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**COMMISSION ON MINERAL RESOURCES
DIVISION OF MINERALS**

**NEVADA ABANDONED
MINE LANDS REPORT
2007**



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 21st year in 2007. Key points for the program in 2007 include the following:

- One injury incident involving an adult male who fell down an inclined winze was reported to the Nevada Division of Minerals (NDOM) in May 2007. One fatality involving an adult male who rolled his Jeep down a steep hillside above and then into an abandoned pit was also reported to NDOM in May 2007.
- The total number of AML hazards discovered and ranked since the beginning of the program reached 12,590 hazards. The total number of hazards secured reached 9,309.
- 1,071 hazards were discovered and ranked in 2007, a 45.1% increase over 2006. This increase was due to the utilization of contractors, in addition to staff efforts, and a focused attention on areas across the state having high levels of public use.
- 600 hazards were secured in 2007, a 11.1% increase over 2006. Mining claimants and private property owners secured 226 hazards. 374 orphan hazards (hazards located on public land where no claimant or property owner exists) were secured by NDOM staff, contractors and volunteers, an increase of 53.9% compared to 243 securings in 2006.
- Public awareness activities: 101 classroom presentations to approximately 2,900 students, 23 presentations at school functions outside the classroom to nearly 700 students. 21 presentations at other venues brought the "Stay Out and Stay Alive" message to over 18,000 additional adults and children. Students and teachers were given brochures, bumper stickers, magnets, "hard hat" stickers and pencils bearing the "Stay Out and Stay Alive" message. AML brochures were distributed to every 4th and 8th grade student in the state, a total of over 76,300 brochures, and the "Stay Out and Stay Alive" video was sent to all new schools in the state.
- In a cooperative effort between the Division, the Bureau of Land Management, and the Nevada Mining Association, 108 hazards were backfilled in Douglas, Esmeralda and Washoe counties.
- The Summer Intern Program included 6 students in 2007. The interns were all students from the Mackay School of Earth Sciences and Engineering, University of Nevada, Reno.
- 21 hazards were secured and 24 previously secured hazards were repaired by 10 Eagle Scout candidates in 2007. Since 1992, 78 Scout projects have been completed resulting in 427 secured orphan hazards and 55 repairs to existing fences.
- The Division continued its role as the principal facilitator of the state's AML Environmental Task Force (NAMLET).
- 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 73.9% (70% required) and total public awareness presentations averaged 16.5 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 \$322,619 in fiscal 2007, as compared with \$346,587 in fiscal 2006.

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 2007.

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 37-year history of known incidents related to abandoned or idle mines. The legislation placed the program with the Division of Minerals 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 operations or expansions occurring on public lands. In 1995, the Division entered into a cooperative agreement with the BLM. Under this agreement, which was renewed in 2005, the BLM has provided a yearly assistance grant 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 2007

Date	NEVADA DIVISION OF MINERALS Reported Abandoned Mine Lands Incidents	County
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 run by Echo Bay Exploration at the time.	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 Abandoned copper mine in the Malachite Mason Valley Mines west of Yerington.	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 remote mine west of Winnemucca, NV; Abandoned Mine at Happy Creek in the Jackson Mtns.	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) killed while scuba diving in mine shaft filled with water Per 6/5/1995, Winnemucca New Article, happened 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 Brougner Divide Mine near Tonopah, another adult male lost for 7 hours, total of 6 adult males in 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

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 2007

There were two abandoned mine incidents reported in May of 2007. A young adult male was injured when he fell approximately 200 feet down a 45-degree inclined winze while trespassing in an underground mine in Clark County. Later that month in Storey County, an adult male was fatally injured while exploring, in his Jeep, a narrow trail on the steep hillside above the Loring Pit, in Virginia City. While attempting to turn the Jeep around he lost control and rolled nearly 450 feet before coming to rest in the bottom of the abandoned pit.

Discovery and Securing

From the beginning of the AML program in 1987 through December 31, 2007, 12,590 hazards have been discovered and ranked and 9,309 hazards (claimed, owned, and orphans combined) have been secured. Figure 1 is a graph of hazards discovered and ranked and hazards secured for 1987 through 2007. 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 73.9% of all hazards discovered to date.

Of the 9,309 hazards secured, 744 (8.0%) were ranked high, 2,777 (29.8%) were ranked moderate, 4,302 (46.2%) were ranked low, and 1,486 (16.0%) were ranked minimal. Figure 2 is a pie chart showing the percentage distribution of secured mine openings by hazard rank.

Of the 9,309 hazards secured, 3,613 (38.8%) are orphans, ranked as follows: 151 (4.2%) high, 898 (24.9%) moderate, 1766 (48.9%) low, and 798 (22.1%) 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 5,696, which represent the very significant (61.2%) contribution to the program by the mining industry, claimants, and landowners.

The total number of hazards discovered and ranked during 2007 was 1,071 compared with 739 hazards discovered and ranked in 2006; a 45.1% increase. Of the 1,071 hazards discovered, 214 were determined to be orphans, 62 were found on leased claims or private property, 4 were found on State-owned lands, and 791 required additional ownership research. Of the 1,071 hazards discovered in 2007, 19 (1.8%) were ranked high, 221 (20.6%) moderate, 547 (51.1%) low, and 284 (26.5%) minimal. Figure 4 is a pie chart showing the percentage distribution of hazards discovered in 2007 by hazard rank.

