# 1NC

### 1NC

#### **Counterplan Text:** The United States should eliminate fossil fuel subsidies with the exception of subsidies to the Abandoned Mine Land Grant Fund.

#### **The PIC is competitive – table proves.**

Redman 17 Janet Redman is an associate fellow at the Institute for Policy Studies and the former director of the Climate Policy Program. “DIRTY ENERGY DOMINANCE: DEPENDENT ON DENIAL.” Oil Change International. October 2017. <http://priceofoil.org/content/uploads/2017/10/OCI_US-Fossil-Fuel-Subs-2015-16_Final_Oct2017.pdf> TJHSSTAD

54 Examples of these subsidies include: Y Inadequate industry fees recouped to cover the Abandoned Mine Land Grant Fund ($400 million): tax dollars transferred from the U.S. Treasury to cover the administration of the fund and shortfalls in payments to states and mineworker pensions resulting from inadequate fees collected from active coal mine operators.55 This fund has an important role to play in remediating ecological and worker impacts of mining



#### **Abandoned mines pose a massive threat to the environment – kill wildlife, harm water quality, and disrupt communities.**

Fields 03 Scott Fields Environmental Health Perspectives • VOLUME 111 | NUMBER 3 | March 2003 A 161 <https://ehp.niehs.nih.gov/doi/pdf/10.1289/ehp.111-a154> TJHSSTAD

