile lost for 19 hours in mine shaft near Tonopah old Mizpah mine	Nye/Esmeralda
5/1990	Dog killed in mine shaft MGL Mine – Winn. Dry Lake	Humboldt
2/1991	Male adult (40) killed in fall down mine winze	Douglas
5/1991	Male juvenile (13) injured (minor) in fall down 20 ft. deep mine shaft	Washoe
12/1991	Male adult (44) killed in fall down mine winze	Lyon
9/1992	Female adult (28) injured (cuts and bruises) in fall down mine shaft Hot Springs Mtn.	Douglas
10/1992	Male adult (27) news reporter injured in dynamite blast in mine west of Winnemucca, NV	Humboldt
1/1993	Dog rescued from 25 ft. deep shaft	Humboldt
11/1993	Dog rescued from 30 ft. deep mine shaft near Iron Mtn. Estates	Storey
6/1995	Male adult (30) died while scuba diving in mine shaft filled with water at the old Crown Copper UG Mine.	Humboldt
3/1996	Male adult (31) injured in fall down mine winze on west side of Las Vegas	Clark
9/1996	Two male adults (35) killed in mine adit near Virginia City by suffocation	Storey
10/1996	Male (16) killed in fall off ATV at American Flats millsite	Storey
4/1997	Two male adults (50's) injured in fall down hand dug well in town of Luning	Mineral
7/1998	Male adult (20's) slightly injured in fall down mine winze in Brouher Divide Mine	Esmeralda
9/1998	Dog rescued from 20 ft. deep mine shaft	Douglas
10/1998	Two male adults seriously injured in fall down 50 ft. deep mine winze near Las Vegas	Clark
6/1999	Male juvenile (15) drowned swimming in open pit lake	Lander
10/1999	Female juvenile (11) killed in fall down 130 ft. deep mine shaft near Beatty	Nye
11/2000	Dog rescued from fall down 40 ft. mine shaft. Moderate injury to hip	Storey
12/2000	Dog rescued from fall down 60 ft. winze. Minor injury to hip	Pershing
7/2002	41 year-old male drowned swimming in open pit lake	Storey
10/2002	37 year-old CA male received severe injuries from fall down 25 ft. winze	Clark
1/2003	Dog fell down shaft	Humboldt
1/2003	62 year-old man received minor injuries from fall down 25 ft. winze (same as 10/2002)	Clark
4/2004	30 year-old man received moderate injuries from fall down 25 ft. winze near Las Vegas	Clark
5/2005	Woman of unknown age, received cuts and bruises from fall down a 35 ft. winze in Carson City	Carson
5/2006	Dog rescued from 22 foot-deep mine shaft	Washoe
5/2007	Adult male (mid-20's) injured in ~200' fall down inclined winze	Clark
5/2007	Adult male (63) suffered fatal injuries after rolling his Jeep into the Loring Pit, Virginia City	Storey
8/2008	Adult male (58) injured in 50' fall down inclined winze	Esmeralda
9/2008	Dog reportedly fell down 100' shaft, not recovered	Washoe
10/2008	Adult male (62) suffered fatal injuries after falling 60' down a winze	Lyon
5/2009	Dog fell down inclined shaft, rescued 10 days later	Esmeralda
3/2011	Adult male (28) suffered fatal injuries after falling 190 feet down a shaft	Pershing
7/2011	Dog fell down shaft, rescued 8 days later	White Pine

In compliance with NRS 513.094.2, the Division notifies county commissions of hazardous conditions discovered in their counties, on an on-going basis by: 1) providing copies of notification letters sent to claimants requesting that hazardous conditions located on their claims or property be secured, and 2) providing documentation of orphan hazards identified and ranked within a week of determination of orphan status.

If a claimant fails to notify the Division of completion or of their intention to secure hazards within the timeframe specified in NAC 513.380, their file is turned over to the appropriate county commission per NRS 455.030 and 455.040. 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.

Abandoned Mine Incidents in 2011

There were two reported incidents at abandoned mines in Nevada in 2011. The first incident occurred when a 28-year old man suffered fatal injuries in a 190 foot fall down a mine shaft in Pershing County. The second incident occurred west of Ely in White Pine County, where a dog got separated from its owner, apparently while chasing another animal and fell down a 40-foot deep mine shaft. Eight days later, the dog was rescued unharmed when the owner finally heard her barking and successfully located the shaft.

Discovery and Securing

From the beginning of the AML program in 1987 through December 31, 2011, 16,386 hazards have been discovered and ranked and 12,720 hazards (claimed, owned, and orphans combined) are currently recorded as secured. Figure 1 is a graph of hazards discovered and ranked and hazards secured for 1987 through 2011. Table 2 is a county-by-county listing of hazards discovered and secured since the beginning of the program. The number of hazards secured represents 77.6% of all hazards discovered to date.

Of the 12,720 hazards currently secured, 880 (7%) are ranked high, 3,695 (29%) are ranked moderate, 5,818 (46%) are ranked low, and 2,327 (18%) are ranked minimal. Figure 2 is a pie chart showing the percentage distribution of secured mine openings by hazard rank.

Of the 12,720 secured hazards, 4,474 (35%) are orphans, ranked as follows: 160 (4%) high, 1,067 (24%) moderate, 2,207 (49%) low and 1,040 (23%) minimal. Figure 3 is a pie chart showing the percentage distribution of secured orphan mine openings by hazard rank. The difference between total securings and orphan securings is 8,246, which represent the very significant (65%) contribution to the program by the mining industry, claimants, and landowners.

The total number of hazards discovered and ranked during 2011 was 1,133 compared with 598 hazards discovered and ranked in 2010; an increase of 89%. Of the 1,133 hazards discovered, 189 were determined to be orphans, 794 were determined to be on leased claims or private property, and 150 require ownership research. Of the 1,133 hazards discovered in 2011, 58 (5%) were ranked high, 346 (30%) moderate, 517 (46%) low, and 212 (19%) minimal. Figure 4 is a pie chart showing the percentage distribution of hazards discovered in 2011 by hazard rank.

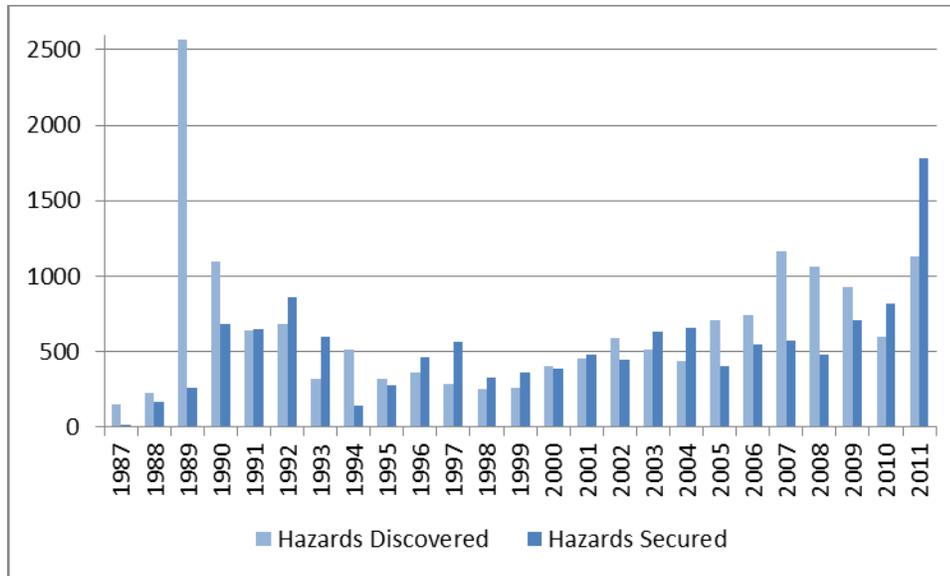


Figure 1. Hazards Discovered and Hazards Secured on an Annual Basis from 1987 to 2011.

Table 2. County-by-County Hazards Discovered and Hazards Currently Secured as of 2011.

COUNTY	HAZARDS DISCOVERED	HAZARDS SECURED
Carson City	76	76
Churchill	598	497
Clark	2,109	1,548
Douglas	192	179
Elko	577	414
Esmeralda	2,477	1,951
Eureka	718	647
Humboldt	751	681
Lander	502	421
Lincoln	606	505
Lyon	965	768
Mineral	1,476	1,250
Nye	2,186	1,582
Pershing	1,296	907
Storey	178	148
Washoe	420	384
White Pine	1,259	762
TOTAL	16,386	12,720

