Mr. Chairman and Members of the Subcommittee,

Thank you for this invitation to speak to you on the subject of abandoned mines and acidmine drainage. It is an honor and privilege to come before you.

The mining booms of the nineteenth and early twentieth centuries left behind a mixed heritage: families supported by wages, wealth acquired by some, national prosperity and high standard of living, a folklore of color and adventure, and, regrettably, thousands of hardrock mines that discharge highly toxic water pollution. We now face the necessity of reckoning with this unfortunate environmental legacy of our mining past.

These abandoned hardrock mines and their discharge of pollutants (acid mine drainage) exact a high cost on the environment and society. They kill aquatic life in tens of thousands of rivers and streams, some potential fisheries; they deprive communities of the economic benefits brought by anglers and other recreational visitors. They taint water supplies, requiring municipalities to spend significant monies on water purification. Some mountain communities find their chances of economic development constrained by the toxic discharge of local mining sites.

The cleanup of these mines presents a formidable technical challenge. However, the greatest impediment to the remediation of abandoned mines is, ironically, the potential to incur liabilities and penalties prescribed by the Clean Water Act. Government agencies, the mining industry, and environmental groups agree that Good Samaritan remediating parties must have relief from Clean Water Act liability in order to make substantial progress in addressing this problem.

While there is broad consensus on the need for liability relief, other issues remain unresolved. I believe that an understanding of the history of mining in the West can help show us not only how we find ourselves in this predicament today, but also how to proceed toward agreement on those remaining points of discord.
The Historical Significance of Mining

No other industry changed the West as rapidly and as profoundly as did the gold and silver rushes of the nineteenth century. Mining, more than any other white American enterprise, accelerated the colonization of the West. It brought with it systems of law, governance, commerce, transportation, communications, and finance. Only with these constitutions of civil society in place could miners proceed in relative security with the harvest of the mineral wealth that lay in the western territories.

Mining, as a labor intensive industry, also populated the West. The California Gold Rush of 1849 inspired thousands of Easterners, Southerners, and Midwesterners to make the difficult passage across the American interior. The quest for precious metals then drew prospectors into the interior itself, with major rushes in 1859 to the areas that would become Colorado and Nevada. Gold and silver brought Americans to places they otherwise would have avoided or even fled. To those men intent on harvesting the mineral bounty of the American West, the territorial constraints imposed by treaties and Indian country boundaries carried little meaning. Thus mining had the effect of pushing American political sovereignty into many areas of the Northwest, the Rockies, the Great Basin, and the Southwest.

Scope of Environmental Degradation from Abandoned Mines

Although the old-timers knew not to drink water downstream from their stake, they had little notion of the environmental legacy that they were bequeathing to later generations of Americans. The extent of this degradation is daunting. The U.S. Bureau of Mines estimated that 12,000 miles of waterways in the Western United States, or about 40 percent, are contaminated by metals from acid mine drainage, mostly from abandoned mines, while 180,000 acres of lakes and reservoirs are tainted by abandoned mine runoff. The Mineral Policy Center (now Earthworks), put the number of abandoned hardrock mines at about 500,000 a few years ago, and it estimated cleanup costs from 30 to 70 billion dollars. Such figures may well be inflated, and we must remember that all rivers contain some amount of minerals from natural sources. But these figures correctly convey the fact that a great deal of wilderness, much of it located in National Forests and other public lands, is partially or wholly spoiled for fishing, hunting, and hiking. That means great deal of lost revenue for communities whose economies depend on these outdoor pursuits. Anglers especially are affected by acid mine drainage and have become a strong voice in calling for the cleanup of abandoned mines.

Their main organization, Trout Unlimited, now devotes significant resources to AMD cleanups. Some municipalities must also spend hundreds of thousands of dollars to purify their water supply. The city of Golden, Colorado, was at one point spending $250,000 annually to remove heavy metals and acid from Clear Creek.

**How Can a Mine Be “Abandoned”?**

Who is responsible today for the acid mine drainage coming from these historic mines? Technically, some entity or individual owns every square mile of U.S. land and the mines on them, whether it is a federal agency, a former mine operator, or someone who inherited the claim from the operator and who may not even know about the mining that once took place on the land. It may be someone who bought the land from the former operator and now plans to reactivate the mine. In many cases, claims were made on federal land, and some mining was done, but the claim was never transferred into private ownership and therefore ownership of the land reverted to a federal agency.

