



Mining and Metallurgical Society of America

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August 15, 2022

U.S. Department of the Interior
Bureau of Land Management
Division of Solid Minerals
1849 C Street NW, Room 5645
Washington, DC 20240.

Re: Request for Information to Inform Interagency Working Group on Mining Regulations, Laws, and Permitting. (FR Vol 87, No.62, pp. 18811-18812.)

The following comments are related to the 100-Day review entitled “Building Resilient Supply Chains, Revitalizing American Manufacturing, and Fostering Broad-Based Growth” and the subsequent Request for Information notice in the Federal Register.

MMSA offers a brief summary of the main issues related to potential changes to the U.S. Mining Law. Details of the mining industry position are provided in references included with these comments and submission of comments from other mining organizations.

The Importance of Mining.

MMSA strongly believes that the prosperity and security of our nation is linked to a resilient industrial base. Our ability to meet the challenges ahead will require bold action underpinned by a holistic materials and minerals strategy that runs the gamut from mining to recycling. We agree that all sectors in the United States, and the American people, will benefit from an efficient regulatory framework that will harness innovation without compromising environmental quality or safety standards. Any changes to the mining laws should help, not hinder, development of domestic mines.

Import dependence of the United States on minerals is well documented by the U.S. Geological Survey. Every year dependence on foreign countries for U.S. mineral needs increases. Putting more lands off-limits to mining would increase the Nation’s reliance on foreign minerals. Mineral deposits occur where natural processes placed them and cannot be relocated to places considered “convenient” to society. The U.S. is rich in mineral resources and has the technology to mine responsibly and provide the country with a strategic advantage in the economic and political worlds.

The RFI does not discuss, let alone acknowledge, America’s dangerous and growing import reliance on both primary metals and critical minerals from adversary nations like China and Russia. China dominates the production and processing of rare earth minerals needed for clean energy technologies, national defense and other uses. In fact, the U.S. is more than 50% import reliant on imports of 31 of 35 minerals needed to meet clean energy needs.

Furthermore, many of the options under consideration, conversion to a leasing system, imposition of punitive royalties, and additional permitting requirements, would curtail mineral development here in the U.S. and increase our reliance on foreign sources of minerals. These options would only lengthen the time that it takes to obtain permits to conduct hardrock mining operations in the U.S. The average time to permit a mine in the United States is 10 years and is one of the longest times in the world.

Mining Claims versus Leases

- Status quo: The current mining claims system gives claim owners the security over their tenure required to justify the enormous investments essential to development of mineral assets. Such ‘self initiation’ is a proven and effective way to leverage private sector investment for the public good.
- A hardrock leasing program imposes restrictive acreage and time limits which would impede proper prospecting, exploration, self-initiation and development of mineral assets, for small operators and major mining companies alike. It would also lead to forfeiture of private property rights within currently producing operations, which would disrupt domestic production and supply and precipitate Fifth Amendment claims. Regulatory timeframes and geologic uncertainties indicate that decades are needed to fully evaluate many types of mineral occurrences, even after production is underway, so that the ore deposit is mined to its most efficient and complete extent.
- Based on the failure of the hardrock mineral leasing system for acquired lands, it is definitely not in the public’s interest to replace mining claims with mineral leases. The acquired lands leasing system refers to the 75-year old hardrock minerals leasing program in The Minerals Leasing Act for Acquired Lands of 1947. This leasing system has a proven track record of being impractical and unproductive in terms of producing minerals and generating royalty payments. If this unsuccessful leasing program is imposed upon locatable minerals on western public domain lands, it will completely destroy self-initiation by putting the federal government in charge of deciding where and when geologists can look for minerals and where and for how long miners can operate a mine. These harsh land tenure restrictions will severely compromise the Nation’s ability to capitalize on private capital to discover and develop domestic mineral deposits. The net result will be significantly diminished domestic mineral production and increased reliance on foreign minerals.

Royalties on Mining on Public Lands

- Congress does not have correct information about the size of the hardrock mining industry to warrant adding a federal hardrock royalty. The GAO’s May 2020 report to Chairman Grijalva incorrectly states there are 728 hardrock mining operations. The report should have said there are 728 hardrock mineral Plans of Operations, with most Plans being for mineral exploration, not for mining. Relying on this incorrect GAO report, Congress likely believes the U.S. mining industry is much larger than it really is. Informed decisions cannot be made on information with that level of inaccuracy. There are more accurate and better sources of data, e.g., states’ geological surveys and taxation departments.
- Lawmakers should also consider the size of mining footprints on public lands when considering mining law. In some areas, the footprint of mining represents a miniscule use of public lands.

- A mining royalty could make many mineral deposits uneconomic and precipitate more reliance on foreign sources of minerals.
- It is inappropriate to compare the businesses of hardrock mining and energy resources such as coal, oil and gas. As such, applying similar mineral royalty structures to both types of industries is also inappropriate.
- Government data shows a steady decline in the U.S. mining industry over the last 40 years. Congress must focus on reversing this trend and rebuilding the mining industry when considering amendments to mining laws and royalty programs.
- Information from the BLM and Government Accounting Office (GAO) suggest that the hardrock leasing program fails to generate meaningful royalties and contributes to U.S. mining being less competitive in world markets.

Financial Assurance

- In 2018, the U.S. Environmental Protection Agency (EPA) issued a final rulemaking related to the “Superfund” that determined EPA did not need to develop a separate financial assurance program for the hardrock (metals) mining industry. Instead, EPA found that BLM’s, the USFS’, and the states’ environmental regulations and financial assurance requirements effectively protect the environment at modern mining operations and guarantee that taxpayers will not have to pay to reclaim mines. This rulemaking has withstood judicial review. (*Idaho Conservation League et al versus Andrew Wheeler and the U.S. Environmental Protection Agency*19)

Environmental Protection and Best Practices

- Mining companies in the United States have developed “Best Practices” that are suitable for the type of mineral deposit and reclamation that returns land to appropriate usefulness. Restrictive regulation can result in unintended consequences that are not conducive to developing the most productive and efficient mineral extraction and the highest end use for mined lands.
- For much of U.S. mining history, environmental control has been un-regulated or poorly regulated, leading to damage of the environment. It was not until the 1960s, 70s and 80s that congress and states began to pass sweeping environmental laws. Mining requires disturbing land, and since the 1970s, the country has benefitted from vast investments in better environmentally sound mining practices and reclaiming of mined lands.
- Both the BLM’s 43 CFR Subpart 3809 and the USFS’ 36 CFR Subpart A regulations include comprehensive mine reclamation and financial assurance requirements. A possible template is included in the document for how a state regulatory agency coordinates with the federal land management agencies to provide comprehensive regulation, reclamation, and financial assurance for hardrock mineral projects on federal lands. This template has proven that a successful reclamation program can be accomplished under the existing statutory and regulatory framework.
- Recognizing the importance of developing a funding source to reclaim hardrock Abandoned Mine Lands (AMLs) sooner rather than later, it is suggested that the annual Mining Law holding fees and service fees paid by mining claim holders in excess of the amount the BLM requires to administer its Mining Law Program should be used for AML reclamation.
- There are legal impediments to voluntary cleanup of AMLs with complex surface water and groundwater contamination issues due to contact with mine wastes and/or seepage from old underground workings. Congress has been urged to eliminate the liability exposure that

thwarts parties that have no previous involvement with a mine from undertaking voluntary reclamation and remediation activities. MMSA has presented three conferences that addressed these issues and resulted in workable suggestions for cleaning up AML sites.