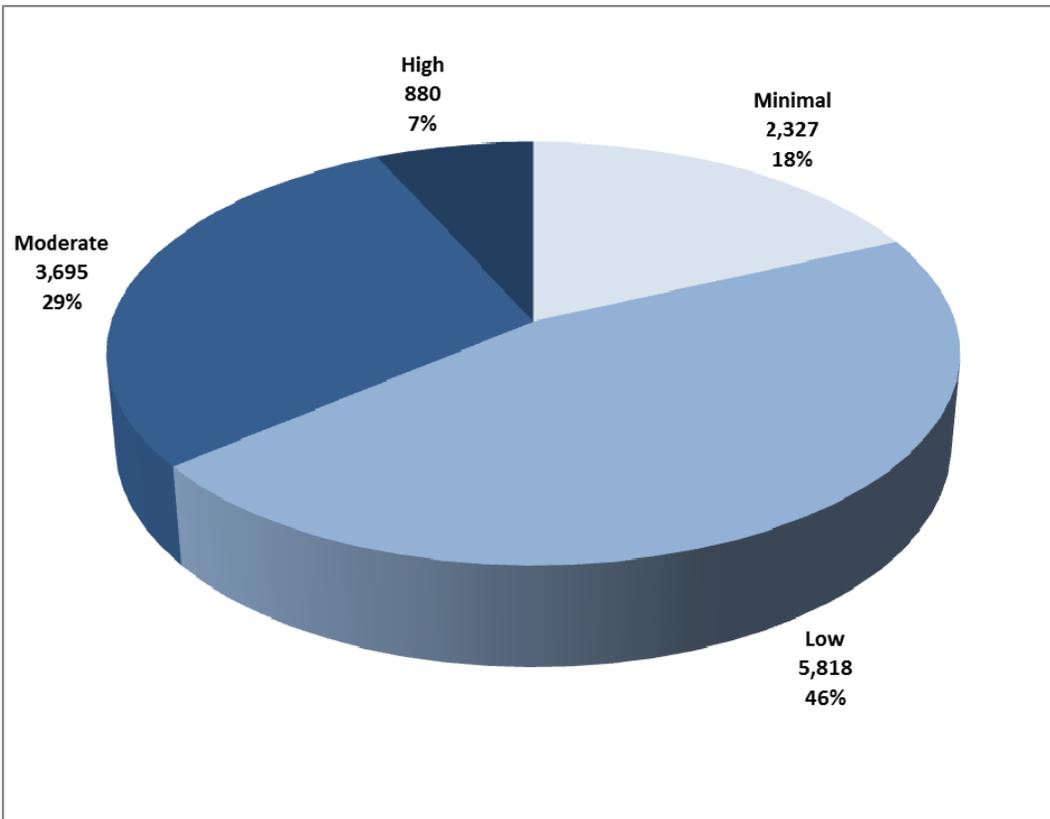


Figure 2. Distribution of Currently Secured Mine Openings by Hazard Rank 1987 through 2011. Total: 12,720

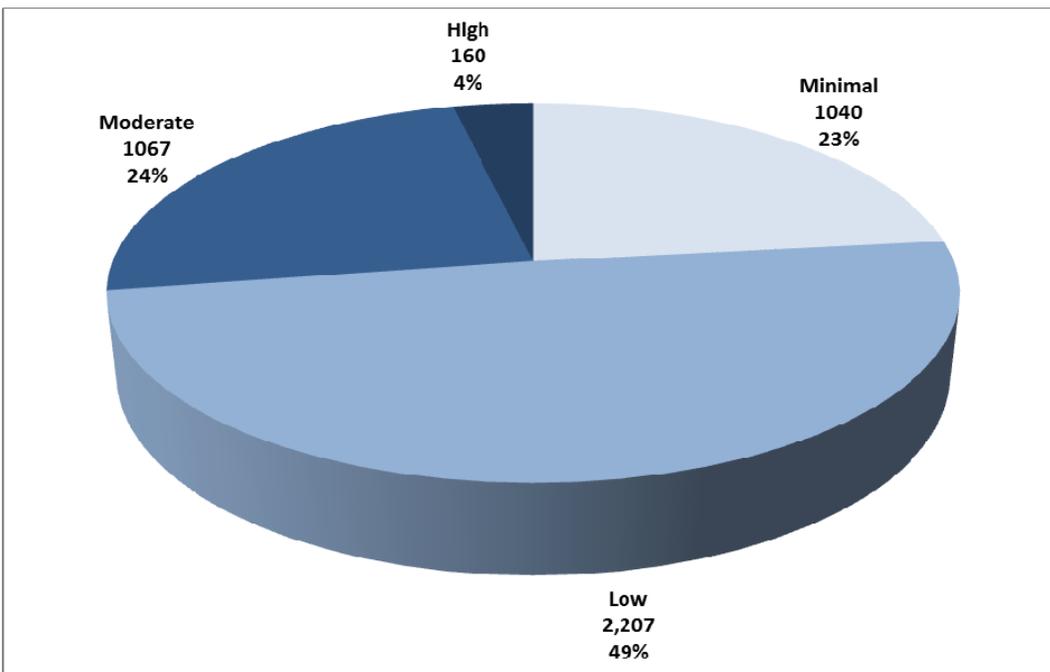


Figure 3. Distribution of Currently Secured Orphan Mine Openings by Hazard Rank 1987 through 2011. Total: 4,774

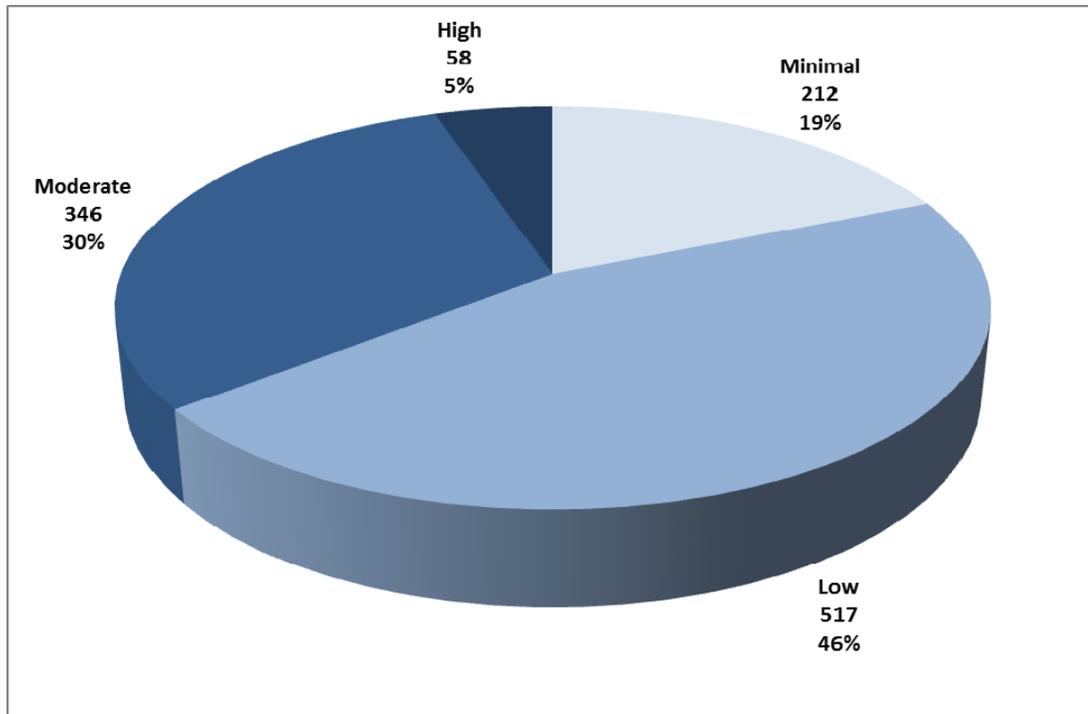


Figure 4. Distribution of Discoveries by Hazard Rank 2011
Total: 1,133

The total number of sites secured during 2011 was 1,779 compared to 816 in 2010, a 218% increase! This substantial increase was due to the positive response to a new notification campaign instituted in 2011. Bulk mailings occurred twice in 2011, notifying claimants and property owners of existing unsecured hazards on their property. The AML portion of the NDOM website was also modified to highlight an AML Resource Center providing information and links to facilitate AML securings and the accurate recording of this information.

Of the 1,779 securings in 2011, 289 were secured by NDOM staff and summer interns, 745 were secured (or discovered as secured) by claimants and owners of patented claims and private land, 170 were secured by volunteers and other Good Samaritans, 254 were secured by a contractor for NDOM, 212 were secured by the Bureau of Land Management, 80 were secured by U. S. Forest Service personnel, 16 were secured by the Nevada Department of Wildlife, three were recorded as secured by the National Park Service, and 10 were found to be secured by natural effects (e.g. caving). Figure 5 is a pie chart showing the distribution of securing work by group, as recorded by NDOM for 2011. 417 of the hazards secured in 2011 were orphans.

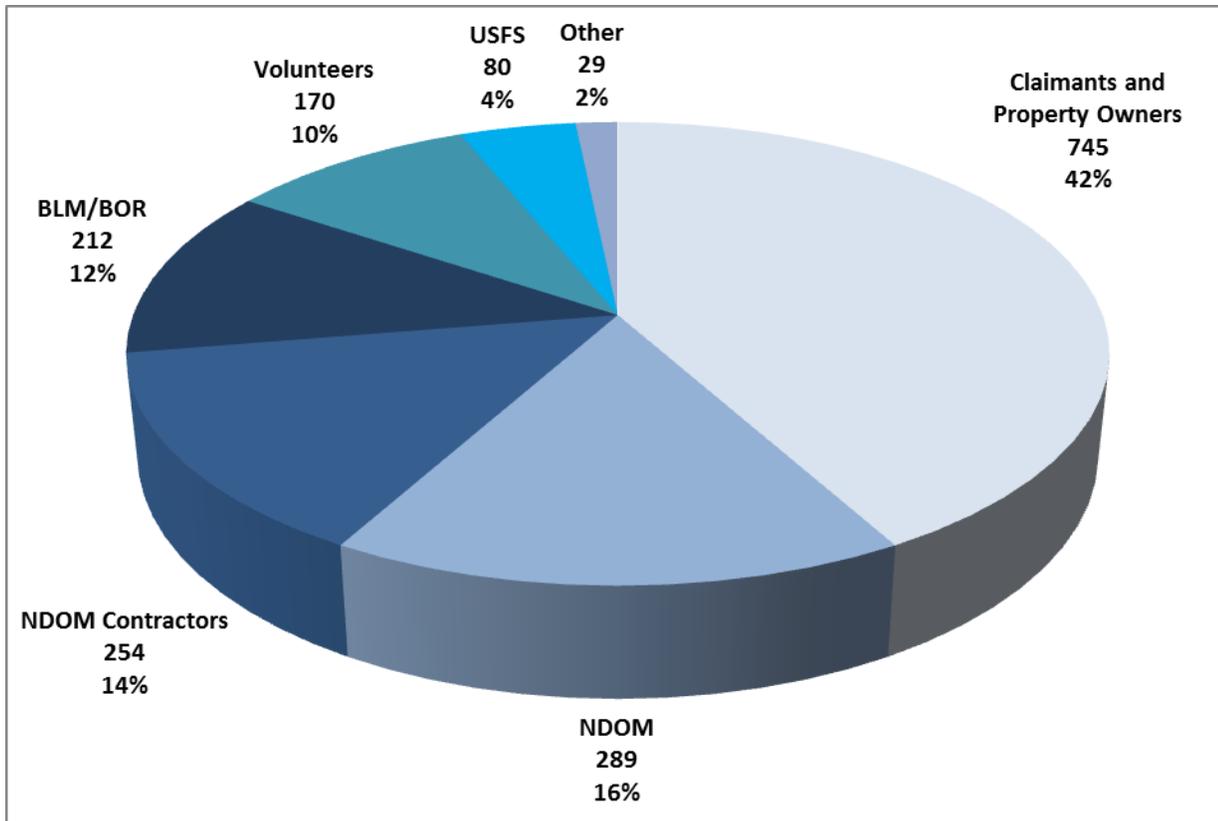


Figure 5. Distribution of Secured Mine Openings Recorded by NDOM in 2011 by Agency or Group. Total: 1,779