Theoretically, these owners are responsible for the water discharged from their mines. But regulatory agencies find it impractical to take legal action against the vast majority of private owners. Most unwittingly inherited the problem, and could not begin to pay for remediation. They are, by virtue of having little or no financial means, “judgment-proof” should someone sue them for environmental violations. Old mines belonging to such private individuals are simply waiting for a third party, an environmental Good Samaritan, to clean them up.

**Clean Water Act Impediments to Mine Remediation**

The Clean Water Act creates both a mandate and an obstacle for cleaning up acid mine drainage. The Clean Water Act prohibits “the discharge of any pollutant by any person” without a permit, into “navigable waters from any point source.” The law delegates to the EPA or the states the responsibility of identifying streams that are impaired in terms of their designated uses. For many alpine streams affected by acid mine drainage, that designation is “Class 1 Cold Water Aquatic”—this means that the stream should support aquatic life, including species that may be sensitive to trace amounts of metal contamination. If the concentrations of metals exceed the standards for sustaining aquatic life, then the stream is impaired, and some kind of remedial action is required by the Clean Water Act.

---

Remediating parties are required in normal circumstances to obtain a Clean Water Act discharge permit (a National Pollutant Discharge Elimination System permit or NPDES). The permit requires that the treatment will result in Clean Water Act water quality standards, which are very stringent, and that the remediator will remain responsible for the source of pollution in perpetuity. These two provisions have deterred many interested parties from cleaning up polluting mines. When a third party—a nonprofit organization, community group, government agency, or corporation—attempts to clean up acid mine drainage coming from an abandoned mine, that party legally assumes liability for the mine’s discharge. A Good Samaritan remediator might wish to decrease the acid mine drainage at a particular site, but could not undertake a comprehensive remediation project that would satisfy Clean Water Act water quality standards. Current federal law allows for no such partial cleanup. A Good Samaritan has the choice of achieving the highest water quality standards or of not undertaking the project at all.

An additional deterrent is the financial penalty that such an operator might incur under Clean Water Act provisions. Although it is up to the discretion of individual judges, an operator of a mine is liable to incur penalties of up to $32,500 for every day that the mine discharges pollution. Would-be environmental Good Samaritans abandon their good mission because they cannot possibly risk these fines, assume the long-term financial liability, or meet the water quality standards dictated by the Clean Water Act. Some jurists argue that abandoned mines should not be covered by the Clean Water Act. John Whitaker, environmental advisor and Undersecretary of the Interior during President Richard M. Nixon’s last administration, and a principle author of the Clean Water Act, here looks back on the unintended consequence of CWA liability for would-be environmental Good Samaritans:

When I and other White House staffers responsible for environmental initiatives during the Nixon administration recommended to the President new water pollution control strategies for congressional consideration, our focus was primarily on sewage treatment and industrial effluent, not the acid mine drainage problems from abandoned mines. We should have had more foresight.

Before we decided on a regulatory enforcement strategy, our initial inclination was to propose to President Nixon an effluent fee system, i.e., a market-oriented alternative to regulation by enforcement that relied on financial, not regulatory, incentives to clean the nation’s waters.

The effluent fee concept was appealingly simple. The more an enterprise polluted, the more it paid. This way, the free market could set the cost of cleaner water, not a regulatory system, which often turned out to be based on unscientific assumptions with politically motivated goals that were impossible to meet.
However, the effluent fee concept died because there were serious political disadvantages. Congress had only given consideration over the years to a “tough cop” regulatory approach. “Sue the bastards” had a nice ring to it.

Also, effluent fees are a form of taxation, and the House Ways and Means Committee and the Senate Finance Committee would have claimed jurisdiction. Under those conditions, it was highly unlikely that Nixon’s proposals would have ever seen the light of day because members of these committees saw taxation only as a means for increasing or decreasing revenue, not as a means of curing social ills such as water pollution.

In retrospect, one wonders what might have been. Later, in 1972, an EPA paper, “Alternative Strategies in Water Quality Management,” concluded that an “effluent fee is the most effective alternative for national water quality objectives. It promises to be the most effective and simultaneously requires the least cost.”