Streamlining Permitting

- Policies to incentivize hardrock mineral production must consider more than just the royalty issue and must also focus on security of land tenure, permit streamlining, and creating a positive business climate that can attract private-sector investment in the Nation's mineral resources on public lands.
- Permitting hurdles are a substantial contributing factor in the plummeting number of metals mines and are impeding clean energy and other mineral projects across the country.
- Permitting timeframes and (nuisance?) appeals processes add investment-killing uncertainties for would-be mine developers and investors and harm communities that must wait years for the jobs, tax revenues, and other socioeconomic benefits mining brings to rural communities.
- In considering updates to the Mining Law of 1872, Congress should amend NEPA to establish reasonable timelines and reduce project opponents' abilities to challenge agency NEPA decisions.
- By distinguishing between the environmental review and disclosure requirements in NEPA and the environmental protection requirements in the Clean Air Act, Clean Water Act, Endangered Species Act, and other environmental protection laws, Congress could enact streamlining measures to the NEPA process without diminishing any environmental protection measures.

Community Engagement

- Today's mining companies are committed to working collaboratively with community and tribal stakeholders. Stakeholder engagement dialogues between mining companies, communities, and tribes are already achieving productive and collaborative outcomes. There is no need for bureaucratic and cumbersome government-to-government consultation provisions in any proposed legislation because the Section 106 government-to-government consultation process required by the National Historic Preservation Act already directs federal agencies to consult with tribal governments.
- The value of outreach efforts to area tribes and communities initiated by mining corporations depends largely on the level of stakeholder participation. Ongoing and collaborative dialogues between companies and stakeholders typically produce the best results based on finding and enhancing synergies among the company, local communities, and the tribes who are an important part of these communities.
- MMSA presented a series of Webinars on ESG (Environment, Social, Governance) that address the issues of how mining companies can improve relationships with stakeholders. Presenters in these Webinars identified how the mining industry is already addressing these issues without government regulation. The ESG Webinars included the following topics: *ESG Experts Panel Discussion, Panelists summarized the issues; Social Issues – Social License to Operate; A Look Under the Hood at Indian Law and ESG Governance; The E in ESG: There is no S or G without the E. Early, effective and encompassing environmental characterization and management.* (<https://www.mmsa.net/MMSAWebinars.htm>)

MMSA strongly supports comments on these matters made by other professional mining organizations, including but not limited to state mining associations, the Women’s Mining Coalition, the Society for Mining, Metallurgy, and Exploration, the American Exploration and Mining Association, and the National Mining Association.

MMSA is a professional organization of senior-level minerals industry professionals with expertise in mining, metallurgy, geology, finance, law, and all related disciplines that support Environmental, Social, and Governance (ESG) issues in the extractives industry. Since its inception in 1908, MMSA has offered guidance on policy issues ranging from protection of workers and investors to the responsible development of mineral resources on public lands. MMSA was instrumental in the establishment of the former U.S. Bureau of Mines (USBM). MMSA continues to testify before Congress, advise government agencies, and convene multi-stakeholder forums such as the *Minerals for a Green Society Symposium*, the ongoing *Abandoned Mine Land Summits*, and a new informational webinar series on critical minerals. Videos and reports for conferences and webinars are available on the MMSA Web site at <https://www.mmsa.net>.

MMSA recommends that the USBM or an equivalent agency be reestablished to address the Nation’s need for minerals and assist with technology development.

MMSA members are available to provide technical information and context as needed and are ready to support your pursuit of bipartisanship on policies that will ensure ***Made in America*** also means ***Mined in America, Processed in America, and Recycled in America***.

Thank you again for the opportunity to comment on these important interrelated issues.

Sincerely,

Mick Gavrilovic



MMSA President

A 501(c)(6) professional organization committed to advancing scientific knowledge, fostering collaboration, and promoting responsible mineral resource development.

References:

Legislative Hearing: Reforming the Mining Law of 1872. Testimony by Debra Struhsacker to the Subcommittee on Energy and Mineral Resources, Committee on Natural Resources, U.S. House of Representatives. May 12, 2022.

<http://wmc-usa.org/pdfs/WhitePapers/WMCStruhsackerTestimonyMay12-2022EMRHearing.pdf>

MMSA Webinars and conferences on critical minerals

<https://www.mmsa.net/MMSAWebinars.htm>

MMSA Abandoned Mine Lands conferences. <https://www.mmsa.net/AMLPage-All.html>

Legacy Abandoned Mine Lands - Progress and Plans - April 19, 2021

<https://www.mmsa.net/AMLPage-All.html>

The Webinar included panelists discussing these topics (slides and videos): Perpetua Resources (formally Midas Gold) providing a summary of their recently negotiated process with EPA; Trout Unlimited providing updates regarding 2020 progress, 2021 objectives; The Nature Conservancy providing discussions regarding identified Nevada Legacy sites for possible renewable energy deployments; Industry experts providing new Technology discussions.

Good Samaritan Protection to Enhance Abandoned Mine Land Cleanup - Finding a Path Forward. April 2018. <https://www.mmsa.net/AMLPage.html>

The Minerals Leasing Act for Acquired Lands of 1947, 30 U.S.C. §§ 351-359

National Mining Association and U.S. Geological Survey Mineral Commodity Summaries; See also, SME Technical Briefing Paper "Critical and Strategic Minerals Importance to the U.S. Economy" <https://www.smenet.org/What-We-Do/Technical-Briefings/Critical-and-Strategic-Minerals-Importance-to-the>



**GOOD SAMARITAN PROTECTION TO ENHANCE
ABANDONED MINE LAND CLEANUP-
FINDING A PATH FORWARD**

SUMMIT REPORT

JULY 2018

<http://www.mmsa.net/AMLPage.html>

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1.0 EXECUTIVE SUMMARY

“This is the best conference that I have attended in over 20 years.”

*Stan Dempsey, Sr.
Retired President & CEO, Royal Gold*

INTRODUCTION

In the fall of 2016, the Keystone Policy Center and the Colorado School of Mines Payne Institute for Earth Resources convened a *“Summit on Reasonable Expectations in Mine Closure.”* Shortly thereafter, the Mining and Metallurgical Society (MMSA), which was in the early stages of its own planning cycle for an event focusing on Abandoned Mine Lands, initiated a conversation with CSM to explore partnership opportunities that could leverage the respective resources and expertise of each organization. From this dialogue, the concept of a biannual meeting-series to be branded as the “Golden Summits” was proposed to bring diverse stakeholders together to discuss issues of import to the minerals industry and society. CSM would coordinate a fall Summit, and MMSA would coordinate a Summit the following spring.