Public Awareness

In the area of public awareness, the theme is “Stay Out and Stay Alive.” This message is carried to the public through several channels including; an 11-minute video of the same name which has been distributed to every school and library in Nevada, informational brochures, mini-unit curriculum guides targeting 4th and 8th grade students, and handouts that include bumper stickers, “hard hat” stickers, “squeeze bats” with the message “Abandoned Mines are for Bats, Not People, Stay Out and Stay Alive,” magnets, pencils, temporary tattoos and coffee mugs. These materials reach tens of thousands of people every year.

In 2011, staff made 113 classroom presentations in Carson City, Churchill, Clark, Douglas, Lyon and Washoe counties to more than 5,000 people. Staff also participated in informational programs at a wide variety of venues ranging from school “Science Nights”, career fairs and Nevada Days events to community gatherings, prospector club meetings, professional association meetings, outdoor recreation events, and the NDOM and Nevada Mining Association co-sponsored Earth Science Education workshops for teachers. Additionally in 2011, 81,895 brochures were mailed out during January and February to 4th and 8th grade students in Nevada public and private schools. 2,312 mini-unit curriculum guides were sent to all new schools and to all public or private schools that added additional 4th or 8th grade classes to their schedules. “Stay Out and Stay Alive” videos (DVD format) are made available to all public and private schools and public libraries across Nevada. Figure 6 highlights a selection of the Outreach and Education events from 2011.



Figure 6. Outreach and Education Events (clockwise from top left): 2011 Reno Earth Science Education Workshop, “Paste with a Taste” activity; 2011 Las Vegas Earth Science Education Workshop, tour of Mercator Mineral Park copper mine, Kingman, AZ; students testing minerals at Esther Bennett Elementary School, Sparks; and Red Rock Science Festival, Red Rock NCA.

The “Stay Out and Stay Alive” message was spread to over 15,000 people through 36 other venues, including:

- Presentations made to teachers at the 22nd Annual Southern Nevada Earth Science Education Workshop in Las Vegas and the 27th Annual Northern Nevada Earth Science Education Workshop in Reno. (total of 180 teachers)
- Henderson Library Summer Reading Program – Henderson (400 attendees)
- Nye Gold Seekers prospectors club monthly meeting – Pahrump (80 attendees)
- Second Saturday Salon – Red Rock NCA – Las Vegas (75 attendees)
- Red Rock Science Festival – Red Rock NCA – Las Vegas (200 attendees)
- Capital City Farm Days – Carson City (30 presentations, 1,700 attendees)
- Elko Mine Expo – Elko (6,000 attendees)
- International Collegiate Mining Competition – Reno (300 participants and attendees)
- Dayton Valley Days – Dayton (100 attendees)
- Festival in the Pines – Kyle Canyon Ski and Snowboard Resort – Clark County (150 attendees)
- Henderson National Trail Days – Henderson Pavilion (200 attendees)
- Spring Mountain Ranch Pioneer Days – Clark County (200 attendees)
- L.A.S.T. First Responder workshop – Tonopah (35 attendees)
- High Desert Rockers monthly meeting – Carson City (110 attendees)
- Reno Gem and Mineral Society’s “Jackpot of Gems” – Reno (3,000 attendees)
- Silver State Tribal and Mining Forum – Reno (50 attendees)
- Northwest Mining Association Conference – Sparks (2,500 attendees)

Permanent Closure Projects

The permanent closure of abandoned mine hazards may employ methods such as backfilling with available and suitable fill material, the construction of bat gates (for adits), culvert gates, cupolas or bat grates (for shafts), and the use of expansive polyurethane foam (PUF) plugs, or a combination of these methods. Unlike fence or barricade construction, 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 must be evaluated for cultural and biological (habitat) resource potential. Closure methods are determined based on the outcome of the resource surveys and the public safety hazard potential. In 2011, 377 hazards were recorded as permanently secured on public lands in Nevada, including 192 by the BLM and 79 by the USFS. This is a 15% increase over the prior year and reflects the continued strong focus and impressive accomplishments by state and federal agencies to more permanently eliminate the physical safety risks these features present to the public.

Clark County Closure Project

The Clark County AML closure project was completed in August of 2011. The Clark County mine closure project began with funding received by the Department of the Interior in 2006 from the Southern Nevada Public Lands Management Act (SNPLMA), Rounds 4 and 5. The SNPLMA funding contributed to the completion of all cultural and biological resource surveys for the original 344 hazards targeted by NDOM for permanent closure. SNPLMA funding was used for construction work and backfilling until the funds were exhausted in November, 2009. The Department of the Interior received funding in 2009 from the American Recovery and Reinvestment Act (ARRA) to keep the closure work going. In 2011, the construction crew from the US Bureau of Reclamation (BOR), Boise, Idaho office completed 95 closures including 35 bat-compatible closures, 37 polyurethane expansive foam (PUF) plugs covered with rock and soil and 23 backfills (see Figure 7).

Lincoln County Closure Project

The Lincoln County AML closure project was begun in September of 2010 with funding from SNPLMA Round 7. Cultural and biological resource surveys were conducted in 2009 and early 2010 for 108 hazards targeted for permanent closure by NDOM and Nevada Division of Wildlife (NDOW). During 2011, the construction crew from the BOR continued work in Lincoln County following completion of the Clark County closure project. Six closures were completed, all of which were polyurethane foam (PUF) plugs covered with rock and soil. Additional work is planned for 2012.

Humboldt and Lander County Closure Projects

Utilizing funds provided by ARRA, the BLM began working on permanent closures projects in Humboldt and Lander counties in 2010. Upon completion of all the required cultural and biological resource surveys, construction crews from the BOR initiated closure work in 2011. Sixty AML hazards were closed in 2011, 41 in Humboldt County and 19 in Lander County. Of these combined closures, 44 were completed by backfilling, 11 by the installation of bat gates, and five by filling with PUF plugs. Additional work is planned for 2012.

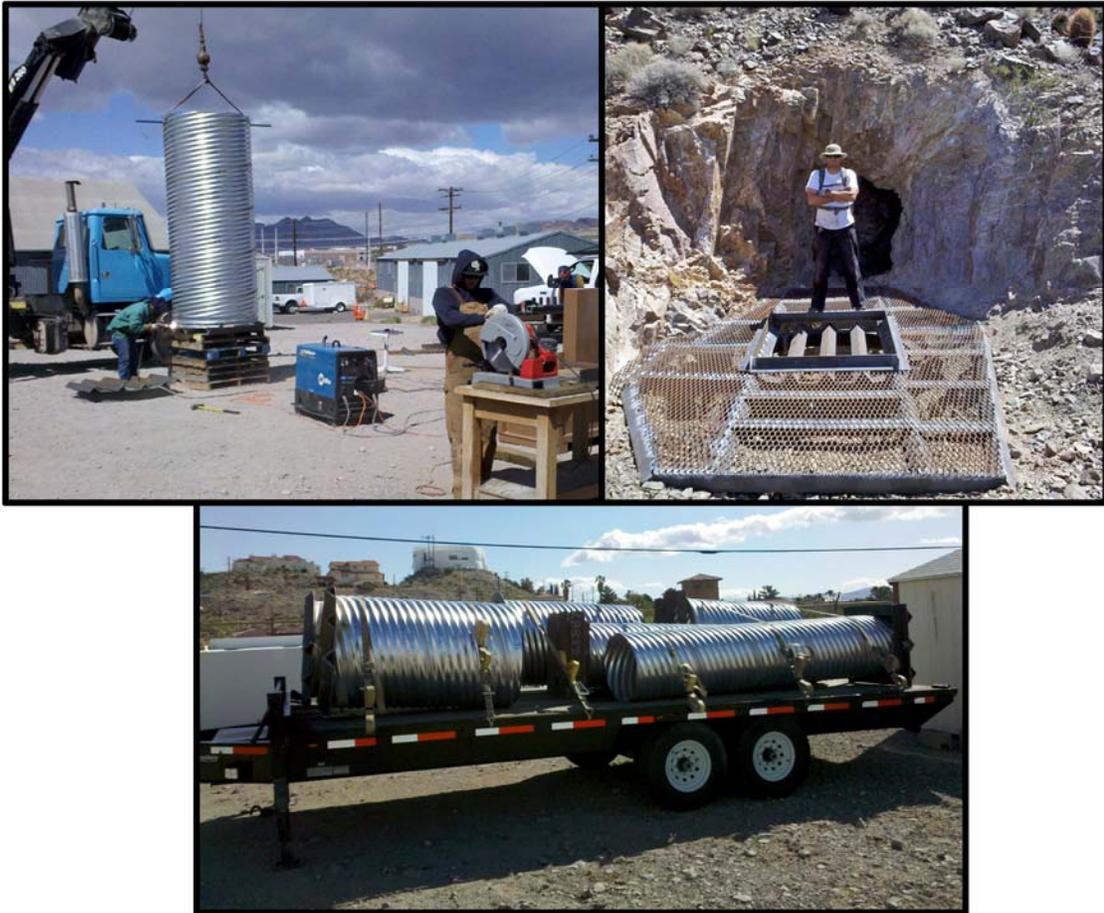


Figure 7. Bureau of Reclamation preparation and mine closure work in Clark County.