Eventually, bowing to political realities, we decided to go down the traditional regulatory path, which indeed turned out to be the proverbial slippery slope.

Impatient that Congress had sat on Nixon’s proposed water quality legislation for almost a year (Congress held a few water pollution hearings, then spent most of its time on air pollution, solid waste, and ocean pollution legislation), we decided to revive the permit authority in the old 1899 Refuse Act that required a federal permit to discharge effluents into navigable waters. Later Congress incorporated this permitting authority into the Water Pollution Control Act of 1971.

However, Congress required that the water pollution control standard be “zero discharge.” At the time, the Nixon Administration witnesses testified before Congress that the zero discharge provision was an impossible goal to achieve, and also an unreasonable financial impediment to clean water because of the very high cost of removing the last few percentages of effluents in relation to the benefit of the result. The stated goal reflected a lack of understanding of the scientific and technical aspects of water pollution control.

For example, a zero discharge provision ignores the nature of the river, lake, or ocean into which the discharge is flowing, and this oversight can lead to absurd results: water distilled to the zero discharge standard at great cost might be dumped into naturally saline or mineralized streams, altering them for the worse.

We did not envision at the time that the day would come when the zero discharge provision would prevent Good Samaritans from cleaning up acid mine drainage or when the onerous and costly federal permit requirements would snuff out any economic incentive to curb the acid mine drainage problem associated with abandoned mines.
So perhaps the time has come to take another look at the basic water quality laws and reconsider a market-based effluent fee approach. 

Such testimony underlines the need to adjust the Clean Water Act so that it might facilitate rather than inhibit environmental improvement.

Some legal experts argue potential Good Samaritans could plausibly defend themselves against a Clean Water Act liability suit and against the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), whose liability provisions Good Samaritans also fear. This is a matter of legal opinion, however, and few Good Samaritans would care to test it in court.

What Is an Environmental Good Samaritan?

All parties agree that disinterested, altruistic parties—environmental Good Samaritans— should be able to undertake mine cleanups without incurring Clean Water Act liability. But who qualifies for such a designation? Such an entity—whether an individual, a group, a government agency, or a complex coalition of groups—would be moved first and foremost by the desire to clean up an environmental mess; that to do so, it would bring its resources to bear, not just once, but until the problem was resolved; and finally, that it would understand this act as a moral obligation of environmental stewardship.

A trickier issue, arises with the introduction of a commercial aspect into the question. In terms of healing the environment, the issues of self-interest and a profit motive are points of contention when trying to define who counts as a Good Samaritan. Some argue that an environmental Good Samaritan can only work on behalf of public welfare broadly defined. This means, in practical terms, that the redemptive actions must be governmental because government, unlike most commercial or philanthropic enterprises, endeavors to balance the needs and desires of society’s many competing interests. Government agencies are also accountable to elected politicians and ultimately to the public. Others also worry that if environmental Good Samaritans are allowed to profit in some fashion from a clean up—as some mining companies now propose—the purpose of environmental cleanup will be lost in the pursuit of economic gain. On the other hand, some kind of profit incentive could dramatically accelerate the process of cleaning up abandoned mines. Private enterprise has an energy and drive that could have a very positive effect. Mining companies, after all, know how to work

---


the sites. Government processes, on the other hand, do not enjoy a reputation for efficiency. Some argue that the government is good at conducting studies and writing reports, but the real technological know-how, the scientific brain power, and the right equipment are all found in the mining industry. We favor a broad definition of who might qualify as a Good Samaritan even though some bad actors using this status may be tempted to conduct new mining activities without a proper permits. This seems to us a marginal risk given the potential for environmental improvement.

State Good Samaritan Initiatives

Rather than waiting for federal Good Samaritan legislation, the state of Pennsylvania passed its own in 1999—the Environmental Good Samaritan Act. This act presumably provides protection against liability for land owners and third parties (individuals, nonprofit organizations, corporations, and government agencies) that take on abandoned mine reclamation and water-pollution abatement projects. By this legislation, as long as you don’t make the problem worse, you will be shielded from liability under the Clean Water Act. All work must be conducted with the guidance and approval of the Pennsylvania Department of Environmental Protection.

At the same time, then-Pennsylvania Governor Tom Ridge signed the Growing Greener legislation, which provided $650 million from the state’s general funds over five years to clean up critical environmental problems, including acid mine drainage from abandoned coal mines. State legislators recognized acid mine drainage as Pennsylvania’s most pressing water quality problem, and they sought to provide both liability relief and the money to do the work of remediation.