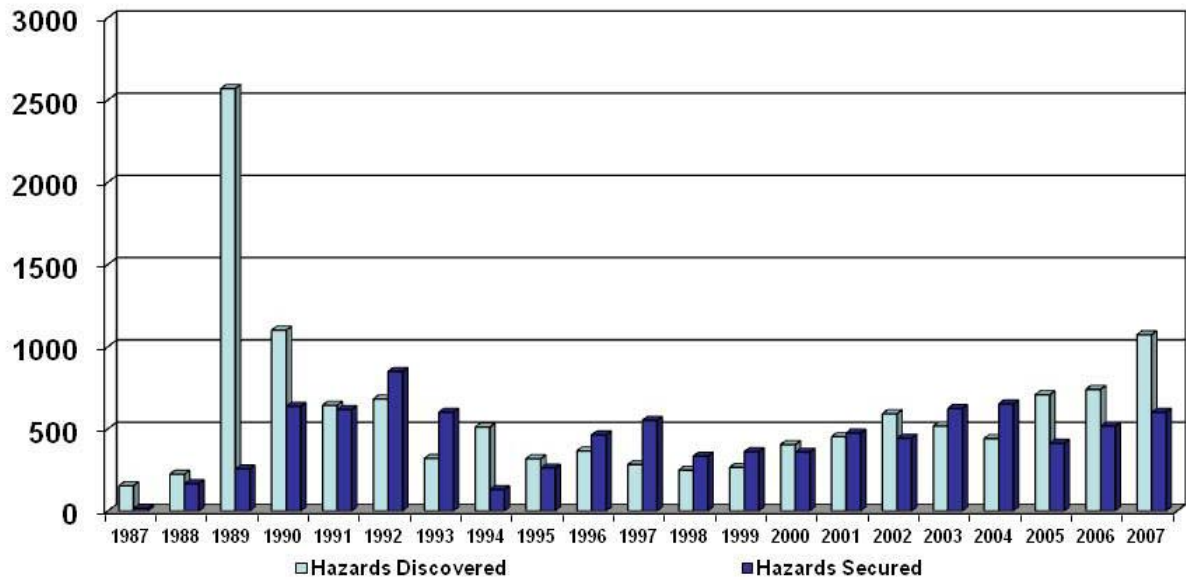
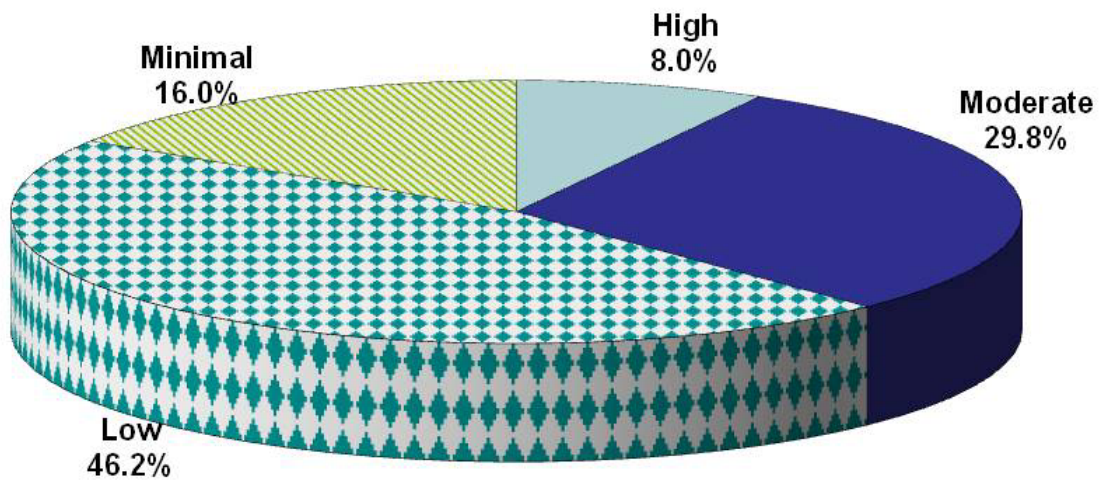


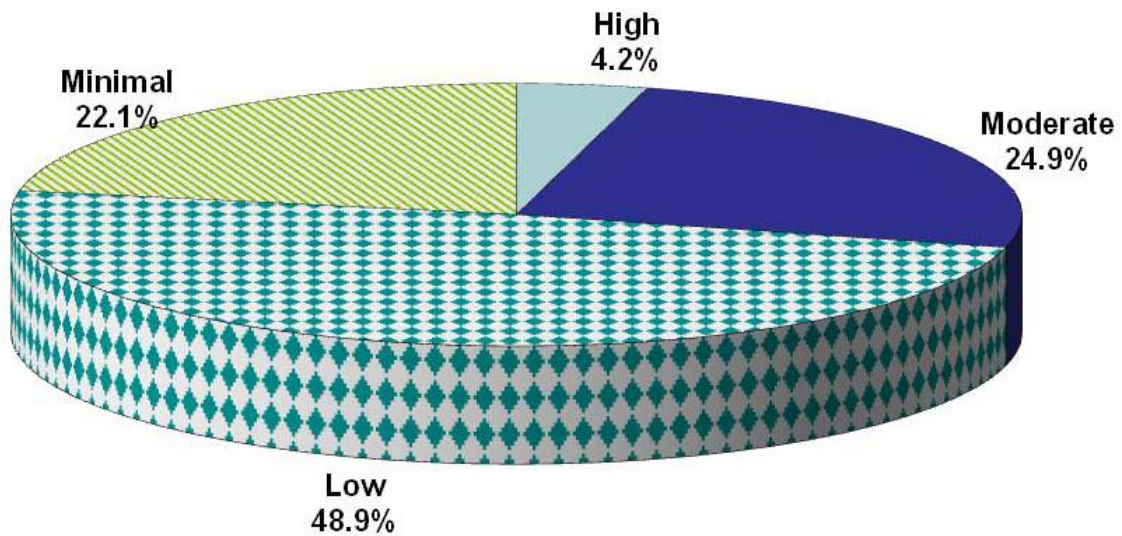
Figure 1. Hazards Discovered and Hazards Secured on an Annual Basis from 1987 to 2007

Table 2. County-by-County Hazards Discovered and Secured from 1987 through 2007.

COUNTY	HAZARDS DISCOVERED	HAZARDS SECURED
Carson City	73	71
Churchill	446	372
Clark	1,862	1,298
Douglas	170	133
Elko	383	292
Esmeralda	1,723	1,189
Eureka	672	583
Humboldt	480	409
Lander	416	305
Lincoln	594	473
Lyon	825	659
Mineral	1,165	1,027
Nye	1,555	985
Pershing	947	677
Storey	157	138
Washoe	360	319
White Pine	762	379
TOTAL	12,590	9,309