Bat Friendly Closure Projects

The Division works with several State and Federal agencies to identify adits and shafts which may be suitable for bat habitat and would benefit from bat-compatible closures such as bat gates and bat cupolas. Prior to any permanent closure, such as a backfill, pre-closure surveys are performed to confirm that the closure will not negatively impact significant biological habitat. These surveys are conducted by appropriately trained biologists working for one or more of our partnering agencies; Nevada Department of Wildlife, Bureau of Land Management, or US Forest Service. During 2011, 163 bat gates or cupolas were constructed by state and federal agencies (162) and property owners (1).

Backfill and PUF Closures

For those hazards determined to have no significant bat usage or habitat potential, backfill or PUF plug closures were employed. In 2011, a total of 119 hazards were recorded as backfilled and 104 were closed with PUF plugs. Table 3 summarizes BLM and USFS backfill projects from 1999 through 2011.

Table 3. Summary of Completed Backfill/PUF Projects – 1999-2011		
<u>Yr</u>	<u>#</u>	<u>Location (Lead Agency and Partner)</u>
1999	6	Near Henderson, Clark County (BLM and Cashman Equipment Company)
2000	13	Near Henderson, Clark County (BLM and Nevada Mining Association (NVMA))
2001	22	Near Goodsprings, Clark County (BLM and NVMA)
2002	21	Near Goodsprings, Clark County (BLM and NVMA)
	7	Peavine Mountain, Washoe County (USFS and Q&D Construction)
2003	41	Searchlight and Nelson areas of Clark County (BLM and NVMA)
2004	45	Esmeralda and Nye counties near Tonopah (BLM and NVMA)
2005	55	Nye and Washoe counties (BLM and NVMA)
2006	53	Nye County (BLM and NVMA)
2007	108	Douglas, Esmeralda and Washoe counties (BLM)
2008	89	Clark and Washoe counties (BLM)
	13	Humboldt, Washoe and White Pine counties (USFS)
2009	49	Clark, Elko, Eureka and White Pine counties (BLM)
	30	Clark, Lander and Nye counties (USFS)
2010	160	Clark, Elko, Esmeralda, Eureka, Lincoln and Nye counties (BLM)
	28	Clark, Nye and White Pine counties (USFS)
2011	124	Clark, Elko, Humboldt, Lander, Lincoln, Washoe, and White Pine counties (BLM)
	33	Clark, Elko, Humboldt, Nye, and White Pine counties (USFS)
	<u>786</u>	<u>GRAND TOTAL BLM THROUGH 2011</u>
	<u>111</u>	<u>GRAND TOTAL USFS THROUGH 2011</u>

Summer Intern Program

The Division completed its twelfth summer intern program in 2011. Eight students from the Mackay School of Earth Sciences and Engineering, University of Nevada, Reno were hired. The eight interns were: Murya Dube, Axel Loehden, Natalie Misiewicz, Erik Novak, Caleb Peterson, Colin Spence, Sam White and Joey Winkler. The Division appreciates the great work they performed during the 14 weeks of the program (see Figure 8). This program helps to advance the AML program, and provides the students with valuable field experience in map reading, data collection, land status research, and geological investigation. Figure 9 is a chart illustrating the monthly hazard discovery, securing and orphan securing efforts made during 2011. It clearly shows the interns' presence during the May-August time frame had a marked positive impact on the program. Working in 15 counties, the interns visited 2,681 mine features. 319 new hazards were investigated and ranked, 214 hazards were secured, 377 previously secured hazards were re-visited, inspected/assessed/repared and 1,771 non-hazards were logged.



Figure 8. 2011 Summer Interns Performing Inventory and Securing Work Throughout Nevada.

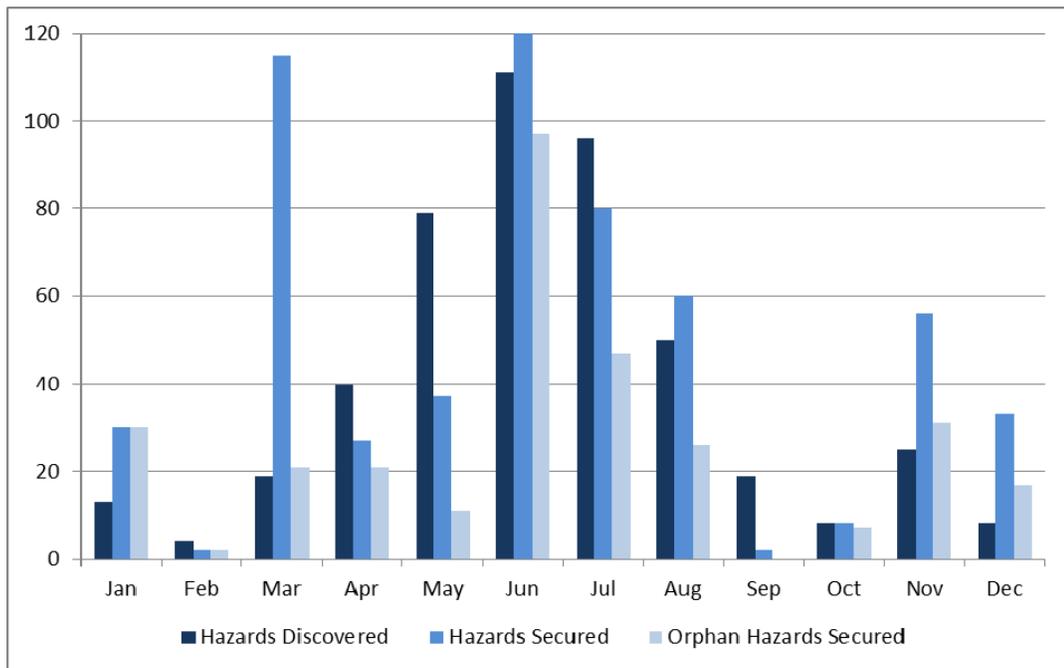


Figure 9. Hazards Discovered, Hazards Secured and Orphan Hazards Secured by NDOM Staff and NDOM Contractors in 2011.

Contracted AML Work

Environmental Protection Services (EPS) continued working as a contractor for NDOM performing general inventory and securing work throughout Nevada. During 2011, EPS inventoried 64 new AML hazards, revisited 119 and secured 114 in Churchill, Douglas, Esmeralda, Humboldt, Lyon, Mineral, Pershing, Nye, Storey and Washoe counties. EPS is also the primary bat gate contractor for State agencies and built 31 bat compatible closures in 2011 (see Figure 10).

Four college students were hired through a Geotemps, Inc. contract as part-time workers at our Carson City and Las Vegas offices during 2011. Kelly August, Geoffrey Baldwin, Ryan Haerberlin and Paul Malone were instrumental in keeping our AML database current, performing ownership research and helping staff with various other tasks.

As a follow up to the successful greater Reno-Carson corridor revisit program, a contract was initiated with Las Vegas-based Hergon Mine Securing Solutions in late 2010 to implement a similar revisit program in Clark County. Many previously secured sites had fences or barricades averaging 7 to 10 years old. Owner Pete Herrera began the program in December of 2010, revisiting 67 sites. In most cases, the warning signs were gone or were so faded that new signs were required. In 2011, Hergon revisited 136 previously secured features in Clark County. Of the 136, 120 sites were found in need of some sort of repair. Hergon re-secured 99 sites on public land.



Figure 10. Bat gate installed in adit in Mineral County and bat cupola constructed over shaft near Historic Fourth Ward School in Virginia City, by Environmental Protection Services.

Scout Projects

In 1992, a young Eagle Scout candidate presented NDOM with a proposal to secure mine openings for his Eagle Scout Service Project in Washoe County. This volunteer effort was very successful and has led to many other projects throughout Nevada. In 2011, eight Eagle projects were completed in Clark, Mineral, Nye and Washoe counties resulting in 21 mine openings secured and 19 repairs made to previously existing fences. Through 2011, 124 Eagle Scout projects have been completed resulting in 600 orphan hazards secured and 93 previously secured hazards re-built or restored. Figure 11 shows several Eagle Scout projects in Nevada.

Appendix D lists the accomplishments of Scouts in the Nevada AML program.



Figure 11. Eagle Scout Service Projects (clockwise from top left): Ian McBryde and crew string barbed wire, Brendan Villhardt and crew, Cameron Rose and Bill, and Dustin Marshall's crew at work.

Performance Indicators

The Legislature requires state agencies to have performance indicators in place for all of their major programs. For the AML program, the Division has two performance indicators: 1) maintain the percentage of secured hazardous mine openings relative to the number of hazardous mine openings investigated and ranked at a minimum of 70% (77.6% in 2011), and 2) maintain the number of public awareness and education presentations concerning the Nevada mineral industry and abandoned mines per staff member at a minimum of 12 per year (17.8 in 2011). The Division has consistently attained or surpassed these goals.

Funding

The Division's AML program is funded by three major revenue sources: 1) mining claim fees, 2) surface disturbance fees paid on new mining plans of operations on public lands, and 3) grants from the Bureau of Land Management. As of August 27, 2008, \$2.50 of every mining claim filing collected by the county on behalf of the Division is dedicated to the AML program (NAC 513.315). The Division collects a one-time fee of \$20 per acre for every acre of permitted disturbance associated with new mining operations on public lands. The Division has assistance agreements with the Bureau of Land Management and US Forest Service, which provide semi-annual support for the AML program, depending on available funding. Table 4 shows the revenues received by the Division from these three revenue sources for the Nevada fiscal years 2007 through 2011.