The complexity of impacts, technical challenges and administrative obstacles presented by Abandoned Mine Lands rank amongst the top issues the minerals industry and impacted stakeholders have long wished to resolve. It was agreed that now was an excellent time for both organizations to collaboratively direct their efforts and provide forums in which all stakeholders concerned about Abandoned Mine Lands can come together to resolve those issues.

The subsequent Fall 2017 Summit, *A Framework to Manage the Environmental Reality of Orphaned and Abandoned Mine Lands*, was convened by the Colorado School of Mines Payne Institute of Earth Resources. The objectives for that Summit were to provide a forum to (1) discuss the status of current abandoned mine inventories, (2) review technology and site best management practices and (3) establish networking opportunities for further collaborations.

Building on the momentum established by the two previous Summits, MMSA directed the focus of the Spring 2018 Summit to build consensus on, and develop an action plan for, the critical language and programmatic components needed in Good Samaritan legislation that will protect those willing and able to voluntarily improve orphaned and abandoned mine sites in the United States. In recognition of its ongoing success in improving wildlife habitat on abandoned mine lands, MMSA reached out to Trout Unlimited to become an additional co-sponsor of the Spring 2018 summit.

SPONSORS

This conference, held on April 26, 2018 in Golden, Colorado was sponsored by the Mining and Metallurgical Society of America (MMSA), Colorado School of Mines (CSM), and Trout Unlimited (TU). MMSA in its leadership role was also able to garner an expanding number of supporters (See Appendix C).

PURPOSE

Identify necessary liability protection from applicable environmental laws that advance closure and remediation of the identified pilot/demonstration projects.

OUTCOME

A diverse coalition of stakeholders working to advance pilot/demonstration project-focused Good Samaritan legislation that enhances (or advances) Abandoned Mine Land (AML) cleanup.

The conference was attended by 111 individuals representing a broad diversity of stakeholders with an interest and expertise in AML, including academia, state and federal government agencies, industry organizations, technical and policy consultants, legal counsel, conservation groups and congressional staff. Ten speakers provided the delegates with an excellent high-level overview of the technical, legal, social and political issues surrounding AML which drove the discussions throughout the day.

This document is a compilation of the information and ideas exchanged during the Summit. It includes both abridged summaries of each session summarized from notes taken by committee organizers, which were subsequently reviewed by the invited speakers and organizing partners. This report, all available presentations and accompanying documents are available on the MMSA AML Summit Web page (<http://www.mmsa.net/AMLPage>).

PLENARY SESSION – LAYING OUT THE CHALLENGES

Laura Skaer of the American Exploration & Mining Association led the early morning plenary panel discussion, which included the following speakers:

- ◆ Jeff Graves, Colorado Division of Reclamation, Mining, and Safety (DRMS)
- ◆ Chris Wood, President, Trout Unlimited
- ◆ Tawny Bridgeford and Amanda Aspatore, National Mining Association (NMA)
- ◆ Dustin Sherer, Legislative Aide to Senator Cory Gardner

Laura Skaer provided an overview of past efforts to provide Good Samaritan protection over the past 25 years. During this period, various interested parties have unsuccessfully attempted to pass national legislation providing protection for parties doing closure and restoration activities on Abandoned Mine Lands in the United States. The purpose of this conference is intended to “break the logjam” on the Good Samaritan issue by facilitating constructive engagement with diverse groups interested in this subject. Funding for projects can come from several sources and is a subject for a future conference or planning session.

Jeff Graves talked about AML work done on sites in Colorado. On some sites, DRMS is involved in the operation and maintenance of a site. They also get involved in cost/benefit analysis, define problems of sites and prioritize sites for AML closure. The key to cleanups was to use appropriate remedies that were realistic and achievable. Partnerships between owners and regulatory agencies are critical.

Chris Wood spoke from the conservation standpoint and described how TU has worked with State and Federal agencies to get the requisite permissions and permits to clean up AML sites. He presented several examples of successful cleanup projects TU has completed in partnership with other conservation organizations, watershed associations, government agencies and private industry. He recognized there is still some considerable trepidation about cleaning up abandoned mines. He added however that after we demonstrate “that we know how to do this and do it well”, Congress should be more comfortable with authorizing legislation and extending the protections permanently. Mr. Wood closed his remarks by saying that TU supports applying “common sense to common problems for the common good” and that “if there was ever a time to get Abandoned Mine Land legislation through, it is now.”

Tawny Bridgeford and Amanda Aspatore, two lawyers with the National Mining Association (NMA) presented legal considerations and challenges faced by their members. Although NMA members are interested in funding and participating in AML cleanup efforts, there must be Good Samaritan protections to proceed. The main issues are related to CERCLA and Clean Water Act protection. The current Clean Water Act is at cross purposes to AML cleanup. The CWA focuses on discharge water quality, primarily from operating or recently closed industrial facilities. AML cleanup projects focus on improving the currently existing situation of water quality discharging from old, historic, pre-CWA mining activity. In AML restoration, the focus of the work is to improve existing conditions. The CWA ignores, and often prevents, partial improvement of water quality discharged from a site.

Dustin Sherer presented the Congressional Perspective. Good Samaritan legislation has been proposed many times and little progress has been made. He indicated we need Good Samaritan protection from the CWA, a scope of success in AML restoration, a definition of success – all written into a single piece of legislation. Sherer stated the issues involve 1) liability protection; 2) definition of success; and 3) define a clear and efficient permit system which meets the concept of “improving water quality”.

MID-MORNING SESSION – ISSUES IMPACTING AML CLEAN-UP

This session was led by Dennis Ferrigno and included legal, political, reclamation and closure, government, and EPA perspectives. Speakers included:

- ◆ Carolyn McIntosh, a Partner at Squire Patton Boggs
- ◆ Kathy Benedetto, Senior Advisor to the Director of the Bureau of Land Management
- ◆ Jeff Parshley, Group Chairman and Corporate Consultant of SRK Consulting
- ◆ Erin Chancellor, Counsel to Administrator, U.S. Environmental Protection Agency

Carolyn McIntosh pointed out that liability has always been a sticking point in AML cleanup. Other issues include determining the Potentially Responsible Party (PRP), CERCLA citizen lawsuits, and issues with state regulations. Her “Takeaway” was that the current System is not simple but small steps are available within the system. Good Samaritan has merit.

Kathy Benedetto talked about how Good Samaritan might affect BLM’s extensive land holdings. Work on BLM lands is prioritized based on safety and human health hazards. The National Park Service should be involved. The USGS is developing a new minerals location database which includes location of mineral deposits, mines, watersheds, and other areas affected by mining.

Jeff Parshley gave an overview of Lessons Learned by Industry in mine closure which included much larger sites in need of restoration. Lessons learned by industry during mine closures include:

- ◆ Every site is different,
- ◆ Large gap between theory and implementation of closure,
- ◆ Closure approaches should be risk-based (closure of normal operations is different from AML activities),
- ◆ Regulations and standards need to be reviewed and updated regularly.