**Figure 2. Distribution of Currently Secured Mine Openings by Hazard Rank
1987 through 2007.
Total: 9,309**



**Figure 3. Distribution of Currently Secured Orphan Mine Openings by Hazard Rank
1987 through 2007
Total: 3613**

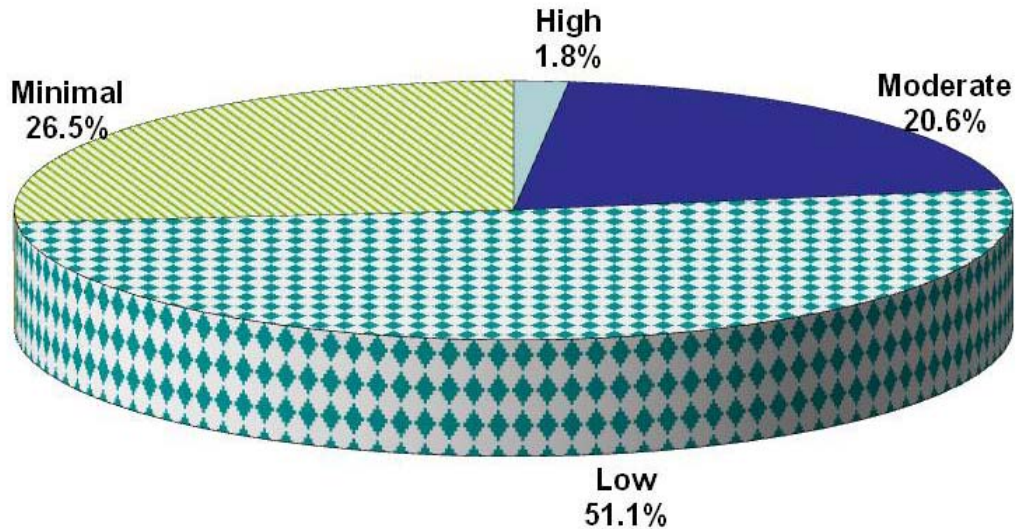


Figure 4. Distribution of Discoveries by Hazard Rank 2007
Total: 1,071

The total number of sites secured during 2007 was 600 compared to 540 in 2006, an 11.1% increase. Of the 600, 181 were secured by NDOM staff and summer interns, 175 were secured (or discovered as secured) by claimants and owners of patented claims and private land, 125 were secured by volunteers and other Good Samaritans, 75 were secured by a contractor, 30 were secured by staff from the Bureau of Reclamation, 8 were found to be secured by natural effects (e.g. caving) and 6 were secured by U. S. Forest Service personnel. 374 of the hazards secured in 2007 were orphans. The orphan hazards represent 62.3% of 2007 securings. The number of orphan securings increased from 243 in 2006 to 374 in 2007, an increase of 53.9%. The change was attributed to the contracted securing work completed by Geotemps, Inc. in the winter and spring of 2007. Orphan securing work during calendar year 2007 resulted in the abatement of 22 hazards with a ranking of high (5.9%), 107 with a ranking of moderate (28.6%), 187 with a ranking of low (50.0%), and 58 with a ranking of minimal (15.5%). Figure 5 is a pie chart showing the percentage distribution of currently secured orphans by hazard rank in 2007.

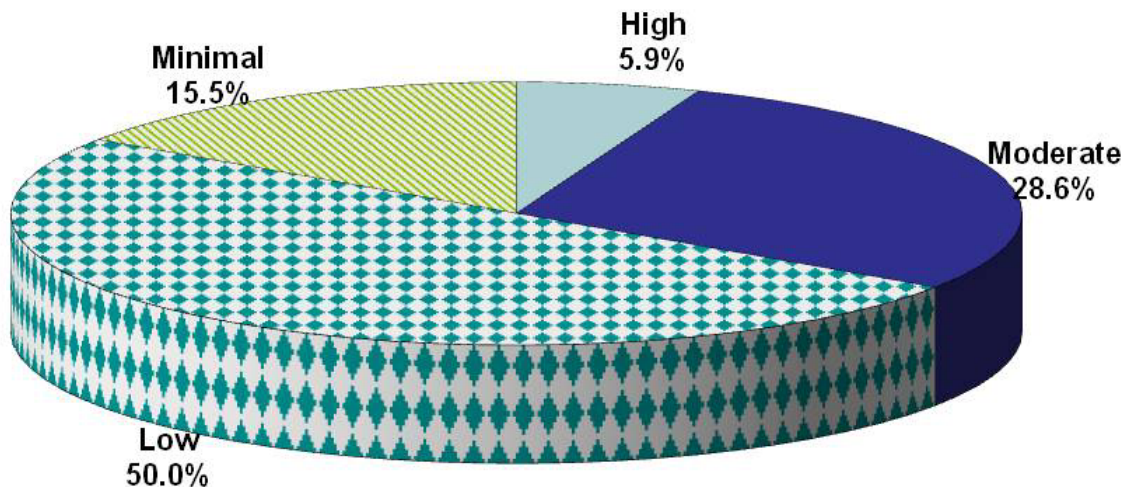


Figure 5. Distribution of Currently Secured Orphan Mine Openings by Hazard Rank 2007
Total: 374

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, TV and radio public service announcements, highway billboards and handouts that include bumper stickers, magnets and pencils. These materials reach tens of thousands of people every year.

In 2007, staff made 101 classroom presentations to approximately 2,900 students in Carson City, Churchill, Clark, Lyon and Washoe Counties; letters of appreciation can be seen in Appendix E. Additional presentations involving large numbers of children included Capital City Farm Days at Fuji Park in Carson City – (staff made 23 short presentations to small groups of 1st through 3rd graders, teachers and parent helpers rotating through various displays – 700 attendees). Students, teachers, and parent helpers were all given brochures, bumper stickers, magnets, “hard hat” stickers, and pencils to use and share with family members and friends. Ten additional presentations were made to the work crews as part of each of the Boy Scout Eagle Projects completed in 2007 (approximately 150 people).

The “Stay Out and Stay Alive” message was spread to over 18,000 people through 21 other venues, including:

- Presentations made to teachers at the 18th Annual Las Vegas Earth Science Education Workshop in Las Vegas and the 23rd Annual Northern Nevada Earth Science Education Workshop in Elko (total of 187 teachers), see Figure 6.
- Dayton Valley Days (200 attendees)
- Interaction with visitors to the agency display at the Elko Mining Expo and the Northwest Mining Association Annual Meeting (approximately 13,000 attendees)
- Presentation at meeting of the Reno Gem and Mineral Society (96 attendees)
- Boomtown History Event – Amargosa Valley (170 attendees)
- Presentation to the Mackay Club at the University of Nevada, Reno (14 attendees)
- Annual Mackay Days Celebration at University of Nevada, Reno (250 visitors)
- Washoe High School Science Field Trip to Twin Creeks Mine (40 attendees)
- Reno ARTown concrete paver activity – (120 attendees)
- Mining Week at Rancho San Rafael Park – Reno (250 attendees)
- Reno Gem and Mineral Society’s Annual “Jackpot of Gems” Show – Reno (2,100 attendees)
- Spring Mountain Ranch Pioneer Day – Clark County (350 attendees)
- McCaw Nevada Day Open House – Henderson (1,000 visitors)
- Gold Searchers of Southern Nevada Day Celebration at Griffith Elementary School (150 people)
- Henderson National Trail Day Event – Clark County (150 attendees)
- Jim Butler Days – Tonopah (300 attendees)
- Smalley Elementary School Halloween Festival – Henderson (150 people)
- Henderson Library/Museum Fair – Henderson (75 attendees)
- Red Rock NCA “Spring Fling” – Las Vegas (200 attendees)
- Nevada BLM State Leadership Team meeting – Reno (30 attendees)



Figure 6. Images from the 2007 Earth Science Education Workshops for Teachers in Las Vegas and Elko

Also in 2007, 76,325 brochures were mailed out during January and February to 4th and 8th grade students in Nevada public and private schools. 2,040 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.

Backfill Projects

The partnership between the Bureau of Land Management (BLM), the Nevada Mining Association, the Division, and other state agencies came together once again in 2007 to enhance safety on Nevada's public lands with backfill projects near the towns of Gold Point and Lida in Esmeralda County. Additional backfill work was performed in Douglas and Washoe counties.