Removing the obstacles of liability and insufficient funding has resulted in a proliferation of active watershed groups in Pennsylvania—the Pennsylvania Organization for Watersheds & Rivers lists about three hundred watershed alliances, associations, and friends—Friends of the Mingo Creek, of the Poquessing Watershed, of the Sinking Valley, of the Nescopeck Creek, of the Wissahickon Creek—just to name a few. The most notable is the community organization headed by T. Allan Comp, a historian with the Office of Surface Mining. Comp’s AMD&ART in Vintondale, Pennsylvania, has won awards for its innovative efforts to transform an abandoned colliery into a public park and to raise public awareness of the need for cleaning up abandoned mines.

Pennsylvania has managed to relieve Clean Water Act liability, provide more than a half-billion dollars of funding for remediation projects, and encourage community participation in cleanups on a wide scale. Should Western

---

states follow Pennsylvania’s example by passing their own Good Samaritan legislation?

The Pennsylvania model is not perfect. Its Environmental Good Samaritan law cannot legally supersede the requirements and provisions of federal law. Pennsylvania Good Samaritan groups such as AMD&ART, Inc. presume that they are protected from Clean Water Act penalties and liability as they work under the auspices of their state’s Good Samaritan law. However, they cannot know for certain if a state or federal environmental standards enforcement agency, particularly the EPA, will not step in and hold them to the stricter federal standards. In fact, EPA officials know that good work is being done in Pennsylvania; they want to see mines cleaned up and so are probably not going to interfere with the progress. The bigger risk to Pennsylvania Good Samaritans comes in the form of citizen groups, especially environmentalists, who oppose any laws which allow an exception to or variance from the standards and provisions of the Clean Water Act. There might be broad agreement on a reasonable approach to cleaning up a site, but it would take only one dissatisfied holdout to scuttle a project.

**Funding Sources for Mine Remediation**

Despite the threat of liability, mine cleanups do happen, either through a consent decree that establishes alternative cleanup standards for a particular project, or by not directly treating the polluted water.

How are these projects funded? Depending on the severity of a mine’s pollution, its threat to public health, its environmental impact, and its location on public or private land, there are a variety of public funding sources and strategies available for cleanups. The obvious places are the established federal programs, without which virtually all acid mine cleanups would be impossible. Here is a very brief description of some of those programs:

**CERCLA.** If the pollution is a “hazardous substance” and poses an immediate threat to human health, the Environmental Protection Agency may designate a mine as a Superfund site under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Signed into law in 1980, Superfund law initially provided funding through a tax on the chemical industry. Congress, however, failed to reauthorize this tax in 1995, terminating this source of cleanup funding. Now projects done under CERCLA authority depend in part on general congressional appropriations to various federal agencies such as the EPA.

**Brownfields Revitalization Act.** Acid mine remediators have been innovative in tapping other cleanup and redevelopment initiatives that were not

---

originally intended for acid mine remediation. The Brownfields program, begun in 1995 under the administration of the EPA and as a part of CERCLA, seeks to assist states, communities, and other stakeholders in the reclamation and redevelopment of “brown fields”—those areas, usually located in industrialized cities, that were compromised by the presence of hazardous materials and other forms of industrial pollution. While initially conceived as a means of revitalizing economies in urban, formerly industrial, neighborhoods, the Brownfields program now also makes grants to acid mine remediation projects where restoration of the natural landscape is the primary concern. Brownfields grants emphasize the reclamation of disturbed land in contrast to those Clean Water Act Section 319 grants mentioned below, which are designed specifically for the remediation of water. Where both acreage and water need attention, Brownfields and Section 319 grants might be used in complementary fashion.

Brownfields, however, has limitations. Its funds are not currently applicable to superfund sites, and loosening this restriction would allow many mitigators access to this funding source.

**Clean Water Act Section 319 Non-Point Source grants.** These grants from the EPA are administered by the states for use by non-profit organizations engaged in the design and implementation of watershed restoration projects. “Non-point” means those polluting sites where it is difficult to identify a single point, like a drainage pipe, from which the pollution flows. Mines often discharge pollution from tunnel openings, but polluted water can also emanate from the site through more diffuse seepages.