Table 4. Dedicated Revenue to the AML program for the fiscal years 2007 through 2011.

Year	BLM/USFS Grants	Mining Claim Fees	Disturbance Fee	Total
2007	\$ 10,000	\$ 278,493	\$ 34,126	\$ 322,619
2008	\$50,000	\$317,625	\$4,080	\$371,705
2009	\$110,000	\$455,223	\$148,180	\$713,403
2010	\$75,000	\$463,236	\$41,008	\$579,244
2011	\$0	\$481,584	\$139,360	\$620,944

AML revenue is used to pay salary expenses, travel expenses, the summer intern program, vehicle expenses, and field supplies such as fence posts, signs, and barbed wire. The revenue is also used to support the AML public awareness program through school presentations, video distributions, brochures, magnets, pencils, bumper and hard hat stickers, and other means of outreach.

Summary

The Nevada Division of Minerals Abandoned Mine Lands program continues to make good progress in the discovery and securing of abandoned mine hazards across Nevada. The total number of hazards discovered increased and the number of securings completed in 2011 increased dramatically compared to 2010. This is largely due to the positive response from responsible parties to two massive notification letter campaigns calling attention to known unsecured hazards. The combined help of the Nevada mining industry, the federal land management agencies, the summer intern program, contractors and many volunteers have greatly enhanced the efforts of the NDOM staff.

The public awareness program reached over 20,000 people directly in 2011 through personal interaction with students, teachers, parents and members of civic groups and organizations and the media. Thousands of other people may have been impacted through reading an AML brochure brought home by a student.

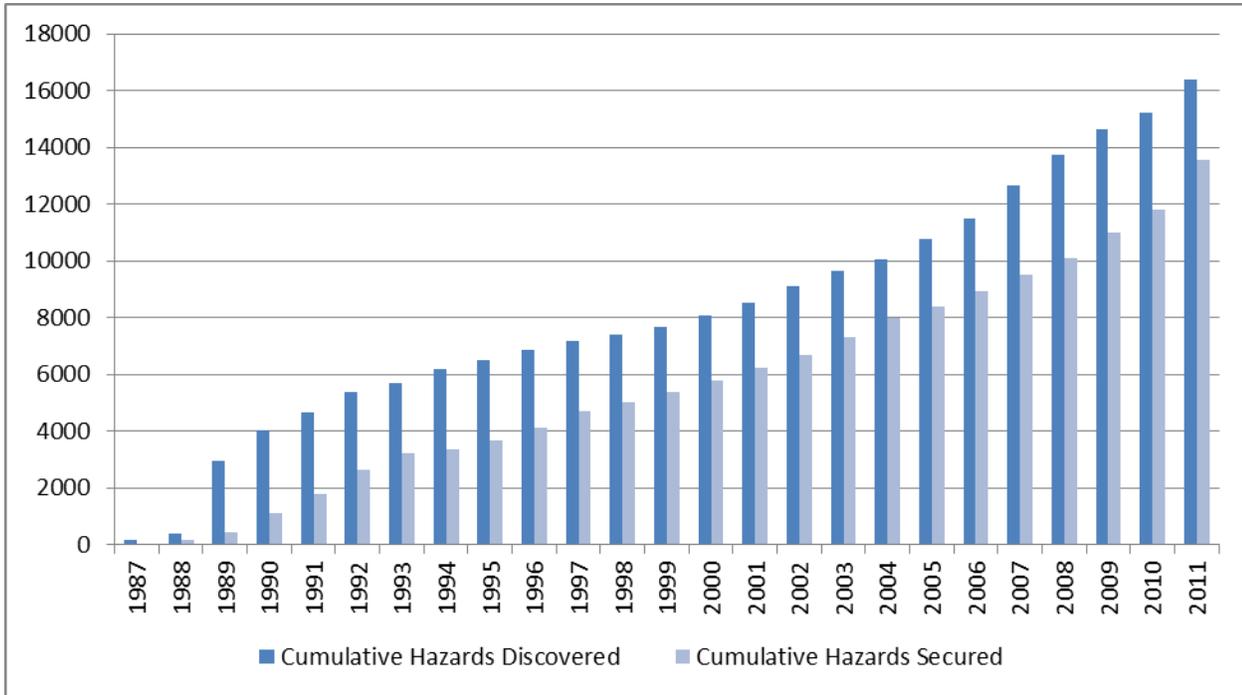
Despite the growing number of visitors that recreate in Nevada, there has been no significant increase in the number of injuries or fatalities related to abandoned mine hazards. It is the sincere hope of the NDOM staff that the mine backfill efforts, fences, barricades and signs, and the awareness brought to people through the “Stay Out and Stay Alive” message are factors that contribute to keeping the incident rate as low as possible.

The Commission on Mineral Resources and the Nevada Division of Minerals will continue to aggressively support the AML program through fieldwork and public awareness because the only satisfactory number of abandoned mine injuries or fatalities is **ZERO!**

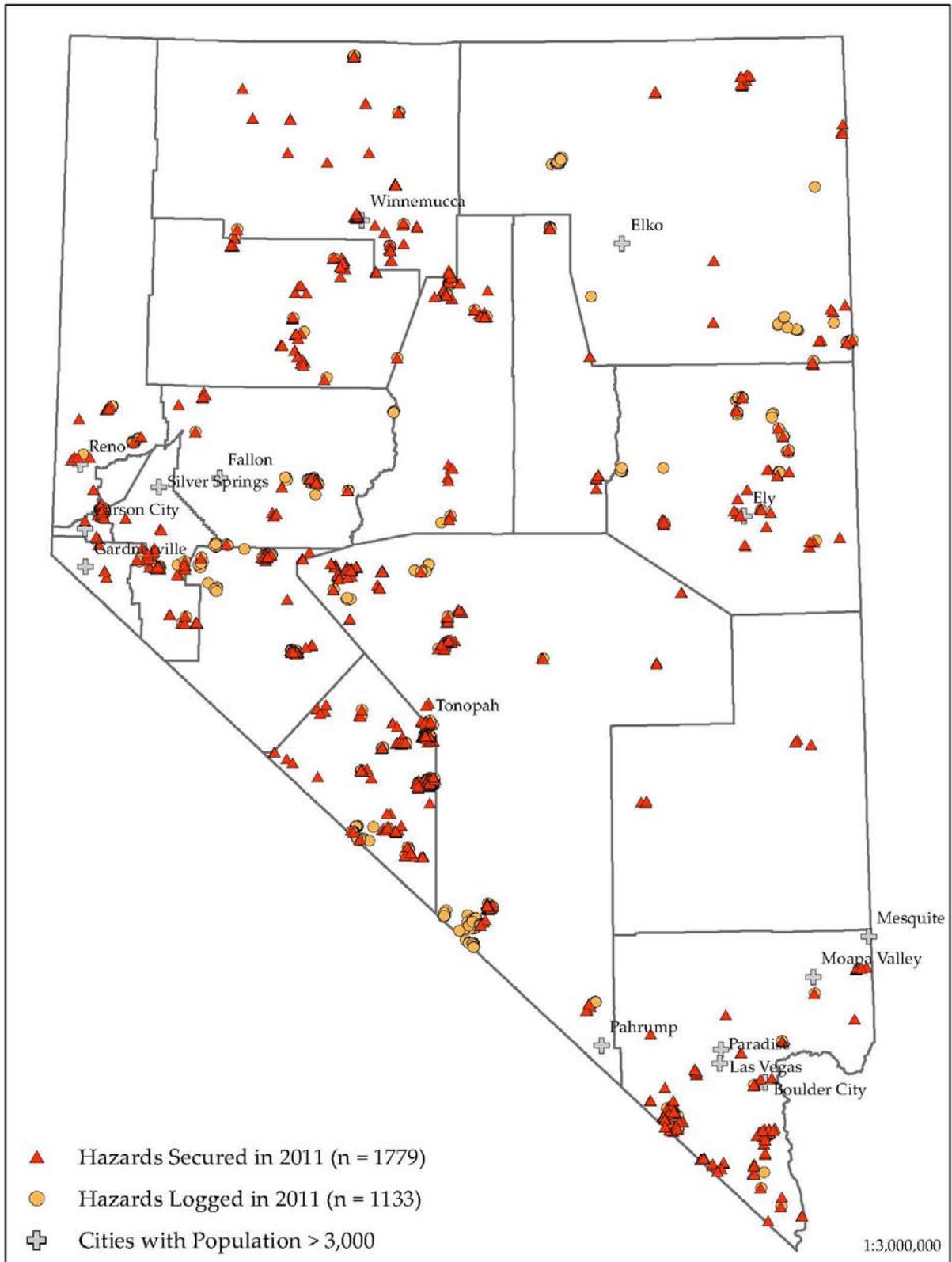
Acknowledgements

The authors would like to draw attention to, and gratefully acknowledge, the many efforts of those at the Division who provide integral support to the AML Program. Field Specialist **George Bishop** who manages all communication and equipment issues, whether it be related to office, field, personnel or vehicles. Administrative Assistant **Valerie Kneefel** who addresses the many Human Resource issues that arise, particularly during our summer intern season. Program Officer **Linda Wells-Carrion** who manages all budget and accounting issues, including our numerous and varied Work Programs. Administrative Assistant **Debbie Selig** who manages the Las Vegas office, while tirelessly working to optimize our database and its endless list of queries as well as providing invaluable computer hardware and software support to the Division. Field/GIS Specialist **Rachel Wearne** who enthusiastically tackles the many technical facets of our program, creates all the in-house maps needed by staff and contractors, and continues to maximize our field efficiency by integrating our AML efforts with the ever increasing capabilities of a geographic information system (GIS) and digital capture technologies. Special thanks to **Debbie** and **Rachel** for their diligence in overseeing the largest owner notification mail-out in the Division’s history and for their follow-thru in the massive response it has generated. Lastly, we wish to acknowledge Deputy Administrator **Doug Driesner** who retired after 27 years of employment with the State of Nevada. Doug was involved with the AML Program since its inception in 1987 and his contributions were innumerable, though perhaps his greatest was the phrase he coined which became not only the mantra for our AML Program but for every other AML program across the country, **STAY OUT and STAY ALIVE.**

Appendix A



Cumulative Hazards Discovered and Secured on an Annual Basis 1987 through 2011



Distribution of Hazards Discovered and Secured in 2011

Appendix B

Nevada Revised Statutes (NRS) pertinent to the AML Program

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)

NRS 235.016 Royalties for medallions and bars; reports by Director; deposit of money collected.