Site factors include biodiversity, site features, stakeholder (both local and remote), land status, water, access, benefit, cost effectiveness, and Good Samaritan input.

Erin Chancellor talked about what EPA can do to work within the current regulatory system to maximize AML closure. She acknowledged that these two processes can be cumbersome and time consuming, and that EPA was working internally to define better paths forward regarding AML site cleanup. Administrative tools available under the 2007 EPA Guidance Document and 2012 memo include comfort letters and CERCLA liability statement agreements (both of which are time consuming processes), covenants with DOI approval to not sue, State voluntary cleanups, and looking at opportunities to improve water quality at sites (“don’t let perfect be the enemy of good”). The 2012 memo was meant to correct some of the pitfalls of the 2007 guideline document; this memo did not go far enough to provide clarity on how to function as a “good Samaritan”.

Erin stated that there are internal initiatives in EPA exploring ways that it, without legislative actions, can address AML working within its existing framework, and that these initiatives had not been developed enough to discuss at this time. She shared this to emphasize EPA’s desire to address AML, welcoming input from diverse stakeholders toward advancing AML clean up initiatives.

AFTERNOON SESSION – BREAKOUT SESSIONS

Ann Carpenter facilitated this portion of the workshop. Nine breakout groups were organized¹ to build consensus on the critical language and programmatic components needed to advance Good Samaritan legislation focused on pilot/demonstration projects. Two key questions helped to drive discussions and outcomes of the breakout groups, including:

- What components MUST BE INCLUDED in the legislation; and
- What components MUST NOT BE INCLUDED in the legislation?

¹ The breakout design was for 10 groups, but two groups were combined.

After the building blocks for the legislation were discussed and as time allowed, avenues for partnership, the ideal process for selection of candidate demonstration sites, and other issues raised by the morning sessions were discussed. After an approximately two hour working session, the delegation reconvened and leaders from each group provided a recap of their discussions. The breakout session results are included in Section 2.3 of this report and a companion spreadsheet is available on the MMSA AML Web site.

The common themes and topics discussed included:

- ◆ Cleanup standards/evaluation criteria
- ◆ Approval process/timeline
- ◆ Liability
- ◆ Lawsuits
- ◆ Site selection criteria/process.
- ◆ Terminology
- ◆ Financial assurance
- ◆ Regulatory authority
- ◆ Reprocessing
- ◆ Eligibility
- ◆ Community/stakeholder involvement
- ◆ Incentives
- ◆ Monitoring
- ◆ Site Characterization
- ◆ Funding
- ◆ Other

The following pie charts summarize the composition of the breakout groups by stakeholder affiliation (Figure 1) and the common themes and issues covered in the discussions (Figure 2).

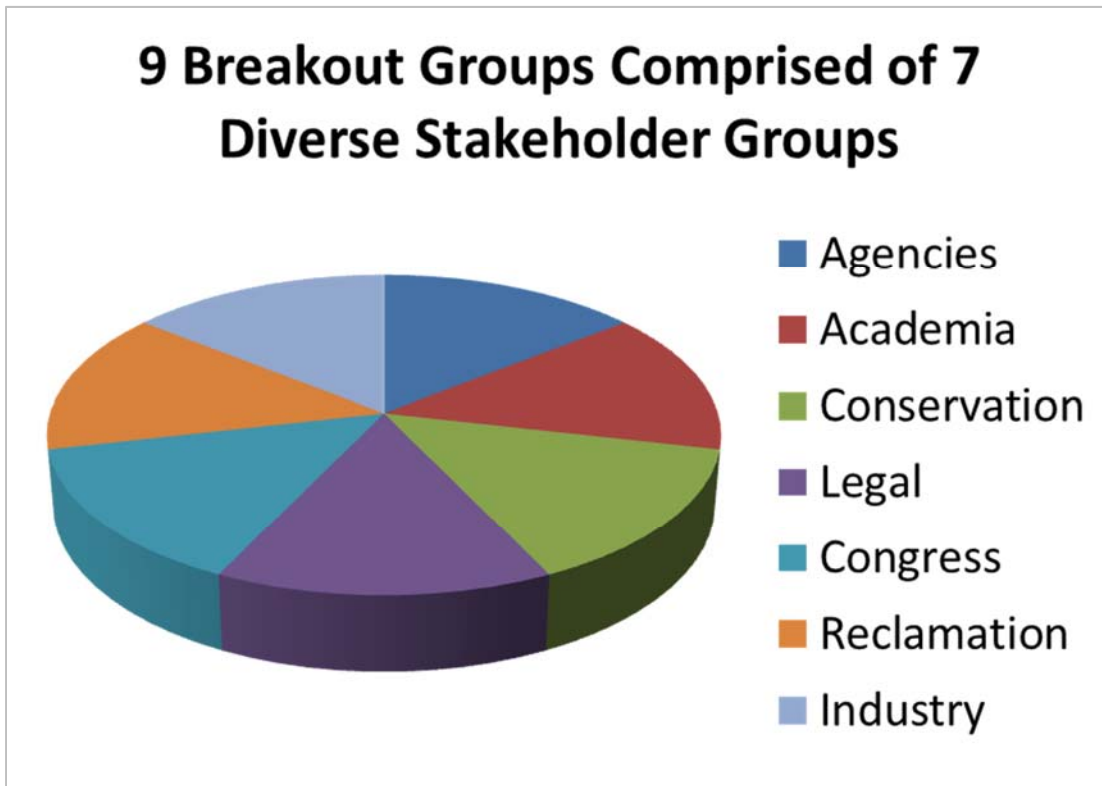


Figure 1: Participating Stakeholders by Affiliation Only. Not Representative of Numbers of Participants