Defining the Terms In the United States, mines that have been deserted and are no longer being maintained, and in which further mining is not intended, are called “abandoned” mines. Abandoned mines for which no owner or responsible party can be found are called “orphaned” mines. Outside the United States, the meanings of these terms are often reversed. For the purposes of this article, all mines that are closed and for any reason no company is taking responsibility are called “abandoned.” Sometimes the term “inactive” is used for mines that aren’t currently being mined, but for which a known owner is still paying taxes. These mines may be reopened if the commodity can be produced at a profit; mines that have been abandoned or closed would not fall into this category. Abandoned mines may be on property that is now owned by a third party without the resources to clean up contamination found there. In the western United States, abandoned mines on public land become the responsibility of the federal or state government. But for those on privately owned land—the dominant scenario in the East—the present owner, whomever that might be, retains at least some responsibility under the Clean Water Act, though this has not generally been enforced, according to Arthur Rose, a professor emeritus of geochemistry at Pennsylvania State University. “Basically,” he says, “if it is abandoned, nobody has clear responsibility.” The inconsistency of terms is one of the many problems in estimating the number of abandoned and orphaned mines around the world. Another is the discrepancy between what different organizations include in their counts of mines. “There are a lot of what people call ‘dog holes’ that are small exploration [prospects] that are all over the place,” says Kathleen Smith, a USGS geochemist in Denver. These small prospects were created by individuals prior to the advent of drilling to explore for mineral deposits. Prospects were never mines; they were early one-man, short-term operations. Other so-called discovery pits, dug largely as a formality under regulations for staking a mining claim on federal land, are typically about six feet deep and commonly disclose little or no valuable minerals, says Rose. According to Stanley E. Church, a USGS research geologist and abandoned mine lands project chief, prospects may pose some of the same hazards as mines. He explains that “wet” prospects—those that intersect groundwater—may present a possible AMD problem, although the workings of any one prospect are often so small that individual sites do not contribute large amounts of contaminated water. “Dry” prospects pose mostly physical hazards. Discovery pits are largely innocuous, says Rose. Church says that many of the holes in the ground cited in various estimates are indeed just prospects and discovery pits. “The USGS Mineral Resources Data System would indicate that there are about 35,000 metal mines in the United States; that is, a hole in the ground from which there is a public record of metal production,” he says. This is in stark contrast to an estimate published in the 1993 report The Burden of Gilt by the Mineral Policy Center—a Washington, D.C., environmental organization—that there are as many as 557,650 abandoned mines in the United States alone. The National Park Service estimates that there are 4,000 abandoned mines on U.S. national parklands, and the Forest Service estimates 25,000 on land it manages. There is no way of knowing which of these are truly mines and which are prospects. The same is true of estimates from other countries. According to the April 2002 draft report Mining for the Future, compiled by the International Institute for Environment and Development, the number of abandoned mines in Canada is estimated at about 10,000, and South Africa has 134 abandoned asbestos mines and 400 asbestos mine dumps that supply a steady flow of asbestos dust to the region. In the 2000 United Nations Environment Programme report Mining and Sustainable Development II: Challenges and Perspectives, Sweden is listed as having more than 1,000 abandoned mines, and a national survey of Japan found 5,500 abandoned mines. A study presented at a March 2000 workshop organized by the World Bank and the Metal Mining Agency of Japan found that over 300 Chilean tailings storage facilities had been abandoned with no attempt to clean up the sites. In many other countries, no comprehensive survey of abandoned mines has been attempted. And even in areas that have been surveyed, many old mines are undocumented. All in all, worldwide, it is likely that there are millions of abandoned mines, according to the World Business Council for Sustainable Development. Still, says Rose, “Giving numbers of abandoned ‘mines’ is pretty meaningless—we need good evaluation of individual sites.” The important conclusion, says Church, is that at only a small number of these sites will there likely be companies with resources to clean them up. In practical terms, says U.S. Environmental Protection Agency (EPA) biologist and geologist Carol Russell, whether there are 100,000 or 500,000 abandoned mines may not matter much. “There are so many that we don’t need to go inventory them,” she says. “We don’t have enough money to deal with the ones we’ve found already.” AMD: The Chief Problem By far the most persistent and damaging environmental effect from abandoned mines—both hardrock and coal—is AMD. (This is in contrast to acidity that is produced as a result of weathering of mineralized A 156 VOLUME 111 | NUMBER 3 | March 2003 • Environmental Health Perspectives Carol Russell/EPA Focus | The Earth’s Open Wounds Acid burn. AMD seeps from St. Kevin Gulch near Leadville, Colorado, an area mined for gold, silver, lead, and zinc. Environmental Health Perspectives • VOLUME 111 | NUMBER 3 | March 2003 A 157 rock that has not been mined, called “acid rock drainage” by the mining industry.) In short, AMD is acidic water, in the worst cases so acidic as to dissolve metal tools. In fact, the most acidic water in the world is found in underground mine workings at the Iron Mountain mine in northern California, according to research published in the 30 March 1999 issue of Proceedings of the National Academy of Sciences by D. Kirk Nordstrom and Charles Alpers, both USGS research chemists. The water there has a pH of –3.6. For comparison, on the logarithmic pH scale, pure water is neutral at pH 7.0, lemon juice is pH 2.4, and a 30% sulfuric acid solution, such as battery acid, is pH –2.0. Acid drainage occurs when water, air, certain bacteria, and sulfide metals (such as pyrite, marcasite, and chalcopyrite) come into contact with each other. When it forms naturally, acid drainage can produce the telltale “red water” that was one of the first signposts that early miners