1. The Director shall set and collect a royalty for the use of The Great Seal of the State of Nevada from the mint which produces the medallions or bars. The amount of the royalty must be:
 - (a) Based on the usual and customary fee charged as a commission by dealers of similar medallions or bars; and
 - (b) Adjusted at least once each year to ensure it is competitive with the usual and customary fee.
2. The Director shall report every 6 months to the Legislature, if it is in session, or to the Interim Finance Committee, if the Legislature is not in session. The report must contain:
 - (a) The amount of the royalties being charged; and
 - (b) The information used to determine the usual and customary fee charged by dealers.
3. The money collected pursuant to this section must be deposited in the Account for the Division of Minerals created pursuant to NRS 513.103.

(Added to NRS by 1989, 140; A 1991, 1758; 1993, 1537; 1999, 3620)

NRS 519A.250 Operator to provide division of minerals copy of filing of plan of operation or amended plan of operation; fee; refunds; use of money collected; division to file report with governor and legislature.

1. An operator who is required by federal law to file a plan of operation or an amended plan of operation with the United States Bureau of Land Management or the United States Forest Service for operations relating to mining or exploration on public land administered by a federal agency, shall, not later than 30 days after the approval of the plan or amended plan, provide the division of minerals of the commission on mineral resources with a copy of the filing and pay to the division of

minerals a fee in an amount established pursuant to subsection 5 for each acre or part of an acre of land to be disturbed by mining included in the plan or incremental acres to be disturbed pursuant to an amended plan.

2. The division of minerals shall adopt by regulation a method of refunding a portion of the fee required by this section if a plan of operation is amended to reduce the number of acres or part of an acre to be disturbed pursuant to the amended plan. The refund must be based on the reduced number of acres or part of an acre to be disturbed.

3. All money received by the division of minerals pursuant to subsection 1 must be accounted for separately and used by the division of minerals to create and administer programs for:

(a) The abatement of hazardous conditions existing at abandoned mine sites which have been identified and ranked pursuant to the degree of hazard established by regulations adopted by the division of minerals; and

(b) The education of the members of the general public concerning the dangers of the hazardous conditions described in paragraph (a).

All interest and income earned on the money in the account, after deducting applicable charges, must be deposited in the account for the division of minerals created pursuant to NRS 513.103.

4. On or before February 1 of each odd-numbered year, the division of minerals shall file a report with the governor and the legislature describing its activities, total revenues and expenditures pursuant to this section.

5. The commission on mineral resources shall, by regulation, establish the fee required pursuant to subsection 1 in an amount not to exceed \$30 per acre.

(Added to NRS by 1989, 1286; A 1989, 2063; 1991, 1780; 1993, 210, 211, 1687; 1995, 511; 1999, 891, 3631; 2001, 66)

NRS 41.0331 Construction of fence or other safeguard around dangerous condition at abandoned mine. A person, the State of Nevada, any political subdivision of the state, any agency of the state or any agency of its political subdivisions is immune from civil liability for damages sustained as a result of any act or omission by him or it in constructing, or causing to be constructed, pursuant to standards prescribed by the commission on mineral resources, a fence or other safeguard around an excavation, shaft, hole or other dangerous condition at an abandoned mine for which the person, state, political subdivision or agency is not otherwise responsible.

(Added to NRS by 1989, 1556)

Appendix C

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 513.260 “Fence” defined. “Fence” has the meaning ascribed to it in subsection 5 of NRS 207.200.

(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 \$2.50 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 $\frac{1}{2}$ to 1 mile, inclusive, from a town.
4. Four points must be assigned to a dangerous condition located not more than $\frac{1}{2}$ 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.

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

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 Rating 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)

NAC 513.370 Posting warning sign. A dangerous condition regardless of its ranking must be posted with an orange warning sign mounted on a post. The sign must be posted within 30 days after the responsible person is notified by the county sheriff of the existence of the condition.

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

NAC 513.380 Period after notification to secure dangerous condition. Upon notification of the existence of a dangerous condition, the responsible person shall:

1. Secure within 180 days a dangerous condition rated as a low hazard;
2. Secure within 120 days a dangerous condition rated as a moderate hazard; and
3. Secure within 60 days a dangerous condition rated as a high hazard, in the manner prescribed in NAC 513.390.

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

NAC 513.390 Methods for securing dangerous condition. A dangerous condition must be secured by one or more of the following:

1. A barricade made of wood, metal or plastic, set in place in a solid manner with an orange warning sign attached.
2. A fence constructed to prevent a person or animal from accidentally exposing himself to the dangerous condition.
3. 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.
4. Backfilling so that no void spaces remain.

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

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)

NAC 519A.635 Refund of portion of fees.

1. The division will refund to an operator a portion of the fees required by NRS 519A.250 according to the following schedule:

(a) For an amended plan:

(1) That reduces the number of acres or part of an acre to be disturbed from the original number of acres or part of an acre to be disturbed; and

(2) For which a fee has been paid to the division pursuant to NRS 519A.250, the refund is \$15 for each acre or part of an acre removed from planned disturbance by the amendment.

(b) For a plan, there is no refund.

(c) For a notice, there is no refund.

2. An operator who wishes to receive a refund must send to the administrator a written request and a copy of the approved amended plan showing the reduction in acreage. Within 20 business days after receiving a valid written request for a refund and a copy of the amended plan, the administrator or his designee will request that the state controller issue a check to the operator in an amount calculated pursuant to paragraph (a) of subsection 1.

3. As used in this section:

(a) "Notice" means a notice of intent to conduct activities that disturb the surface which is filed with the United States Bureau of Land Management or the United States Forest Service.

(b) "Operator" includes a person who is required by federal law to file a plan, an amended plan or a notice with the United States Bureau of Land Management or the United States Forest Service.

(Added to NAC by Department of Minerals, eff. 10-9-90; A by Comm'n on Mineral Resources by R080-1, 1-16-2002, R066-02, 8-23-2002)