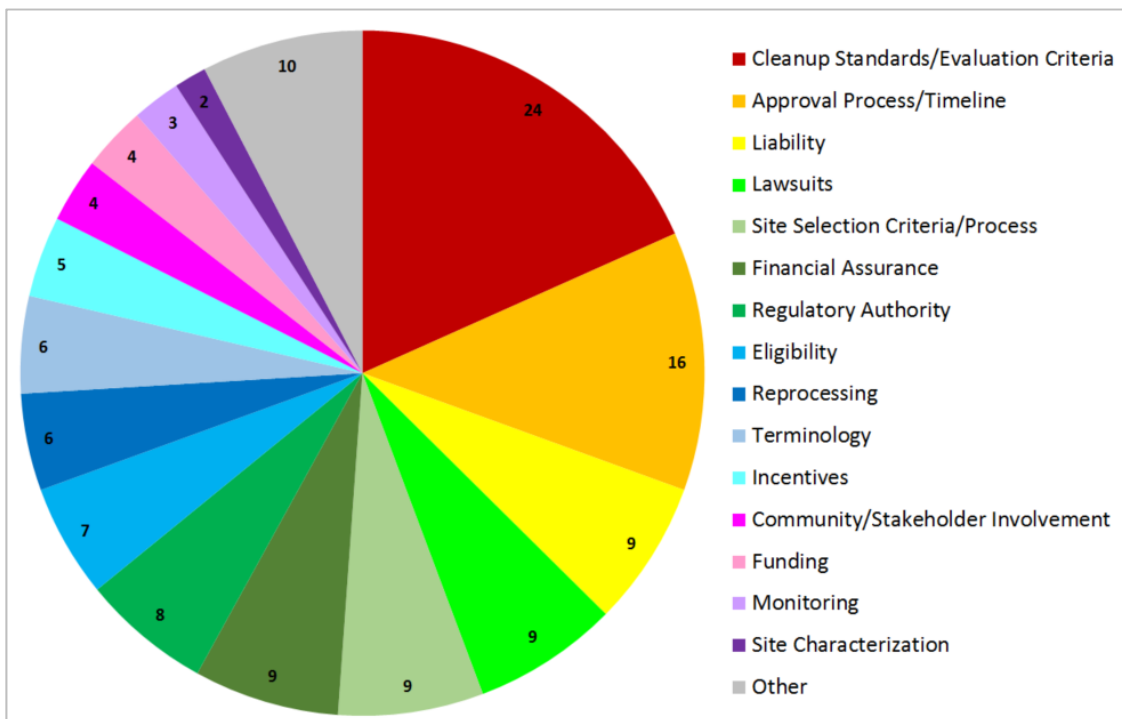


Figure 2: Common Themes and Issues



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University of Nevada, Reno



COLORADO SCHOOL OF MINES
EARTH • ENERGY • ENVIRONMENT



**ADVANCING ABANDONED MINE LAND CLEANUP ...
WITH OR WITHOUT GOOD SAMARITAN LEGISLATION**

APRIL 2019 SUMMIT REPORT

1.0 EXECUTIVE SUMMARY

INTRODUCTION AND HISTORICAL BACKGROUND

Addressing the public safety, socio-economic and environmental challenges surrounding orphaned and abandoned mine lands rank amongst the top issues the minerals industry and impacted stakeholders have long wished to resolve. While some notable and commendable collaborative efforts have improved conditions on the ground for many legacy mine sites, legislative and administrative obstacles remain that hinder more significant progress on addressing Abandoned Mine Lands (AML) in the United States.

In the fall of 2016, the Keystone Policy Center and the Colorado School of Mines (CSM) Payne Institute for Earth Resources convened a ***Summit on Reasonable Expectations in Mine Closure***. Shortly thereafter, the Mining and Metallurgical Society of America (MMSA), which was in its own planning cycle for an AML-focused event, initiated a conversation with CSM to explore how best to leverage the respective resources and expertise of each organization. It was agreed that a biannual meeting-series that would bring diverse stakeholders together to discuss issues of import to the minerals industry and society would be of great value, with CSM coordinating a fall event and MMSA following with a program in the spring.

The subsequent Fall 2017 Summit, ***A Framework to Manage the Environmental Reality of Orphaned and Abandoned Mine Lands***, was presented by the Colorado School of Mines. The objectives for that Summit were to provide a forum to (1) discuss the status of current abandoned mine inventories, (2) review technology and site best management practices, and (3) establish networking opportunities for further collaborations.

Building on the momentum established by these previous Summits, MMSA facilitated an action-oriented forum with the aim to build consensus on the critical language and programmatic components needed in Good Samaritan legislation to protect those willing and able to voluntarily improve orphaned and abandoned mine sites. In recognition of its ongoing works to improve wildlife habitat on abandoned mine sites, MMSA reached out to Trout Unlimited to become an additional co-sponsor of the forum. The Spring 2018 Summit, ***Good Samaritan Protection to Enhance Abandoned Mine Cleanup – Finding a Path Forward*** was convened on April 26, 2018 at the Colorado School of Mines. The constructive dialogue and idea exchanges during this forum helped to inform and influence the ongoing efforts on Capitol Hill to enact Good Samaritan legislation, as well as some administrative remedies being considered within the Trump Administration.

The April 2019 Summit, ***Advancing Abandoned Mine Land Cleanup (AML) ... With or Without Good Samaritan Legislation***, was moved to Reno, Nevada in order broaden stakeholder engagement efforts and tap into the expertise of the mining industry in other Western states. The forum was convened on April 9, 2019 at the Circus Circus Reno Hotel & Casino and focused on (1) identifying AML projects without appreciable water issues and (2) delineating liability relief mechanisms and administrative remedies currently available under existing law. This event was presented by the Mining and Metallurgical Society of America, Trout Unlimited, the Colorado School of Mines and the University of Nevada Reno College of Science (including the Mackay School). MMSA and its partners

were able to garner additional support and expand the overall diversity of participants as summarized in Appendix C.

SUMMIT PURPOSE

Discuss and promote the passage of necessary liability protection from applicable environmental laws that advance closure and remediation of identified pilot/demonstration projects.

SUMMIT OUTCOME

Increase the diverse coalition of stakeholders working to advance pilot/demonstration projects through Good Samaritan legislation and on-the-ground efforts to improve Abandoned Mine Lands.

The conference was attended by 109 individuals representing a broad spectrum of stakeholders with interest and expertise in AML, including academia, state and federal government agencies, industry organizations, technical and policy consultants, legal counsel, conservation groups and congressional staff. Figure 1 below illustrates the composition of attendees by general affiliation; a complete list of participants is provided in Appendix C.