Gold Point and Lida, Esmeralda County

Staff from the Tonopah BLM Field Station contacted the Division in early 2006 regarding their interest in permanently closing a number of hazardous mine openings in Esmeralda County in the general vicinity of Goldfield. An initial list of 116 hazards was prepared by the Division and submitted to BLM and included locations around the towns of Gold Point and Lida. Several sites were removed from the list in 2007 due to recent claim activity. National Environmental Policy Act (NEPA) studies

were conducted to determine the cultural and biological impacts of using waste rock dump material to backfill the mine openings. Susan Rigby and Michael Oberndorf from the Tonopah Field Station conducted cultural resource site clearances. Nancy Army of the Tonopah Field station was on-hand to monitor backfill operations. Bryson Code from the Tonopah Field Station conducted non-bat biological surveys. Preliminary biological pre-closure assessment surveys were performed on all sites by Tracy Kipke (Nevada Department of Wildlife) and Jennifer Newmark and Allison Chaney (Nevada Natural Heritage). Subsequent internal surveys (via closed-circuit camera) and nighttime external bat surveys were conducted during the Nevada Bat Working Group's 2007 "Bat Blitz", which involved 23 representatives from six agencies, including NDOW, USFS, National Park Service (NPS) and the US Fish and Wildlife Service. Results from the surveys whittled the list down to 72 abandoned mine features which did not host significant bat habitat and could be backfilled without additional surveys.

As per NDOW's findings and recommendations, 20 of the 72 sites were covered with fabric or plastic mesh three days prior to backfilling to exclude bats from potential re-entry. The backfill project was conducted the week of October 1-5, 2007, see Figure 7. Nevada Mining Association member companies and suppliers provided the following support: A D-6 dozer was provided by Cashman Equipment (Las Vegas), dozer transportation was courtesy of DeLong Trucking (Las Vegas) and equipment operator, Troy Hawkins, was generously loaned for the project by Round Mountain Gold Corporation. Fuel and on-site logistical support was provided by the Division with assistance from Jon Brown (NvMA), John Morley and Ken Wilson (Geotemps, Inc.) and Chris Ross (BLM-NSO).



Figure 7. Southern Nevada backfill operations at Gold Point and Lida.

Northern Nevada Backfills

For the 2007 backfill campaign in northern Nevada, 16 abandoned mine hazards were evaluated on public lands managed by the BLM in the Ruhensroth area of the Pine Nut Range, east of Gardnerville in Douglas County and 26 sites were evaluated in the Washoe Hills, north and east of New Washoe City in Washoe County. Archaeological pre-closure surveys were conducted by Elizabeth Lane of the BLM Carson City Field Office. Biological pre-closure surveys were performed as a group effort on multiple days and nights and included Jennifer Newmark (Nevada Natural Heritage), Jenni Jeffers and Kris Urquhart (NDOW), Chris Ross (BLM-NSO) and NDOM staff. Two adits in the Pine Nut Range and four in the Washoe Hills were found to have significant bat habitat and were subsequently recommended for bat-compatible closures (e.g. bat gates). Seven additional features required and received bat exclusion netting installed prior to backfilling. Newly hired NDOM employee Paul Buffington operated a rented D5 dozer from Coan Equipment (Sparks) and began backfilling hazards the week of September 17th, see Figure 8. Susan McCabe and Elizabeth Lane (BLM-CC) provided the required on-site archaeological oversight and Chris Ross and Geotemps, Inc. contractor John Morley assisted NDOM staff with the pre-closure fence removal.



Figure 8. Backfill operations in Douglas and Washoe counties.

Three Reno area television stations (KTVN-Channel 2, KRNV-Channel 4, and KOLO-Channel 8) conducted field interviews and filmed backfill operations at the Jumbo Mine area east of New Washoe City, see Figure 9. All three stations aired articles featuring the backfill process and interviews with Division and BLM personnel. The Division wishes to thank the stations and their management for promoting our backfill program and the “Stay Out, Stay Alive” message. Additional backfill work, this time north of New Washoe City, was conducted with the same personnel on November 6th. In all, 14 hazards were backfilled in Douglas County and 22 in Washoe County.



Figure 9. Media coverage at Jumbo backfills.

We would like to express our appreciation to all of the partners in this project for their cooperation, expertise, and generosity. Table 3 summarizes backfill projects completed from 1999 through 2007.

Table 3. Summary of Completed Backfill Projects – 1999-2007

1999	Total of 6 south of Henderson in Clark County (BLM)
2000	Total of 13 south and west of Henderson in Clark County (BLM)
2001	Total of 22 near Goodsprings in Clark County (BLM)
2002	Total of 21 near Goodsprings in Clark County (BLM) Total of 7 on Peavine Mountain, northwest of Reno, Washoe County (USFS)
2003	Total of 41 in the Searchlight and Nelson areas of Clark County (BLM)
2004	Total of 45 in Esmeralda and Nye Counties near Tonopah (BLM)
2005	Total of 55 , 37 in Beatty/Rhyolite, Nye County, 18 in Perry Canyon, Washoe County (BLM)
2006	Total of 53 , in Ray Camp north of Tonopah in Nye County (BLM)
2007	Total of 108 , in Douglas, Esmeralda and Washoe counties (BLM)
	<u>GRAND TOTAL BLM THROUGH 2007 – 364</u>
	<u>GRAND TOTAL USFS THROUGH 2007 – 7</u>

Backfill Projects Proposed for 2008

Additional backfill projects are in the planning stages for 2008, centering on mine openings on BLM lands in Washoe County north and east of Reno, made at the request of the Carson City BLM Field Office. Funding has also been obtained from the Southern Nevada Public Land Management Act (SNPLMA) Round 6 by the Las Vegas BLM Field Office for the purpose of backfilling additional hazards in Clark County in 2008 or 2009.

Bat Related 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 enclosures 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, Nevada Natural Heritage Program, Bureau of Land Management, US Forest Service. In 2007, pre-closure surveys were conducted at more than 120 sites in Nevada.

Grants received by the Department of the Interior from land sales under Southern Nevada Public Land Management Act (SNPLMA) Rounds 4 and 5 are currently being used to fund archaeological and biological surveys on 344 previously identified orphan abandoned mine hazards in Clark County. The hazards are located on public lands managed by BLM, USFS and NPS. Survey work began in 2006 and was in-progress throughout 2007. Funding from a portion of these grants was earmarked for the construction of bat-compatible closures (e.g. bat gates, bat cupolas) on those hazards identified as containing potential or significant bat habitat. For those hazards having no apparent habitat or usage potential, funding was allocated for permanent closure including polyurethane foam (PUF) plug seals and backfilling.

Initial bat survey work was done in Clark County from 1999 to 2003 by Pat Brown and Bob Berry; Bat Conservation International; Dr. Rick Sherwin, Christopher Newport University, Newport News, Virginia; the Harry Reid Center for Environmental Studies at the University of Nevada, Las

Vegas; and Christopher Ross of the BLM Nevada State Office. Staff from the US Army Corps of Engineers conducted surveys in 2006 and additional work was conducted in 2007 by Dr. Rick Sherwin and Christopher Ross. During 2007, 48 hazards were identified as suitable for bat compatible closure on BLM lands.

Construction work was contracted to the US Bureau of Reclamation (BOR), Boise, Idaho office, see Figure 10. The project manager is A.J. Mitchell; construction foreman Steve Scrivner; construction crew: Kevin Colby, Rick Knott and Sam Thomas. The BOR crew received training in bat gate and cupola construction from Edward Winchester of Frontier Environmental Solutions in April 2007.