Appendix D

Scout Projects

NEVADA SCOUT AML SECURING PROGRAM					THROUGH DECEMBER 31, 2011	
ORDER COMPLETED	NAME OF SCOUT	PROJECT DATE	# SITES SECURED	# SITES REPAIRED	COUNTY	ID NUMBERS OF SECURED SITES
1	David Loring	Sept. 12 & 26, 1992	8	0	WASHOE	WA-10, 31, 32, 82, 109, 110, 112, 113
2	Tom Hawke	Oct. 24, 1992	5	0	WASHOE	WA-103, 143, 144, 145, 146
1992 TOTAL			13	0		
3	Chris Johnson	Sept. 4 & 11, 1993	5	0	WASHOE	WA-114, 116, 117, 118, 119
4	Eric Bowman	Oct. 3, 23, & 24, 1993	7	0	CARSON CITY	CC-13, 14, 27, 28, 31, 65, 69
1993 TOTAL			12	0		
5	Josh Johnson	Nov. 12, 1994	4	0	CLARK	CL-1407, 1408, 1409, 1425
1994 TOTAL			4	0		
6	Nate Burnett	Aug. 10, 1996	7	0	WASHOE	WA-210, 211, 220, 221, 227, 228, 232
7	Cory Miller	Dec. 14, 1996	6	0	WASHOE	WA-212, 222, 223, 224, 225, 226
1996 TOTAL			13	0		
8	Tony Kopp	Jan. 31, 1998	9	0	CLARK	CL-567, 940, 1338, 1339, 1340, 1341, 1342, 1343, 1386
9	Nathen Berger	July 18, 1998	4	0	CARSON CITY	CC-39, 40, 48, 49
10	Jason Smith	Aug. 22, 1998	6	0	DOUGLAS	DO-46, 47, 48, 50, 99, 100
11	Danny Miller	Oct. 24, 1998	3	0	WASHOE	WA-241, 253, 254
12	Logan Nordyke	Nov. 7 & Dec. 12, 1998	3	0	CARSON CITY	CC-52, 54, 61
1998 TOTAL			25	0		
13	James Smith	Jan. 17 & May 15, 1999	2	2	WASHOE	WA-49, 256 + repairs to 57, 58
14	Daniel Murrell	April 10, 1999	7	0	CLARK	CL-46, 47, 48, 49, 50, 51, 1434
15	Steven Scheetz	Sept. 25, 1999	6	0	DOUGLAS	DO-51, 52, 53, 54, 55, 131
1999 TOTAL			15	2		
16	Jason Hayes/Peter Peterson	Oct. 20 & 21, 2000	7	0	CLARK	CL-688, 689, 690, 691, 692, 693, 694
17	Glen Farnsworth	Dec. 1 & 2, 2000	7	0	WASHOE	WA-280, 281, 287, 288, 289, 295, 296
2000 TOTAL			14	0		
18	Richard Dwyer	Jan. 13 & 14, 2001	10	2	CLARK	CL-38, 39, 41, 42, 43, 58, 59, 708, 709, 1471 + repairs to 35, 36
19	Colby Cole	February 24, 2001	6	6	CLARK	CL-543, 544, 546, 547, 551, 1479 + repairs to 545, 548, 549, 550, 552, 553
20	Blake Kalmes	April 7, 2001	7	1	CLARK	CL-1464, 1465, 1466, 1467, 1469, 1470, 1480 + repairs to 1416
23	William Bunch	December 8, 2001	5	0	CLARK	CL-1331, 1332, 1333, 1334, 1335 - sites previously secured very poorly
21	Shawn Holloman	July 14, 2001	6	0	LYON	LY- 322, 323, 324, 325, 326, 327
22	Travis Jarland	Aug. 11, 2001	5	0	LYON	LY-373, 592, 593, 594, 597
2001 TOTAL			39	9		
25	Beau Kalmes	Feb. 9, 2002	7	0	CLARK	CL-1161, 1162, 1163, 1164, 1505, 1506, 1507
24	Travis Cummins	Jan. 21, 2002	9	0	LYON	LY-279, 280, 299, 300, 301, 302, 679, 680, 681
26	Thomas Schwedhelm	June 29, 2002	8	0	LYON	LY-234, 235, 236, 239, 240, 645, 659, 660
27	Ben Stanphill	Nov. 2, 2002	11	0	LYON	LY-227, 229, 230, 231, 232, 233, 707, 708, 709, 710, 711
2002 TOTAL			35	0		
28	Chris Mullins	Mar. 29, 2003	6	0	CLARK	CL-412, 413, 414, 415, 416, 417
29	Nathan Mayes	May 31, 2003	13	0	MINERAL	MI-396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 917
30	C.J. Gent	June 22, 2003	11	0	CHURCHILL	CH-409, 411, 412, 413, 414, 415, 416, 417, 418, 421, 422
31	Kye Stoker	June 28, 2003	5	0	CLARK	CL-1016, 1017, 1018, 1560, 1561
32	Daniel Miles	July 12, 2003	12	1	LYON	LY-687, 688, 689, 690, 691, 692, 693, 695, 696 (repair), 698, 699, 700, 701
33	Chris Rice	August 9, 2003	8	0	CHURCHILL	CH-280, 281, 282, 283, 284, 285, 286, 287
34	Chris Sipma	Sept. 6, 2003	6	2	LYON	LY-221, 222, 223, 224, 225, 226, repairs to LY-217, 218
2003 TO DATE			61	3		
35	Duncan Rickford	Jan. 10, 2004	5	0	CLARK	CL-866, 867, 868, 869, 870
36	Corey Sobrio	Mar. 20, 2004	10	0	LYON	LY-702, 703, 704, 705, 706, 751, 752, 753, 754, 769
37	Sean Hayes	Apr. 24, 2004	7	0	CLARK	CL-846, 847, 848, 849, 850, 851, 852 (USFS)
38	Chase Bodhaine	May 22, 2004	6	0	CLARK	CL-558, 559, 560, 562, 563, 564
39	John Hefner	Sept. 18, 2004	6	1	DOUGLAS	DO-130, 134, 135, 136, 150, 160, repairs to DO-132
40	Shane Donelson	Oct. 23, 2004	8	0	NYE	NY- 352, 353, 354, 355, 357, 358, 359, 360
41	Randy Sqamma	Nov. 12-13, 2004	5	3	CLARK	CL-908, 909, 912, 913, 915, repairs to CL-910, 911, 914
2004 TO DATE			47	4		
42	Kenny Booth	Jan. 2, 2005	7	0	NYE	NY-362, 363, 364, 365, 366, 367, 1020
43	John Gardner	April 30, 2005	5	0	CLARK	CL-242, 243, 244, 245, CL-1594
44	Isalah Haywood	May 7, 2005	5	0	CLARK	CL-1235, 1236, 1237, 1238, 1239
45	Chip Holton	May 21, 2005	3	0	LYON	LY-731, 732, 735
46	McKay Miles	May 28, 2005	5	0	CLARK	CL-253, 254, 255, 256, 1595
47	Jennifer Giraud	September 24, 2005	4	0	ELKO	EL-249, 251, 252, 253
48	John Crepeau	October 29, 2005	4	0	CLARK	CL-257, 1597, 1598, 1599
49	Luke Smith	November 5, 2005	5	0	CLARK	CL-1603, 1604, 1610, 1614, 1615
50	Brad Peterson	November 19, 2005	7	0	LYON	LY-757, 758, 759, 760, 762, 763, 764
51	Steven Archer	November 19, 2005	5	1	CLARK	CL-983, 984, 985, 986, 1596, replaced old fence at CL-1454

NEVADA SCOUT AML SECURING PROGRAM				THROUGH DECEMBER 31, 2011		
52	Cameron Legere	Dec. 3, 2005	0	7	CLARK	repairs to CL-576, 577, 578, 580, 757, 758, 759 (USFS)
2005 TO DATE			50	8		
53	Weston Milne	January 7, 2006	5	0	CLARK	CL-1605, 1606, 1607, 1608, 1609
54	Tyson Parker	January 28, 2006	6	0	CLARK	CL-1492, 1493, 1494, 1623, 1624, 1625
55	Jacob Gibson	March 4, 2006	5	0	CLARK	CL-1495, 1496, 1497, 1498, 1626
56	Kyle LeFevre	April 22, 2006	5	0	CLARK	CL-1616, 1617, 1618, 1619, 1634
57	Stephen Erickson	May 6, 2006	4	1	CLARK	CL-596, 597, 598, 599, repairs to CL-1394
58	Mitch Benning	May 13, 2006	6	0	WASHOE	WA-104, 105, 106, 111, 112, 113
59	Jordan Wall	May 20, 2006	4	0	NYE	NY-372, 373, 374, 375 (USFS)
60	Derek Gibson	June 3, 2006	4	0	CLARK	CL-1629, 1630, 1631, 1632
61	Shane Sobrio	June 24, 2006	5	1	LYON	LY-379, 380, 381, 382, 383 (repair), 385
62	Matt Robinson	June 24, 2006	7	0	DOUGLAS	DO-153, 154, 155, 156, 157, 158, 159
63	Mitchell Walton	August 5, 2006	4	2	WASHOE	WA-96, 211, 259, 323, repairs to 212 and 258
64	Robbie Ayres	August 20, 2006	4	0	WASHOE	WA-74, 76, 77, 78
65	Andy Haskin	September 9, 2006	6	0	WASHOE	WA-79, 80, 82, 84, 85, 109
66	Paul Pearson	November 19, 2006	4	1	WASHOE	WA-6, 8, 61, 64, 65 (repair)
67	Joshua O'Barr	December 2, 2006	4	0	CLARK	CL-106, 200, 930, 937
68	Kai Fisher	December 2, 2006	5	0	WASHOE	WA-325, 326, 327, 328, 330
2006 TO DATE			78	5		
69	Chris Chubb	April 21, 2007	0	4	CLARK	repairs to CL-1421, 1422, 1424, 1425
70	Taylor Smith	April 28, 2007	0	4	CLARK	repairs to CL-568, 569, 570, 571 (USFS)
71	Shane Palmer	May 12, 2007	5	0	CLARK	CL- 1555, 1556, 1557, 1558, 1559
72	Jared Cooper	May 19, 2007	0	5	CLARK	repairs to CL-765, 766, 1407, 1408, 1409
73	Jessica Shalita	May 20, 2007	0	3	CLARK	repairs to CL-866, 867, 1419
74	DJ Stanger	June 2, 2007	0	6	CLARK	repairs to CL-1464, 1465, 1466, 1469, 1470, 1480
75	Chris Ellason	June 16, 2007	5	0	NYE	NY-368, 369, 370, 371, 1022 (USFS)
76	Paul Herget	July 28, 2007	5	0	WASHOE	WA-355, 357, 358, 359, 360
77	Daniel Baird	Sept. 30, 2007	3	0	CLARK	CL-840, 841, 842
78	Austin Echler	December 16, 2007	3	2	CLARK	CL-946 and 947 re-secured, 1668, 1727, 1729
2007 TO DATE			21	24		
79	Jacob Trotter	January 5, 2008	4	0	CLARK	CL-800, 1652, 1653, 1654
80	Travis Peterson	January 26, 2008	4	0	WASHOE	WA-346, 347, 348, 349
81	Justin Graf	February 2, 2008	6	0	CLARK	CL-385, 386, 387, 388, 1635, 1636
82	Brian Cooper	February 16, 2008	2	0	CLARK	CL-1659, SE and E highwall portion of CL-1660 open pit fenced & posted
83	Zach Nielsen	February 23, 2008	4	0	CLARK	CL-1587, 1588, 1673, 1674
84	Jeff Mohlman	March 29, 2008	3	0	CLARK	CL-843, 844, 845
85	Casey Sylvester	March 29, 2008	10	0	PERSHING	PE-791, 793, 794, 795, 797, 797, 798, 799, 931, 941
86	Michael Erickson	April 12, 2008	3	0	CLARK	CL-1677, 1678, 1679
87	Michael Hartley	April 19, 2008	4	0	DOUGLAS	DO-166, 167, 168, 169
88	Kody Brian	April 26, 2008	4	0	CLARK	CL- 1621, 1689, 1691, 1756
89	Robert Marder	April 27, 2008	4	0	CLARK	CL-1628, 1681, 1685, 1687
90	Justin Wall	May 3, 2008	2	0	CLARK	CL-1658, portion of CL-1660
91	Dean Wilhite	May 4, 2008	4	0	WASHOE	WA-343, 344, 345, 350
92	Brennen Marshall	November 21, 2008	1	0	CLARK	CL-1721 (7 openings - room and pillar mine)
93	Doug Harris	December 13, 2008	1	5	CLARK	CL-1954, repairs to CL-53, 54, 55, 56, 57
94	Eli Bagley	December 13, 2008	5	0	WASHOE	WA-351, 352, 353, 368, 371
2008 TO DATE			61	5		
95	Myles Putnam	January 24, 2009	3	0	CLARK	CL-1988, 1990, 1992
96	Mark Boggess	January 31, 2009	3	0	CLARK	CL-1680, 1682, 1684
97	Daniel Herrera	February 7, 2009	1	1	CLARK	CL-1565, replaced CL-532 fence
98	Jacob Allum	February 28, 2009	6	0	CLARK	CL-1850, 1852, 1856, 1866, 1868, 2061
99	Bread Iverson	March 21, 2009	3	1	CLARK	CL-2056, 2058, 2060, new ID sign on CL-355 fence
100	Grant Zampirro	March 28, 2009	7	0	WASHOE	WA-4, 366, 367, 369, 372, 377, 378
101	Trevin Jarrett	April 13, 2009	8	0	HUMBOLDT	HU-487, HU-489, HU-491, HU-493, HU-510, HU-511, HU-512, HU-513
102	Matt Ireland	May 9, 2009	3	0	CLARK	CL-1933, 1949, 1951
103	Justin Myhre	May 23, 2009	0	2	CLARK	re-closure of CL-671, 672 using PUF
104	Taylor Jenkins	June 13, 2009	0	4	CLARK	repairs to CL-500, 501, 502, 503
105	Evan Pearson	July 25, 2009	8	0	LYON	LY-870, 871, 873, 874, 875, 877, 878, 882
106	Lance Thompson	August 8, 2009	5	0	HUMBOLDT	HU-581, 583, 587, 536, 557
107	Jacob Carver	August 8, 2009	5	0	HUMBOLDT	HU-603, 601, 539, 555, 588
108	Ricardo Milan	October 17, 2009	5	0	CLARK	CL-2032, 2034, 2036, 2038, 2040
2009 TO DATE			57	8		
109	Cody Echler	February 20, 2010	3	3	CLARK	CL-2073, 2079, 2080, repairs to CL-1520, 1521, 2074, posted 2 borderline non-hazards
110	Stefano Retis	March 27, 2010	0	3	CLARK	CL-212, 213, 214 - new fences
111	Joey Rozich	April 17, 2010	6	0	CLARK	CL-1472, 1473, 1474, 1475, 1476, 1477
112	Carter Crompton	April 24, 2010	3	0	CLARK	CL-1740, 1742, 1744
113	Dillon Bryan	May 1, 2010	5	TBD	HUMBOLDT	HU-639, HU-641, HU-643, HU-644, HU-645
114	Tony Simpson	May 8, 2010	3	0	CLARK	CL-1000, 1007, 1008
115	Matthew Popp	October 23, 2010	4	0	CLARK	CL-2087, 2088, 2089, 2090