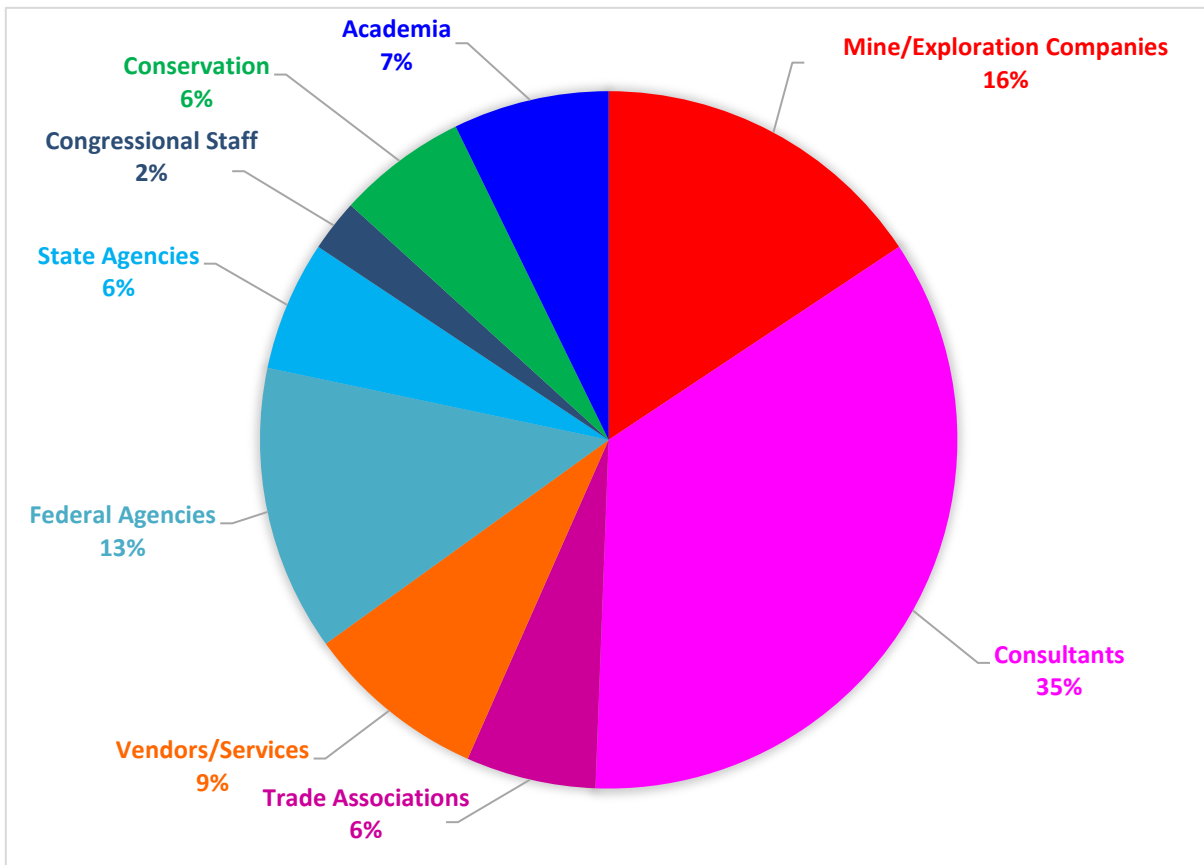


Figure 1: Participating Stakeholders by Affiliation

Three sessions provided the delegates with a high-level overview of the technical, legal, social and political issues surrounding Abandoned Mine Lands, driving discussions throughout the day. An

afternoon breakout session brought delegates together in five teams to discuss and offer recommendations on key topics to help drive the “next steps” and topics for the organizers and growing coalition to consider for future Summits.

Common themes discussed throughout the day included (1) the importance of bringing in the proper expertise, (2) having fully vetted and agreed-to work plans, (3) not letting *perfect be the enemy of the good* by focusing on measurable improvements, and (4) allowing for collaborative stakeholder processes to advance more AML work on the ground.

Highlights from each presentation are provided below, with a more comprehensive summary provided in the subsequent sections and appendices. This report, all available presentations and accompanying documents are available on the MMSA AML Summit Web page.

KEYNOTE SESSION

The Keynote Session, chaired by **Mark Compton** of the American Exploration and Mining Association (AEMA) provided the delegation with a high-level overview of the scope and nature of the Abandoned Mine Lands challenge in the United States. Speakers provided status updates on Good Samaritan legislation efforts, discussed available administrative remedies under existing regulatory frameworks, and reported on the progress that has been made to date on Abandoned Mine Lands from the perspectives of the minerals industry and multiple federal agencies.

- ◆ **Mark Compton**, Executive Director of the American Exploration and Mining Association, provided a brief overview of the trade association’s role in developing and advocating for Good Samaritan Legislation for over 25 years. He emphasized the only way to get Good Samaritan Legislation “across the finish line” is through bi-partisan efforts that require constructive engagement with diverse groups interested in this subject. He stressed that although the industry of today had nothing to do with creating these legacy issues, they have long been and continue to be interested in being part of the solution.
- ◆ **Debra Struhsacker**, Environmental Permitting & Government Relations Consultant, provided a high-level overview of the Abandoned Mine Land clean-up challenge touching upon the different types of AML sites that exist on the landscape and the range of technical responses that are required. She provided her perspectives on what Good Samaritan legislation in general should achieve to provide liability protection for voluntary cleanups. She then provided more specific suggestions for S. 3727, the bill that Senator Cory Gardner (R-CO) and Representative Scott Tipton (R-CO) introduced in the 115th Congress.
- ◆ **Shahid Mahmud**, Team Leader of the National Mining Team of the Environmental Protection Agency (EPA), provided the agency’s perspectives on legacy mines and how a collaborative approach is needed to get more work done on the ground that will help “Mother Nature heal herself.” He referenced some state programs that are advancing AML cleanup and provided specific AML project examples. He discussed how the EPA has engaged with stakeholders aggressively over the last year to identify the hurdles and obstacles encountered with the existing administrative tools, including a plan to hold a “listening session” meeting in Denver on April 17th, 2019 to continue this important dialogue.

- ◆ **Gary Lawkowski**, Deputy Assistant Secretary for the Land and Minerals Management of the US Department of the Interior provided perspectives on Abandoned Mine Lands through the lens of the top priority of the current Administration which is to “create a conservation stewardship legacy second only to Teddy Roosevelt.” He provided an update on the AML inventory efforts of the BLM and then acknowledged the necessity of working together to make notable improvements on legacy sites, particularly in addressing public safety hazards which are often the easier problems to solve. However, due to the many laws and regulations the BLM must work through before any work can begin, things do not move quickly. He added the current Administration is working to make these processes more efficient and “user-friendly”, but this still takes time and money to accomplish, and the agency must still ensure that adequate measures are in place to prevent harm to visitors, employees and the environment.

MID-MORNING PANEL SESSION

This panel session and discussion was led by **Ann Carpenter** of SRK Consulting and Remote Energy Solutions. Seven panelists shared their insights on AML cleanup and then fielded audience questions. The following panelists provided high-level overviews of collaborative partnerships, remediation technologies, products, and field techniques used in AML cleanup.

- ◆ **James Gusek**, Senior Project Manager with Linkan Engineering, presented on what he calls a “pro-biotics” solution to Acid Rock Drainage (ARD). By properly addressing the role that bacteria play in the process, ARD kinetics can be slowed by three orders of magnitude. However, just killing the “bad bugs” results in only a short-term remedy. To eliminate perpetual ARD treatment, it is necessary to implement a three-part integrated strategy that: (1) decimates acid-loving bugs populations, (2) uses organic solutions (like waste milk) that allow the heterotrophic good bugs to out-compete the acid-loving bugs, and (3) establishes sustainable vegetative cover to keep good bugs happy for decades or longer.
- ◆ **Allen Biaggi**, Consultant to the Nevada Mining Association (NvMA), provided the Association’s perspectives regarding legacy sites in Nevada and the necessary inclusion of the mining industry to provide its expertise and knowledge of what works and doesn’t work on the ground. NvMA and its member companies want to be an active partner on Nevada AML cleanup opportunities, provided the appropriate liability protection mechanisms are in place. He stressed the importance of collaboration between industry, agencies, non-profit organizations and tribal communities, and provided examples in Nevada on how current obstacles might be removed or creatively worked around.
- ◆ **Carrie Monohan**, Program Director with The Sierra Fund (TSF), shared how the non-profit developed a comprehensive strategy to address the impacts of the California Gold Rush in the Sierra Nevada. After reviewing an overwhelming database of 47,000 physical and chemical hazards resulting from historic mining in California, TSF defined a more manageable strategic scope focusing only on hydraulic mining and mercury contamination. Using best available science, they developed a conceptual model on how mercury moves through the watersheds of the Sierras from which they developed a regional strategy that guides their work with numerous agencies and communities impacted by mercury contamination.
- ◆ **Rob Ghiglieri**, Chief with the Abandoned Mine Lands Program of the Nevada Division of Minerals (NDOM), provided an overview of the agency’s efforts on AML. The Division of

Minerals was legislatively mandated in 1987 to focus on physical AML hazards and public safety. He described the agency's AML inventory and site prioritization methodology, and reported that inventory efforts are approaching 50% completion. He shared examples of AML projects completed in Nevada, emphasizing the importance of using other agencies and organizations that can bring in funds and other resources to get work done in the field.