During 2007, the BOR crew constructed 13 bat gates and 3 cupolas. Three of the bat gates were constructed in steel culverts which were emplaced in openings having unstable ground. One additional hazard, a large inclined opening on a steep side hill, was secured with cable netting. The netting allows ingress and egress by bats but is strong enough to stop a falling person.

For those hazards found to have no bat usage or habitat potential, permanent closure was employed. Since Clark County is situated in the Mojave Desert geographic region, hazards located below the 5,000 foot elevation, and cleared for permanent closure, were evaluated for desert tortoise. Tortoise survey work was conducted by Sheila Lehman of BEC Environmental, Inc. of Las Vegas, Nevada.

The BOR crew secured 29 hazards using PUF plugs. The PUF was reinforced with rock and was covered with rock and soil to prevent exposure to fire and sunlight (ultraviolet radiation). The PUF was air-lifted by helicopter to a number of locations where steep terrain and cross-country travel restrictions prevented access by wheeled vehicles.

Twenty-seven hazards were backfilled with waste rock dump material so that no open spaces remained. The material was mounded over the opening to allow for settling. The backfill work was completed by the BOR crew with a D-6 dozer. During backfill operations, Sheila Lehman conducted on-site monitoring for desert tortoise. None were encountered during the backfill or PUF plug operations.

A total of 73 hazardous mine openings were permanently closed on BLM lands in Clark County in 2007. Clearance and closure activities will continue into 2008 and 2009.



Figure 10. Bureau of Reclamation employees securing sites in Clark County.

Summer Intern Program

The Division completed its seventh summer intern program in 2007. Six students from the Mackay School of Earth Sciences and Engineering were hired. The six interns were Daniel Atkinson, Paul Hetu, Jack Rhodes, Sam Saunders, Greg Stokes, and Ryan Turner. The Division appreciates the great work they performed during the 14 weeks of the program, see Figure 11. 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 12 is a chart illustrating the monthly hazard discovery and orphan securing efforts made during 2007. It clearly shows the interns' presence during the May-August time frame had a marked positive impact on the program. Working in 13 counties, the interns secured or repaired 156 hazards, completed inspection/assessment visits to 52 previously secured hazards, logged 549 new hazards and logged 1,713 non-hazards.



Figure 11. 2007 Summer interns performing inventory and securing work throughout Nevada.

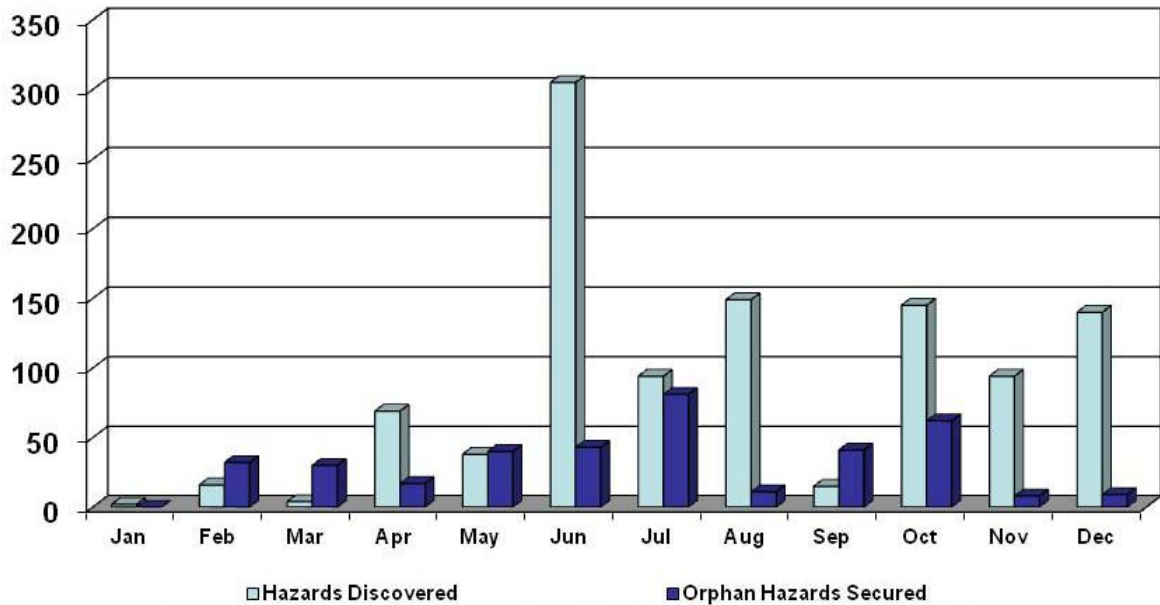


Figure 12. Hazards Discovered and Orphan Hazards Secured 2007

Contracted AML Work

In 2007, Geotemps, Inc. was awarded two \$50,000 contracts to secure previously identified orphan hazards and to locate and log new hazards and non-hazards. Contractors John Morley and Brian Neff secured 70 hazards, logged 45 new hazards and 91 non-hazards from mid-February through April in Esmeralda and Washoe counties then John Morley and Ken Wilson secured 5 hazards, logged 179 hazards and 669 non-hazards from late-September through mid-December in Douglas, Esmeralda, Eureka, Storey and White Pine counties. Similar to the summer interns' impact, the impressive contributions by the contractors to our AML program can also be seen in Figure 12. An additional ten thousand dollar contract was awarded to Geo Temps, Inc. to conduct land and claim ownership research on unsecured hazards identified by our database. Working part-time for three months, contractor Danielle Villa completed research on nearly 2,000 hazards in 11 counties.

Scout Projects

Eagle Scouts

A record Year!

In 1992, a young Eagle Scout candidate presented NDOM with a proposal to secure mine openings for his Eagle Service project in Washoe County. This volunteer effort was very successful and has led to many other projects throughout Nevada. In 2007, 10 Eagle projects were completed in Clark, Nye and Washoe Counties resulting in 21 mine openings secured and 24 repairs made to previously existing fences. Through 2007, 78 Eagle Scout projects have been completed resulting in 427 orphan hazards secured and 55 previously secured hazards re-built or restored. Figure 13 shows several Eagle Scout projects in Nevada.

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



Figure 13. Boy Scout Eagle Service Projects (clockwise from top right): Taylor Smith with Bill Durbin (Clark County), Chris Eliason and work crew (Nye County), Paul Herget and work crew (Washoe County)

Nevada AML Environmental Task Force

In March of 1999, the BLM initiated the formation of a Nevada Abandoned Mine Land Environmental Task Force (NAMLET) to begin the remediation of environmental problems associated with abandoned and inactive mines in Nevada. The task force is comprised of 13 federal and state agencies in order to foster regulatory cooperation, identify priority sites for cleanup, and provide administrative oversight for funded projects. The Division is the lead coordinator in this effort.