**SMCRA.** Some states like Montana utilize industry tax funds collected under the Surface Mining Control and Reclamation Act. Enacted in 1977, SMCRA was designed to regulate every aspect of coal mining operations and to establish standards for the restoration of areas disturbed by coal extraction. It has had a profound effect on areas where coal was or is now being mined. SMCRA has also been stretched to assist in the cleanup of hardrock mining in certain areas. If a state can show that it has completed the remediation of its coal mine sites, then it becomes eligible to receive SMCRA funds for hardrock abandoned-mine remediation (but not usually the acid drainage itself).

**Bureau of Land Management.** In the 1990s, BLM, in cooperation with various states, inventoried and assessed nearly 8,000 abandoned hardrock mines on its lands. The BLM now is working to treat those sites that cause the most environmental damage to watersheds or pose the greatest risks to public health. Like other government entities, the BLM works cooperatively with other agencies and private owners to secure funds and undertake cleanups in those watersheds most in need of remediation. Besides receiving an annual congressional appropriation of around $10 million for this work, the BLM also procures funds from other AMD-related federal programs. Through these efforts, about a dozen BLM abandoned mines are cleaned up each year.
**U.S. Forest Service.** National Forest watersheds are the single largest provider of municipal water for 66 million people in 33 western states, but some 7,600 abandoned mines threaten the quality of their water. The Forest Service receives about $20 million annually from congress and federal programs for the assessment and cleanup of abandoned mines, and usually manages to treat between ten and forty projects each year.

These federal programs mesh with the many state programs in the effort to undertake voluntary cleanups of abandoned mines, and Western states establish their own programs and funding. Colorado’s Inactive Mine Reclamation Program, established in 1980 spent more than $18 million on abandoned mine remediation in 2002.

**Who Should Pay for Mine Remediation?**

Federal and state funding programs must be carefully designed in order to place the financial burden of remediation on the right parties. SMCRA, for example, depends on taxation of the coal mining industry, and this draws our attention to a contentious issue. The coal industry has paid more than $7.2 billion in fees to the SMCRA abandoned mine lands fund to date. Coal companies located in Wyoming, for example, pay into taxes that are then partially redistributed to other states. Why should a Wyoming coal company help pay for mine remediation in Colorado or West Virginia? Even more puzzling, should this company help pay to clean up a hardrock mine that closed down in the late 1800s? The placement of tax burdens on the mining industry through programs like SMCRA requires careful consideration and committed diplomacy.

---

7 U.S. Forest Service’s Abandoned Mine Land Program (August 2004) http://www.fs.fed.us/geology/fs_aml_program.pdf
Consumers, we believe, have both an opportunity and obligation to acknowledge the extent to which they have driven mining enterprises, and accept responsibility for the environmental consequences for their consumption. Consumers have not seen the true cost of the mineral and metal commodities because the price of their goods has not included the environmental costs. That cost has been passed on to the future, and now the future has arrived. Part of an honest reckoning with the legacy of mining must be a willingness on the part of consumers to pay for abandoned mine remediation.

Hardrock miners also fear that any movement to tax their industry would have the effect of pricing their commodities out of the international marketplace. Such taxation might have the unintended and unfortunate effect of increasing the importation of minerals and metals from countries with few or no environmental controls. In this case, the environmental problems associated with extractive industry would simply be exported to another country, as is already beginning to happen in the timber industry.

Western states should also be prepared to assume at least some of the financial and legislative responsibility themselves. In these times of tight budgets, creative sources of funding will have to be tapped. A state tourism tax might be considered because abandoned mine remediation restores aquatic habitat, and fishing is a major attraction for visitors in most Western states. In general, the financial responsibility of acid mine remediation must fall more broadly on those who have enjoyed mining’s benefits, and that means average American consumers. How best to achieve that fairer distribution of financial responsibility is open to discussion, but it is time that we consumers take responsibility for our part in the environmental legacy of mining.

Congressional Action

No fewer than four Western members of Congress—Max Baucus, Mark Udall, Scott McInnis, Ben Nighthorse Campbell, and Ken Salazar—have introduced environmental Good Samaritan bills since 1999. The focus of all of the bills was relief from Clean Water Act liability for third parties taking on cleanup of abandoned mines. Some of the bills also proposed that royalties on hardrock mining be used to fund cleanups. But designing legislation with a double mission—providing for Clean Water Act liability exemption and setting up a funding mechanism—has thus far proven too difficult, and none of these bills succeeded. There is increasing sentiment that these two aspects of the problem should be tackled separately.