- ◆ **Paul Jones** presented for **Jeff Graves**, Program Director of the Inactive Mine Reclamation Program of the Colorado Division of Reclamation, Mining and Safety, providing a summary and update of how Colorado approaches AML cleanup projects. He provided examples of what works with regard to liability protections and project implementation, what doesn't work well on the ground, and future challenges and obstacles that must be overcome to advance AML cleanups from the agency's perspective.
- ◆ **Jeryl Gardner**, Supervisor Professional Engineer with the Abandoned Mine Lands Branch of the Nevada Department of Environmental Protection (NDEP), provided an overview of the agency's program. He discussed the range of partnerships they use on AML that includes NDOM, federal land managers, communities, local agencies and other stakeholders. He provided a status update on the Division's AML inventory and shared examples of the different technologies the State has or will use on projects in Nevada.
- ◆ **Ron Breitmeyer**, Assistant Professor of Geological Engineering with the University of Nevada Reno, provided a summary of past and ongoing research undertaken at two AML sites in Nevada. He touched upon specific techniques and methodologies being developed on these sites that could be utilized by the broader AML community. These include 1) correlating remote sensing data with chemical testing in the field, 2) using high-resolution digital terrain modeling to quantify surface water erosion and soil loss, and 3) generating post-burn hydrology to understand landscape-level changes at AML sites.

EARLY AFTERNOON PANEL SESSION

This session was led by **Jeff Parshley** of SRK Consulting and included discussions by six panelists sharing their insights on key metrics needed for successful AML cleanup. The following panelists discussed their perspectives on site characterization, measuring results for release, possible release mechanisms and building collaborative partnerships.

- ◆ **Carolyn McIntosh**, a Partner at Squire Patton Boggs, provided insights to frame the discussion on identifying suitable AML sites by presenting possible ways to navigate through and around the liability issues derived from the Clean Water Act (CWA) and CERCLA. After providing an overview of the definitions and citizen lawsuit provisions of each statute, she discussed the mechanisms by which Good Samaritans may be granted liability relief within the two existing legal frameworks. CERCLA liability mechanisms discussed included bona fide prospective purchaser protections, comfort letters, Administrative Orders on Consent (AOCs), and Good Samaritan settlement agreements. CWA liability relief mechanisms are covered in the 2007 and 2012 Guidance documents adopted by the EPA.
- ◆ **Carrie Monohan**, Program Director with The Sierra Fund (TSF), discussed the non-profit organization's efforts to develop informational materials on due diligence "best practices" to educate conservation organizations and private land trusts so they could make more informed land acquisition choices. This effort was necessary as many of these lands are

eventually transferred to the public trust to be managed by cities, counties, the State of California or federal land managers. She provided examples where parties were misinformed by flawed sampling and/or consultants without the proper expertise to do site characterization, resulting in clients grossly overpaying for contaminated property.

- ◆ **Jason Willis**, Colorado AML Program Director with Trout Unlimited (TU), described the organization’s role in mine reclamation work. Their principle focus is on improving watersheds that exceed State water quality standards by addressing non-point source facilities. TU is part of the mixed ownership group working on AML sites in Colorado, filling a non-profit, non-governmental organization (NGO) role. TU brings alternative sources of funding to projects (private partnerships), flexibility in contracting, engineering experience to assist in project development, and collaborative relationship building.
- ◆ **Ron Cohen**, Professor Emeritus, of the Colorado School of Mines provided an overview of his many decades in AML and mine reclamation work. He proposed a formulation of eleven key elements that enhance the chances of success in managing mine waste mitigation and abandoned mine remediation through stakeholders–driven projects. He emphasized the importance of having specialists with the proper expertise and knowledge involved to prepare sampling plans, design and construct treatment systems and monitoring. He discussed successful projects that included all the elements, as well as those that failed because one or more of these key components was missing.
- ◆ **Opal Adams** spoke on behalf of **Jim Collord**, CEO of Thunder Mountain Gold who was absent due to scheduling conflicts. She provided a historical overview of the development in the Thunder Mountain Mining District in central Idaho and the mine reclamation that was completed in the 1990s. She then told the story of two mining companies (Thunder Mountain Gold and Dewey Mining) that worked collaboratively with The Trust for Public Land and the U.S. Forest Service to bring these legacy lands that had been cherry-stemmed out of a Wilderness boundary back into the public trust. This case study serves as an example of how to complete reclamation while still preserving the interpretative and mining heritage value of an area for future generations.
- ◆ **Doug Young**, Affiliate of the Keystone Policy Center, provided his insights on Good Samaritan legislation based on his experience in this arena since the mid-90s, including working on six different versions of legislation with Mark Udall. He began with the sentiment that improving watersheds and dealing with safety problems at these sites should be a “cake walk” and then provided his assessment of why there has been such a protracted stalemate. After raising some provocative questions, he offered that the best path forward is to “jettison all the baggage” of these past legislative efforts. He stressed the need to “keep the fires burning” by making the case to Congress that a new statute (that doesn’t try to do too much) is needed and that conferences such as these will help us engage more champions to advance this message.
- ◆ **David Ellerbroek**, Executive Director with the Western Alliance for Restoration Management had to cancel due to scheduling a conflict.

AFTERNOON BREAKOUT SESSION

The afternoon breakout session was moderated by **Ann Carpenter, Jeff Parshley** and **Dayan Anderson**. Delegates were broken into five breakout groups and were asked to achieve the following four outcomes:

1. Outline site characterization criteria, release metrics, and liability release vehicles.
2. Create a list of potential candidate pilot/demonstration sites and rank them.
3. Draft a working list of partnerships and collaborations working on AML.
4. Identify new organizations to invite to the coalition.

Lively interactions within each of the group discussions and during the breakout summary presentations resulted in a breadth of ideas, useful suggestions and common themes. The output from this session is summarized in Section 2.4 and Appendix A of this report.

NEXT STEPS

During both the formal and informal discussions throughout the day, there was an overwhelming sentiment that both the 2018 and 2019 MMSA AML Summits were very useful and informative. More importantly, it was acknowledged that these forums allowed for some “much-needed” open and constructive dialogues between all stakeholders, especially those that had never sat at the same table at the same time before. Furthermore, it was widely recognized that although some work has been successfully completed within the existing regulatory frameworks, there is still a profound need to recruit more “champions” that will take the following message to Congress: *so much more* could be done on-the-ground with Good Samaritan legislation in place to protect those willing and able to improve the landscape to the benefit of wildlife, communities and the general public.