used to find mineral deposits. Natural weathering usually doesn’t produce enough acidity to significantly impact the environment. That’s because not enough sulfides are at the surface, where they can be exposed to air and water. But there are exceptions, says Church. Some creeks in Colorado, for example, are naturally too acidic to support most forms of aquatic life. “A fairly substantial component of the acidity in some streams is related simply to natural weathering processes and has nothing to do with mining,” he explains. Furthermore, summer rainfall events can cause a pulse of acidity and metals into the streams that may cause death of aquatic life in watersheds whether or not they have been affected by historical mining. Mining, however, can bring large quantities of sulfides to the surface and break them into small pieces, thus exposing more surface area to react with air and water, producing AMD. Sulfides tend to appear in the same geologic conditions as many types of mined metals and coals. “When you bring this iron sulfide to the surface, what you’re doing is exposing these metal sulfides to oxygen and water,” Chapin says. The oxidation of the sulfides creates a lot of acidity. The resulting sulfuric acid serves as a medium in which specialized microbes flourish. These microbes in turn further oxidize the minerals. The result is a chain reaction that will continue until the sulfides are consumed. Depending on the mineral deposit, that process can take hundreds to thousands of years. The speed and duration of this acid-producing reaction is one of the differences between coal mines and hardrock mines, explains Paul Ziemkiewicz, director of the West Virginia Water Research Institute at West Virginia University. “The maximum acid production that you’re going to get out of a [coal] mine is going to be in the first ten years or so. After that you start expending your pyrite,” he says. In coal deposits, the surrounding rock typically contains 2–5% sulfides, most of which is pyrite. “The highest we ever get might be twelve percent pyrite, and that would be extremely high,” says Ziemkiewicz. Conversely, hardrock mine waste rock, tailings, displaced surface material (“overburden”), and other rock surrounding an abandoned hardrock mine can contain up to 50% sulfides, Ziemkiewicz says. Most AMD flows from the mines themselves. Not only do some hardrock mine wastes contain high amounts of pyrite, there is proportionally more mine waste at individual sites than in coal mines. A coal mine isn’t worth working unless most of what is pulled from the ground is coal. In coal mines, ore that comes out of ground is 83–85% product, Ziemkiewicz says. In the hardrock world, often less than 1% of the rock brought to the surface is actually used. For gold mines, the actual metal extracted can be just a fraction of a percent, with miners working deposits that contain as little as 0.015 ounces of gold per ton of rock. This means that, for some gold deposits, massive amounts of high-sulfide-content rock may be extracted, and the result would be an enormous supply of sulfide that is available for acid generation, which can continue to react, releasing acid indefinitely. Another mitigating factor for acid production from coal mines, Ziemkiewicz says, is the alkaline minerals often found among coal deposits. “A lot of the spoils around a coal mine can contain limestone,” he says. Such materials neutralize acid to at least some extent but are less commonly found in hardrock mines. (However, says Church, for the large gold deposits currently being mined in the Carlin trend in Nevada, many are hosted in carbonate rock, and the water from them is alkaline rather than acidic.) Finally, the types of sulfides most often found in coal mines may be more reactive than the types found in hardrock mines. After just six weeks above ground, a pile of coal mine waste can have pH 2.4 (very acidic) water draining from it, Ziemkiewicz says. At hardrock mine sites, it can take several years before significant quantities of acidic water start to flow. In geologic terms, where “fast” can mean thousands of years, coal mine AMD is a flash flood compared to hardrock’s creek that matures into a river. Why does that matter? In an average coal mine, Ziemkiewicz says, the sulfides are consumed at a rate of about 2% per year. “That means in thirty years you’d have half the acid drainage that you [started with].” But for many hardrock mines, there is no end in sight within our lifetimes because of the large volumes of pyrite present. These differences affect remediation strategies and could have implications for policy makers as well, he says. The acidity itself can suppress the life in waterways and if allowed to build up in standing water, such as pit lakes, can kill larger animals such as caribou, moose, and migrating waterfowl, according to Solutions to Acid Mine Drainage, a fact sheet published by Natural Resources Canada. But more significant are the metals that the acid releases. Traces of unwanted metals are almost always coexistent in deposits of the target metal, whatever that might be. A whole suite of potential toxicants—such as arsenic, lead, cadmium, mercury, zinc, iron, copper, aluminum, and manganese—can be found in hardrock mines. Coal mines tend to be more benign, with manganese, iron, and aluminum the primary metals found in the AMD from these sites, although other metals such as zinc can also be present. As the sulfides break down, these elements are released. The acid releases the elements, and the very acidity also keeps them in soluble form. Toxicants that are liberated and transported by AMD can contaminate entire watersheds, including drinking water supplies. In Lodge Pole, Montana, for example, the Zortman-Landusky gold mine— abandoned since 1998, when the Pegasus Panos Pictures Gold Corporation declared bankruptcy— Focus | The Earth’s Open Wounds Closed but no closure. The bulldozed Treharris coal mine in southern Wales remains an eyesore and potential hazard to the residents nearby. sends variable amounts of lead, arsenic, and cadmium into the streams and groundwater that supply drinking water for the region’s communities. Historically, the structure of many older mines accelerated the rates of development and delivery of AMD into affected watersheds, says Plumlee. “In many mines, especially back in the late 1800s and on through the first half of the 1900s, the minerals that they were interested in mining occurred below the water table,” he explains. “If the mine workings were on a hill, they would drive a horizontal tunnel [called an “adit”] at the base of the hill beneath the mine workings and let the tunnel drain all of the groundwater. Those tunnels are continuing to serve their original purpose in draining the mined area, and