A partial solution to crafting a Good Samaritan bill is to separate the protection from liability from the funding issues. A bill designed to allow Good Samaritans to proceed with their work without incurring Clean Water Act liability could encounter much less opposition if it did not attempt to address the question of who will pay. Such a bill could allow individuals or organizations the ability to
obtain a permit to undertake cleanups of hardrock mines according to adjusted environmental standards. Having gotten a Good Samaritan provision in place, Congress could then work on the right formula for funding such cleanups.

If Congress amends the Clean Water Act, it should be careful not to impair the general integrity of this environmental law. The Clean Water Act is generally very useful in protecting the environment from industrial polluters. This principal purpose should not be compromised in an revision of the Clean Water Act.

On the other, there is good reason to fight for a stand-alone Good Samaritan bill. Good Samaritans working under the shelter of this kind of legislation would still be executing a cleanup plan and meeting water quality standards, albeit lowered, approved by the EPA. Some improvement is better than no improvement. But if we use adjusted standards, we must ask ourselves exactly what the goals of cleanup are and what constitutes a success. The recalibration of standards to allow Good Samaritan actions would need to consider, for example, whether the intention of the cleanup would be to return fish to a stream. Is a partial cleanup good enough for the fish? Failing this goal, what would other cleanup benchmarks be? Would those cleanup goals be too expensive to achieve in some areas? Such questions require us to think about the precise purposes of a cleanup and where it is feasible to achieve them.

Remining

In the course of our research, we were struck by the depth of passion aroused by the notion that the cleanup of abandoned mines might be part of a commercial, for-profit enterprise. Although such a prospect is a matter of deep concern to some environmental litigators, it seems to us premature to dismiss it. Re-mining is a possibility to consider. The National Mining Association describes re-mining as the processing of old mine waste in order to recover its mineral content, which older mining techniques were not able to extract, and to remove it as a pollution source. In the best possible scenario, re-mining would benefit the company’s bottom line, ameliorate the environmental problem, and save the cost of other forms of AMD remediation.

Industry watchdogs worry that that mining companies could abuse re-mining liability exemption to escape from liabilities incurred from their own operations. And the process may not be practical. Re-mining generally requires that a large, financially healthy mining operation is already working in the same area as the abandoned, polluting mine. Such a company would only be interested in re-mining an old site if the ore was of sufficient quality, and if it did not cost too much to transport the ore to the processing facility. In the end, many abandoned mines may not be good re-mining candidates. Re-mining opponents may not have much to worry about after all.
Conclusion

The environmental laws of the 1960s and 1970s created a new world for the operations of extractive industries, and we are all beneficiaries of that transformation. And yet those laws were not written under divine inspiration. They are not sacred, infallible texts that will impart perfect wisdom for all time. Legislation designed to protect the environment can inadvertently harm it.

I urge you to work toward the passage of a simple, restricted bill to allow Good Samaritans the ability to conduct mine cleanups without fear of Clean Water Act liability. We need to remain vigilant in ensuring that current mining operations would not conduct new mining activity under relaxed regulatory standards, but we feel that such a risk is acceptable next to the potential environmental benefits produced by such a law.
Contact Information and Testimony Outline

Patricia Limerick, Professor of History and Faculty Director
Center of the American West
UCB 282
University of Colorado
Boulder, CO 80309
Patricia.Limerick@colorado.edu
303-817-9216

Timothy Brown, Associate Researcher
Center of the American West
UCB 282
University of Colorado,
Boulder, CO 80309
Timothy.Brown@colorado.edu
303-818-9330

Testimony Outline

I. Historical Significance of Mining
II. Scope of Environmental Degradation from Abandoned Mines
III. How Can a Mine Be “Abandoned”
IV. Clean Water Act Impediments to Mine Remediation
V. What Is an Environmental Good Samaritan
VI. State Good Samaritan Initiatives
VII. Funding Sources for Mine Remediation
VIII. Who Should Pay for Mine Remediation?
IX. Congressional Action
X. Remining
XI. Conclusion