Since 1999, the task force has overseen reclamation activities at 23 abandoned mine sites and initiated work on two database projects. Funding for these projects has come from a variety of sources including the U.S. Army Corps of Engineers (USACE), BLM, Bureau of Reclamation, Environmental Protection Agency, and mining reclamation bonds. The USACE Restoration of Abandoned Mine Sites (RAMS) program has received \$5 million in congressional appropriations since 2000 for work in Nevada to support the development of closure plans, and small, innovative, on-the-ground demonstration projects related to abandoned mine cleanup. The following is a list of AML projects currently underway or completed:

1. **Aurora Creek/Bodie Creek** (Esmeralda) – Site characterization initiated in 2006.
2. **Caselton** (Lincoln) – Channel diversion and armoring completed in 2006.
3. **Comstock Mill Site** (Storey) – Equipment and buildings demolished and reclaimed in 2007. Tailings pond reclaimed in 2008.
4. **Crum Canyon/Hilltop** (Lander) – Preliminary site sampling completed in 2007. More site characterization needed.
5. **Easy Junior** (White Pine) - Reclamation completed in 2005.
6. **Elder Creek** (Lander) – Reclamation completed in 2006.
7. **Golden Butte** (White Pine) - Reclamation completed in 2005. Waste dump ARD remediation planned for fall 2008. Data collection ongoing for demonstration project.
8. **Golden Eagle** (White Pine) – Site characterization completed in 2006. Reclamation work planned for fall 2008.
9. **Gooseberry** (Storey) – Hazmat cleanup completed with bond money. Brownfields project underway. Additional reclamation planned for 2008 and search for potential buyer of the property continues.
10. **Guanomi** (Washoe) – Reclamation completed in 2006.
11. **Johnston Mill Site** (Lincoln) – Reclamation completed in 2006.
12. **Kingston** (Lander) – Site re-graded in 2006. Seeding, well abandonment and power line removal yet to be done.
13. **MacArthur** (Lyon) – Site characterization and closure plan completed in 2007. Reclamation earthwork and reseeded completed in 2008.
14. **Monarch Mill** (Lander) – Reclamation commenced in 2006 and expected to be completed in fall 2008.
15. **Mt. Hamilton** (White Pine) – Reclamation of part of haul road scheduled for 2008.
16. **Norse-Windfall** (Eureka) – Reclamation began in 2007 and will continue through 2009.
17. **Paradise Peak** (Nye) – Site characterization of Ketchup Flat portion completed in 2006. Closure design ongoing and expected to be completed in 2008.
18. **Perry Canyon** (Washoe) – Reclamation completed with cooperation from private property owner in 2006.
19. **Rip Van Winkle** (Elko) - Site characterization and design work completed, waiting for reclamation funding, possible Good Sam site with help from Trout Unlimited. Funding received, contractor selected, contract to be awarded by October 2008, work to be completed by fall 2009.
20. **Pine Grove/Rockland** (Lyon) – Site characterization awaiting funding.
21. **Tybo Tailings** (Nye) – Closure design to be re-evaluated and to be funded following completion of work at Norse-Windfall.
22. **Veta Grande** (Douglas) - Reclamation completed in 2005. Long-term monitoring to be scheduled.
23. **Ward** (White Pine) – Award and completion of reclamation tasks scheduled for September/October 2008.

Further information on some of these projects is available at the USACE RAMS website at <https://www.nwo.usace.army.mil/html/rams/rams.html>.

Performance Measures

The Legislature requires state agencies to have performance measures in place for all of their major programs. For the AML program the Division has two performance indicators: 1) maintain the

number of secured hazardous mine openings to the number of hazardous mine openings identified, logged and ranked at a minimum of 70% (73.9% in 2007), 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 (16.5 in 2007). 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 July 16, 2001, \$1.50 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 an assistance agreement with the Bureau of Land Management, which provides 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 2002 through 2007.

Table 4. Revenue to the AML program for the fiscal years 2002 through 2007.

Year	BLM Grants	Mining Claim Fees	Disturbance Fee	Total
2002	\$ 60,000	\$ 140,856	\$ 37,440	\$ 238,296
2003	\$ 66,204	\$ 157,056	\$ 36,800	\$ 260,060
2004	\$ 60,000	\$ 210,596	\$ 95,940	\$ 366,536
2005	\$ 70,000	\$ 227,221	\$ 23,476	\$ 320,697
2006	\$ 60,000	\$ 249,763	\$ 36,824	\$ 346,587
2007	\$ 10,000	\$ 278,493	\$ 34,126	\$ 322,619

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 in 2007 and the number of securings completed in 2007 remained at a level well above the historical average. This is despite the fact that much of the remaining work is located in the more remote, less accessible areas of the state. The combined help of the Nevada mining industry, the federal land management agencies, the summer intern program, and many volunteers have greatly enhanced the efforts of the NDOM staff.

The public awareness program reached over 20,000 people directly in 2007 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 a “Stay Out and Stay Alive” public service announcement on television or reading an AML brochure brought home by a student.

Despite Nevada's tremendous population growth and 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!**

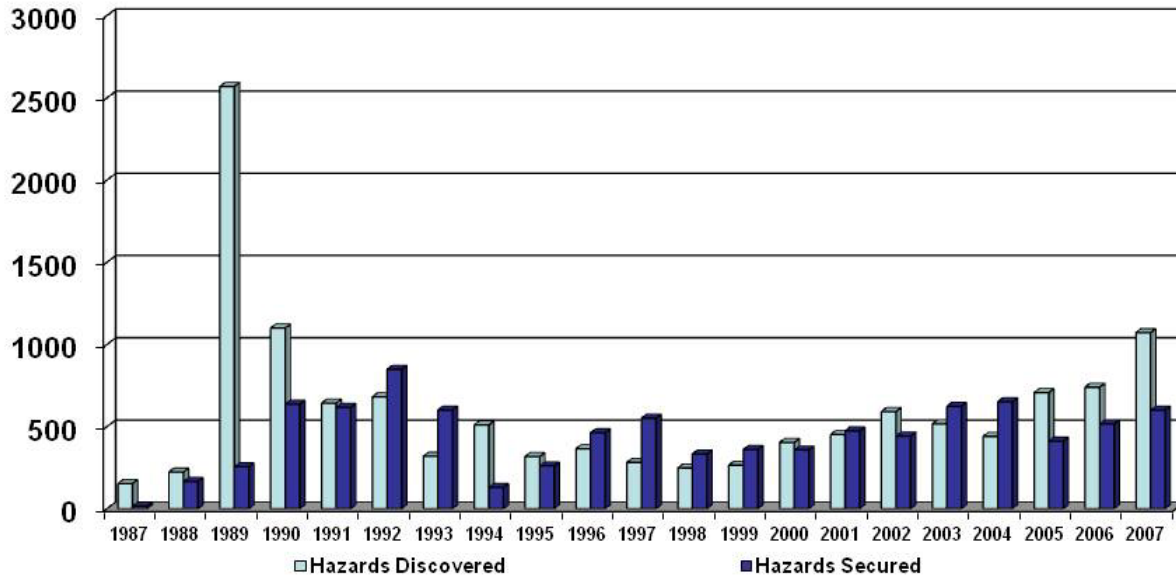
Acknowledgements

The authors would like to draw attention to, and gratefully acknowledge, the many efforts of Division staff 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, or vehicles. Administrative Assistant Linda Wells who works tirelessly to keep the AML database as up-to-date as possible and send out notification letters, while also addressing the many Human Resource issues that arise. Administrative Assistant Debbie Selig who manages the Las Vegas office, while providing invaluable computer hardware and software support to the Division. Program Officer Wanda Martin who manages all budget and accounting issues, including our numerous and varied Work Programs. Field Specialist Paul Buffington who enthusiastically dove headfirst into the AML Program working to make it as safe as possible while also taking on the daunting task of upgrading our AML efforts with a geographic information system (GIS) to maximize our field efficiency.