NEVADA SCOUT AML SECURING PROGRAM				THROUGH DECEMBER 31, 2011		
116	Houston Mitchell	November 6, 2010	10	0	ELKO	EL-269, 270, 271, 272, 273, 274, 306, 461, 462, 500
2010 TO DATE			34	6		
117	Dylan Wallace	February 21, 2011	2	0	NYE	NY-2033, 2034
118	Brendan Villhardt	March 12, 2011	0	6	CLARK	repairs to CL-1387, 1388, 1389, 1390, 1391, 1392, 1393, 1394
119	Cameron Rose	May 7, 2011	1	5	CLARK	CL-2095 and repairs (all new barricades) to CL-625, 626, 627, 628, 629
120	Dustin Marshall	May 14, 2011	2	2	CLARK	CL-2093, 2094 and repairs to CL-35, 36
121	Ian McBryde	June 18, 2011	6	0	WASHOE	WA-383 thru 388
122	Carson Mullins	July 16, 2011	4	0	MINERAL	MI-1129, 1130, 1337, 1338
123	Zach Cordisco	July 16, 2011	6	0	MINERAL	MI-1127, 1339, 1340, 1341, 1342, 1343
124	Harrison Kelly	December 10, 2011	0	6	CLARK	total re-securing of CL-11134, 1135, 1136, 1139, 1140, 1142
2011 TO DATE			21	19		
CURRENT GRAND TOTAL			600	93		
			SECURED	REPAIRED		

Appendix E

Letters of Appreciation

3-07-11

Dear Mr. Durbin,

Thank you for coming to our school to teach us about minerals, rocks, and mines.

I learned that minerals are used in video games, milk, baking soda, and toothpaste. Also, that some rocks are not as strong as your nail. You can find gold and silver in some rocks. Metal is found in rocks that are magnetic.

I learned that mines are dangerous. They can have bad air, mine shafts, explosives, or dangerous animals inside.

I enjoyed your whole presentation and appreciated you sharing the interesting information.

Sincerely,

Christopher

- 4th grader at Robert Forbuss Elementary School, Las Vegas

3-8-11

Dear Mr. Durbin,

Thank you for teaching us how to know what has minerals in it or a top of rock. Like tooth paste and areas. Thanks for letting us go on a special activity so now we know how hard the miners worked. We liked the video, it taught us how not to go in abandoned mines because we might die. Thanks for the gifts, every time my family sees that sign we know if we see one not to get near one or go inside of one. Mrs. Jensen's class and Ms. Bjelo class appreciate you.

Sincerely,
Saul

- 4th grader at Sandy Searles Miller International Baccalaureate World School, Las Vegas

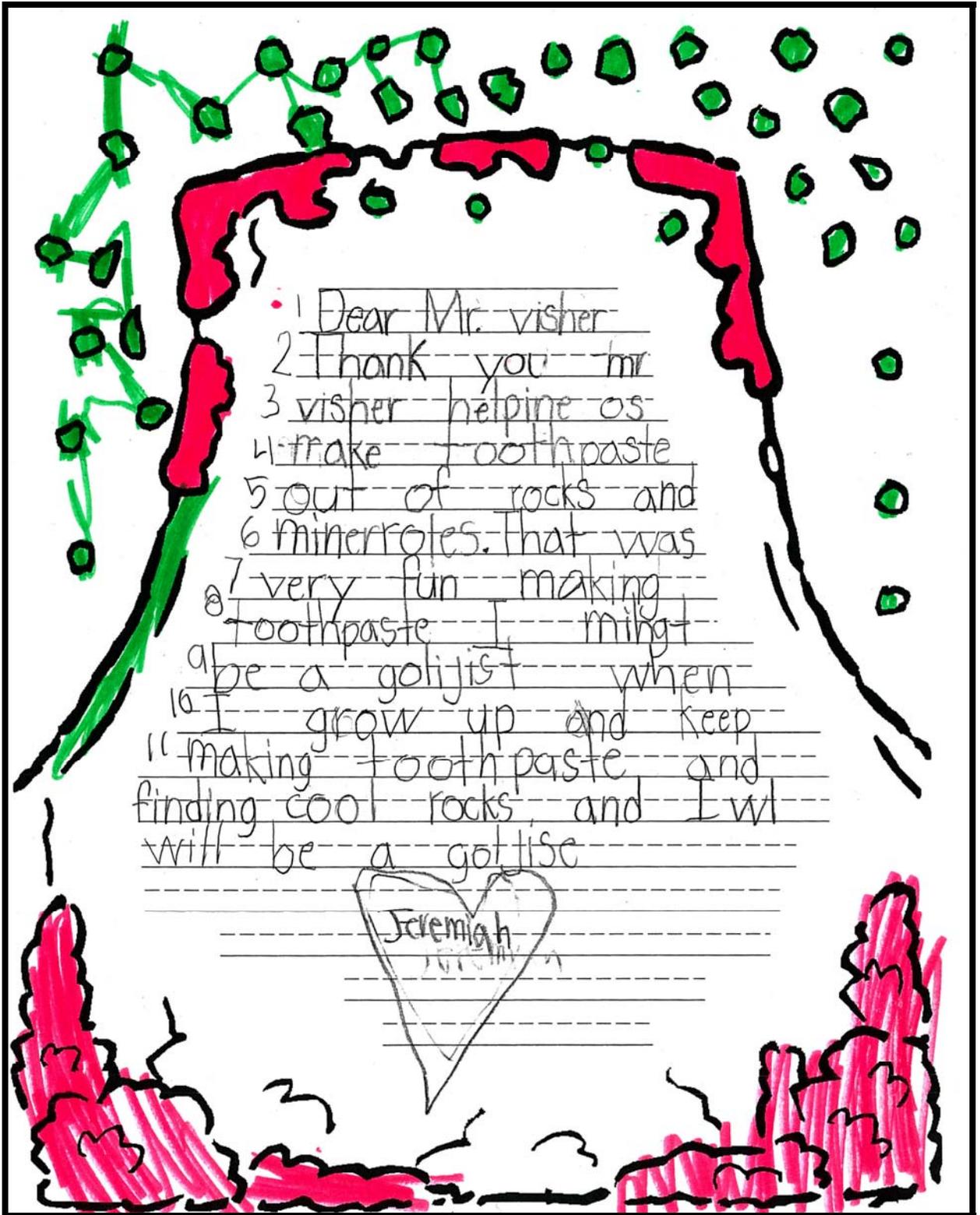
Dear Ms. Rachel,

Thank you for teaching
US about rocks. I liked
it when you showed
US how to mix water, sand,
and rocks. Thank you
for everything!

Love,
Lucero



- 3rd grader at Donner Springs Elementary School, Reno



- 2nd grader at Miguel Sepulveda Elementary School, Sparks

May 19, 2011

Dear Mr. Durbin and Ms. Selig,

Thank you for sending all the wonderful items! I am interested in volcanic glass and have wanted rocks like that forever! I will put the bumper sticker on the back of my helmet. I promise to not go into any mines, abandoned or not!

Thank you again,

Caitlin



(P.S.) I love mining!

- 4th grader at Robert Forbuss Elementary School, Las Vegas

Dear Mr. Durbin,
Thank you
for coming to
Mrs. Musso's class
I appreciate
for coming and
teaching me what
to do if I see
a vacant mine I
call 775-684-7040 or
702-486-4343.
Sincerely,
Jewel

Stay out
& Stay
alive!!!

* *
STAY OUT
of MINES