Feedback collected from a post-summit survey recommended these forums continue with suggestions on how to recruit more champions and organizations into the coalition including renewable energy companies, water purveyors, industrial recyclers, cattlemen’s associations, and various downstream users of metals and minerals (e.g., electronics sector, auto industry, agriculture, etc.). It was also recommended that “working groups” be assigned to tackle specific issues and tasks before the next Summit.



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You will get updates as they happen about the next conference and reports following the conferences.

Minerals For A Green Society Conference

February 4, 2010

[Summaries of talks and slides](#)

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promoting and improving understanding and appreciation of the role of the U.S. Mining Industry

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2022 AML

Abandoned Mine Lands - Building Trust & Taking Action

The summit was held at the Holiday Inn Airport, Phoenix, AZ on April 6, 2022



University of Nevada, Reno



THE UNIVERSITY OF ARIZONA
School of Mining & Mineral Resources



COLORADO SCHOOL OF MINES
EARTH • ENERGY • ENVIRONMENT

In Partnership with Trout Unlimited, University of Nevada Reno, Colorado School of Mines and The University of Arizona School of Mining & Mineral Resources

This Summit is the fourth in a series of public forums convened by MMSA and its growing coalition of partners to bring stakeholders with a vested interest in improving landscapes impacted by Abandoned Mine Lands together.

Status updates of the ongoing Good Samaritan legislative and administrative efforts will be provided and opportunities for more collaboration will be discussed. Building on the lessons learned from previous Summits, delegates will continue to share their work experiences from the field and explore the best paths forward to ensure that legacy mine lands in the West are improved to the benefit of wildlife and communities.

[Agenda - Tour](#) - [Speaker Bios](#) - [Chat and Questions](#)

Slides And Videos

KEYNOTE SESSION Moderator: Ann Carpenter - [Video](#)

Session Objective: Provide status updates on Good Samaritan legislation, administrative remedies and overall progress on improving Abandoned Mine Lands across different jurisdictions.

- **Good Sam Legislation: How Discussions Between Stakeholders and Legislators Have Evolved Since 2018** - Tawny Bridgeford – *Deputy General Counsel & Vice President, Regulatory Affairs, National Mining Association* - [Slides](#)
- **Conservation Perspectives on AML Progress** - Corey Fisher – *Public Land Policy Director, Trout Unlimited* - [Slides](#)
- **State of Arizona Perspectives on AML Progress** - Natalie Muilenberg, PMP, CAPM – *Program Manager, Watershed Improvement Unit, Arizona*

[See All AML conference reports.](#)

NEW!
Good Samaritan Bill

[2022 Senate Good Samaritan Bill - S3571 117th Congress](#)

[Bill Summary](#)

[Talking Points](#)

Other Links related to AML cleanup.

[PERC: Cleaning Up Mining Waste](#)

[Why Punish People Who Try to Clean Up Pollution?](#)

[Gardner-Tipton Good Sam Bill Solution for \\$50B problem](#)

[S. 3727](#) — 115th Congress: Good Samaritan Remediation of Orphan Hardrock Mines Act of

Department of Environmental Quality - [Slides](#)

- **Navajo Abandoned Mine Lands Reclamation Activities** - Melvin H. Yazzie – *Principal Mining Engineer, Navajo Abandoned Mine Lands Reclamation Department (NAMLRD)* - [Slides](#)

2018. (Note: the bill was proposed but not enacted so has been cleared from the books.)

MORNING PANEL DISCUSSION - Moderator Jeff Parshley – *Corporate Consultant (Mine Closure), SRK Consulting* - [Video](#)

Stakeholder Insights on Legacy Mine Lands

Session Objective: Examine how lessons learned by industry, land managers, conservation organizations, academia and other stakeholders can be leveraged for future success on legacy mined lands. Case studies in project planning, collaboration, site characterization, success monitoring and ongoing field research will be shared.

- **Quantifying Abandoned Mine Lands in the US** - Jeffrey L. Mauk, PhD – *Research Geologist, Geology, Geophysics, and Geochemistry Science Center, USGS* - [Slides](#)
- **Where Does the Iron Terrace Technology Fit on the Periodic Table of Passive Treatment?** - James Gusek, P.E. – *Senior Project Manager, Linkan Engineering* - [Slides](#)
- **New Mexico AML Project: Inventory and Characterization of Inactive/Abandoned Mine Features** - Virginia McLemore, PhD – *Principal Senior Economic Geologist and Minerals Outreach Liaison, New Mexico Bureau of Geology and Mineral Resources, New Mexico Institute of Mining and Technology* - [Slides](#)
- **Making Improvements One Watershed at a Time** - Jason B. Willis, P.E. – *Colorado AML Program Director, Trout Unlimited* - [Slides](#)
- **Implementing Best Practices in Site Improvement and Revitalization: Planning for Net Positive Impact at the Cactus Mine** - Travis Snider – *VP Sustainability and External Relations, Arizona Sonoran Copper Company* - [Slides](#)
- **Using Biochar and Traditional Environmental Knowledge to Revitalize Legacy Landscapes in the Sierra Nevada** - Carrie Monohan, PhD – *Program Director, The Sierra Fund* - [Slides](#)

AFTERNOON PANEL DISCUSSION - *Session Moderators: Ann Carpenter / Jeff Parshley* - [Video](#)

Tribal Monitor Program: A Model for Collaboration on Mine Impacted Landscapes in AZ

Session Objective: Presenters will participate in an interactive roundtable discussion, presenting their diverse perspectives on mine impacted landscapes and how emerging tribal monitoring programs are helping to advance mine site reclamation and permitting efforts. Discussions will also focus on how best to integrate these practices into AML work across the West.

Panelists

Willard Antone III, Sr. Manager – *Permitting & Approvals, Resolution Copper* - [Slides](#)

Maricela Solis De Kester – *BHP Manager of Corporate Affairs for Legacy Assets* - [Slides](#)

LeRoy Shingoitewa – *Hopi Tribe, Tribal Monitor Group Manager, WestLand Resources* - [Slides](#)

Bernadette Carra – *Ak-Chin Indian Community, Field Director, WestLand Resources*

Avi Buckles – *Director, WestLand Resources*

WRAPUP SESSION - *Session Moderators: Ann Carpenter / Jeff Parshley* - [Video](#)

Afternoon Summary & Closing Remarks Session

Session Objective: Continue reflecting on the information and ideas shared earlier in the day and in previous summits, informal Q&A will focus on the below:

1. Define what a successful AML project looks like (site characterization criteria, release metrics, etc.).
2. Create a list of potential candidate pilot/demonstration sites in the Western US and rank them.
3. Add to the growing list of known partnerships and collaboratives working on AML.
4. Identify new organizations to invite to the coalition.
5. Suggestions for “next steps” to build more momentum to advance AML work .

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