Appendix A

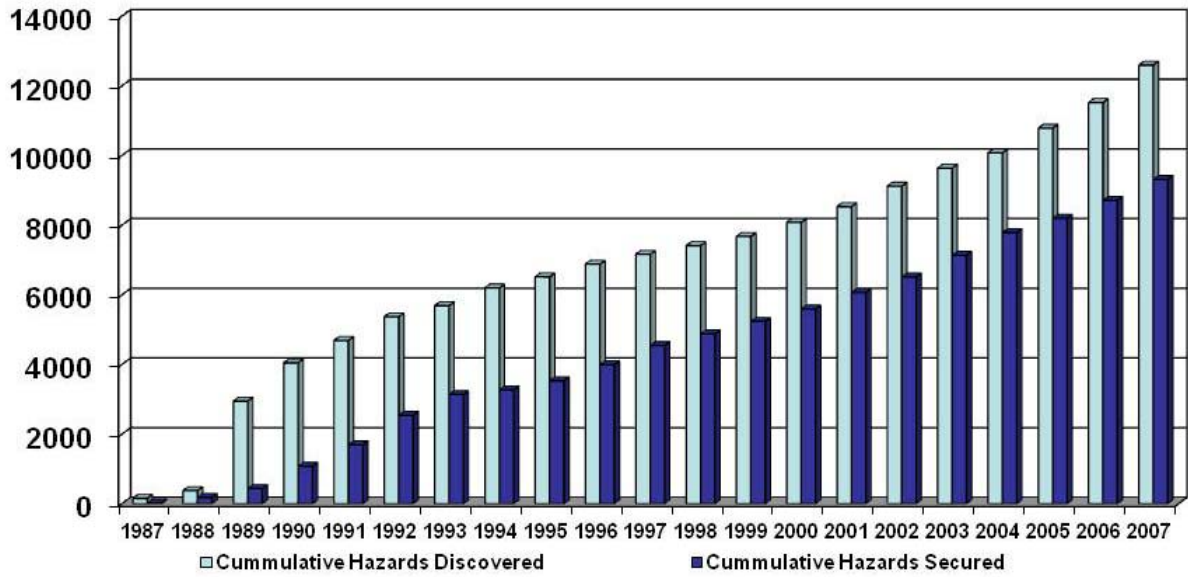
Hazards Discovered and Hazards Secured from 1987 through 2007.

	Hazards Discovered	Cummulative Hazards Discovered	Orphan Hazards Secured	Non-Orphan Hazards Secured	Hazards Secured	Cummulative Hazards Secured
1987	153	153	0	16	16	16
1988	223	376	13	153	166	182
1989	2568	2944	27	228	255	437
1990	1099	4043	91	545	636	1073
1991	642	4685	112	505	617	1690
1992	681	5366	41	807	848	2538
1993	319	5685	94	506	600	3138
1994	510	6195	22	108	130	3268
1995	318	6513	114	147	261	3529
1996	365	6878	185	277	462	3991
1997	282	7160	170	381	551	4542
1998	248	7408	93	240	333	4875
1999	265	7673	86	274	360	5235
2000	403	8076	213	144	357	5592
2001	451	8527	320	154	474	6066
2002	591	9118	307	135	442	6508
2003	516	9634	441	182	623	7131
2004	440	10074	389	262	651	7782
2005	706	10780	304	107	411	8193
2006	739	11519	217	299	516	8709
2007	1071	12590	374	226	600	9309

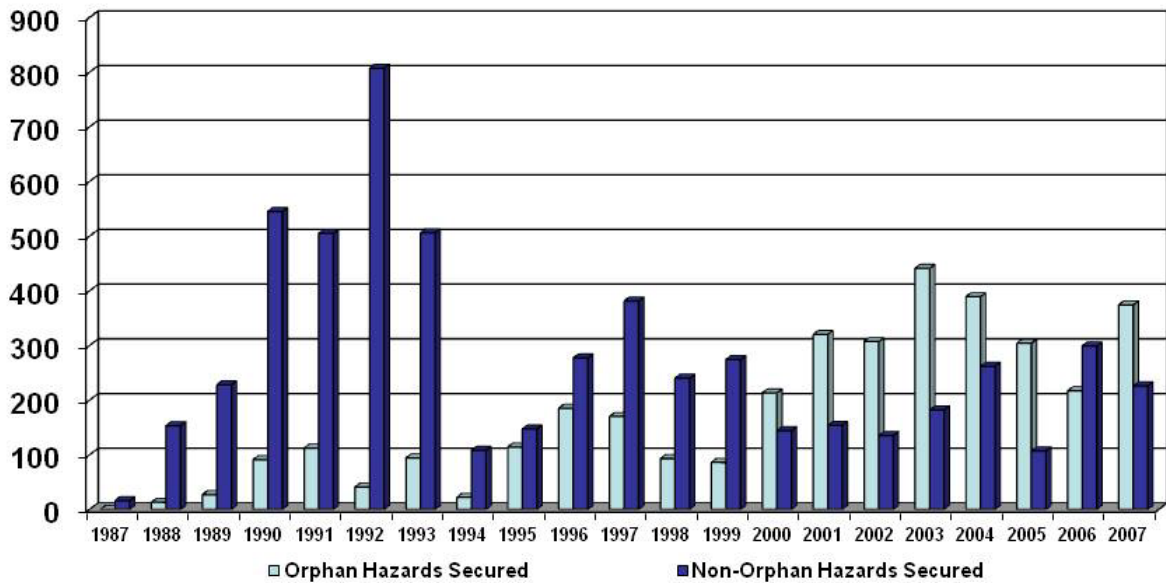


Hazards Discovered and Hazards Secured on an Annual Basis from 1987 to 2007

Appendix A (continued)



Cumulative Hazards Discovered and Secured on an Annual Basis 1987 through 2007



Orphan and Non-Orphan Hazards Secured on an Annual Basis 1987 through 2007

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 nonoperating 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 \$1.50 per claim.

(Added to NAC by Commission on Mineral Resources by R069 -99, eff. 8-19-99; A by R080-1, eff. 1-16-2002)

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, 2007
ORDER COMPLETED	NAME OF SCOUT	DATE(S) OF PROJECT	# 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
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
23	William Bunch	December 8, 2001	5	0	CLARK	CL-1331, 1332, 1333, 1334, 1335 - sites previously secured very poorly
2001 TOTAL			39	9		
24	Travis Cummins	Jan. 21, 2002	9	0	LYON	LY-279, 280, 299, 300, 301, 302, 679, 680, 681
25	Beau Kalmes	Feb. 9, 2002	7	0	CLARK	CL-1161, 1162, 1163, 1164, 1505, 1506, 1507
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 TOTAL			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 Sgamma	Nov. 12-13, 2004	5	3	CLARK	CL-908, 909, 912, 913, 915, repairs to CL-910, 911, 914
2004 TOTAL			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	Isaiah 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

NEVADA SCOUT AML SECURING PROGRAM						THROUGH DECEMBER 31, 2007
ORDER COMPLETED	NAME OF SCOUT	DATE(S) OF PROJECT	# SITES SECURED	# SITES REPAIRED	COUNTY	ID NUMBERS OF SECURED SITES
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
52	Cameron Legere	Dec. 3, 2005	0	7	CLARK	repairs to CL-576, 577, 578, 580, 757, 758, 759 (USFS)
2005 TOTAL			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 TOTAL			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 Eliason	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	September 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 TOTAL			21	24		
CURRENT GRAND TOTAL			427	55		

Appendix E. Letters of Appreciation

11-20-07

Dear Mr. Durbin,
How are you Mr. Durbin? I want to thank you for winning birdseed and the rock inside the goodie bag. Thank you Mr. Durbin for teaching us about rocks - Minerals.
I liked your rock collection. It was nice of you to bring them. I liked when you told us to not go to those mines because there might be a big hole. You said, "Stay out and stay alive". I liked when you told us about the smartly rock. If I see that rock I'll throw it away.
Mr. Durbin do all rocks help us? Mr. Durbin if you break a rock would it show colors? Mr. Durbin are crystals made out of minerals?

Sincerely,
Alejandro
Valencia

11.16.07

Dear Mr. Durbin,

Thank you for coming to our school. I learned cool stuff about rocks and minerals. One thing I learned was that it's dangerous to be in mines. There might be snakes. Also there might be dynamite in mines that can blow up. Also I saw wool, clay, bubble gum, rock, and gems. Thank you again for coming. I appreciate that. I saw gold and silver it was cool. I also saw many rocks and minerals.

I liked mining for bird seeds. I enjoyed learning. I worked with friends. I was the accountant and got to count. Also thank you for coming.

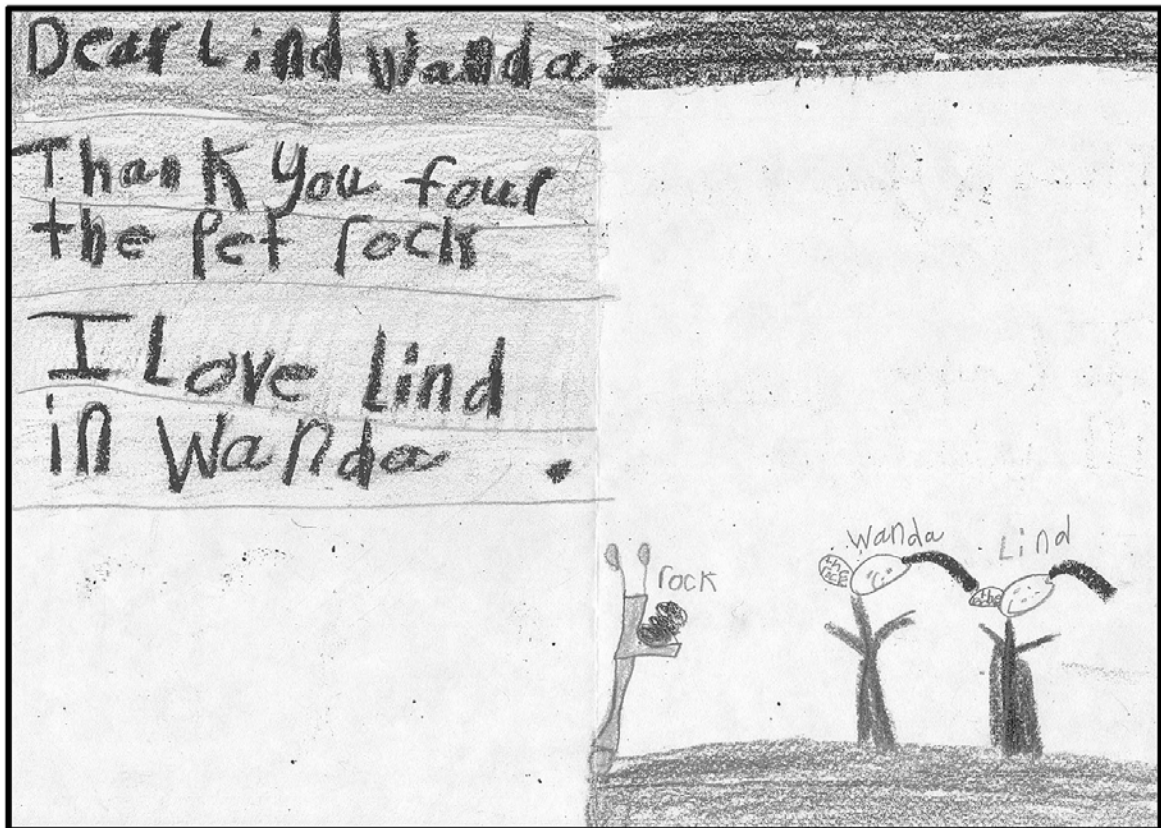
Your friend,
Eddy

- 3rd grade students at Dr. Claude G. Perkins Elementary School, Las Vegas



OCT 10
Dear Alan and George,
Thank you for showing me
all of the cool rocks. I liked learning
about all of the pretty rocks.
My favorite rock was the
tiger's eye because it had interest-
ing colors on it that's why I
liked it.
Your friend,

- 3rd graders at Bordewich-Bray Elementary School, Carson City



- 2nd grader at Cottonwood Elementary School, Fernley

November 28, 2007

Dear Ms. Wells and Mr.
Dreisner,

I thank you for
a very interesting lesson.
I learned to stay out &
stay alive and last
night I told my mom and
dad. When they heard me
say it my mom and dad
got frozen. Then they talked
to me and said "How did
you know that", and I
said "Today I learned
about it". Your friend
Yesica Martinez

- 3rd grader at Esther Bennett Elementary School, Sun Valley

September 11, 2007

Dear Mr. Visher and Mr. Buffington,
Thank you for coming to talk
to a bunch of kids in 5th grade.
I'm surprised of all the minerals
in everything. I bet there's a lot
of rocks and minerals in the pen I'm
using.

Sincerely,
Ashley

- 5th grader at Grace Warner Elementary School, Reno