they are significant point sources of acid and metals in many districts.” At some mine sites, attempts to plug these tunnels just made the problem worse. The pooled water builds up and then forces its way out through many smaller openings, occasionally thousands of feet from the tunnel entrance. Following plugging, however, many mine tunnels can be reduced to a minor environmental problem, says Church. An especially damaging scenario, although fortunately quite a rare occurrence, says Plumlee, is when an open pit mine is built over what had been an underground mine. Russell says that’s what happened at the former gold mine in Summitville, Colorado, a Superfund site at which the government has already spent about $155 million. Summitville was developed from underground workings in the 1800s, and a drainage tunnel was installed in 1903. But from 1985 until 1992 it was operated as an open pit mine. The pit caught rain and snowmelt, and funneled it down into fractures and the underground workings, from which it drained through an adit. Plugging the adit in 1994 helped reduce loadings of acid and metals from the site, but a number of seeps of acid water developed after the plugging. Now the plug is being used as a flow regulator and the underground workings as a temporary storage, so that a manageable volume of acid waters can be treated during high-flow conditions following snowmelt. “Summitville . . . was a geologic and climatologic recipe for extreme acid mine drainage,” Plumlee says. The drainage from Summitville polluted the local watershed with significant quantities of acid water rich in such elements as arsenic, iron, copper, aluminum, and zinc. Although remediation efforts have substantially decreased the amounts of acid and metals leaving the site, says Plumlee, long-term water treatment will be needed. Inadequate engineering and planning for AMD during mine site planning and development often worsens the impact of abandoned mines on the environment, says Joan Kuyek, national coordinator of the environmental organization MiningWatch Canada. In northern Canada, shifts in climate are putting a twist on the problem of AMD. “A lot of our [northern] mines are built into permafrost and depend on permafrost to hold the tailings in place,” she says; unlike dry southern climates such as Nevada, where tailings eventually dry out, in the frozen north they are expected to stay frozen. Structures such as mine walls and tailings dams are stable as long A 158 VOLUME 111 | NUMBER 3 | March 2003 • Environmental Health Perspectives EPA Region 8 Focus | The Earth’s Open Wounds Scar tissue. A crisscross of roads and pits scars the surface of a former gold mine in Summitville, Colorado, while underground workings and tunnels allow acidic waste to drain into nearby watersheds. The Superfund site has cost more than $150 million in remediation efforts and remains incomplete. Environmental Health Perspectives • VOLUME 111 | NUMBER 3 | March 2003 A 159 as the permafrost doesn’t thaw. But if they and the dam containing them thaw, a slurry of ground rock, metals, and the chemicals used to process them can flood waterways. And water that is no longer immobile can now provide the once-missing component for AMD reactions in sulfide-rich deposits. Changes in climate—many studies suggest a 2–4°C warming of North Slope permafrost—are bringing problems with this scenario, Kuyek says. “We’re finding that some of these dams are collapsing. A lot of rivers and streams are in areas where First Nations peoples depend on them for a living, and they are discovering that mines upstream are contaminating the water.” Dirk van Zyl, a professor of mining engineering and director of the Mining LifeCycle Center at the University of Nevada’s Mackay School of Mines, estimates that about 5% of abandoned mines cause some kind of environmental damage. Mining pollution affects about 40% of watersheds in the western United States, according to the EPA’s 2002 Toxics Release Inventory. In the Appalachians, acid mine drainage has degraded more than 8,000 miles of streams, leaving some aquatic habitats virtually lifeless, according to the April 1998 USGS pamphlet Biology in Focus: Better Lives Through Better Science: New Hope for Acid Streams. Trout streams throughout Pennsylvania and Ohio have become too acidic for trout because of runoff from abandoned coal mines, says Ziemkiewicz. In California’s Sierra Nevada range, mercury from abandoned hydraulic gold mines active in the late 19th century has accumulated in fish, making them unsuitable for eating. In a Colorado stretch of the Rocky Mountains, rain passing through waste rock and ore tailings at closed metal mines may be poisoning a type of grouse called the white-tailed ptarmigan. In the 13 July 2000 issue of Nature, Cornell ecologist James Larison and colleagues report finding elevated liver and kidney cadmium concentrations in all the older ptarmigan they examined, and high mortality among adult cadmiumcontaminated females. They theorize that the females of the species are particularly affected because they overwinter at lower elevations than the males, in areas that tend to be downstream of abandoned mines. Cadmium, which is readily mobilized by mining, is swept downstream in waterways that feed the willow trees that are a large part of the ptarmigan diet. These willows bioaccumulate cadmium in their buds by two orders of magnitude, according to Larison. The high concentrations of cadmium weaken the birds’ bones and damage their kidneys. Other birds as well as regional mammals may also be at risk, the researchers say. Other Environmental Hazards Many of the same issues apply to both coal mining and hardrock mining. Most obvious of the hazards that abandoned mines pose are the physical ones. Adventurers and children can’t resist the lure of an open, partially collapsed, or carelessly sealed mine shaft. But mines can be unstable. They are littered with loose rock and rotten ladders and support timbers. Walls can give way. Water—some of it acidic enough to cause chemical burns— can pool in unexpected places. Mine shafts and tunnels can cause problems far from the mine opening as well. In coal mines especially, since they are worked closer to the surface than hardrock mines, mine workings can collapse, engulfing vehicles, buildings, and people. In coal country, such as Ohio, West Virginia, and Pennsylvania, it’s not unusual for sinkholes to develop under new construction projects and on occasion existing structures as well, says Ann Harris, a geology professor at Youngstown State University who maps forgotten 100-year-old coal mines in Ohio. Stored waste is another problem. Some abandoned Canadian mines are struggling to remedy the way arsenic trioxide—a by-product of the roasting method used to extract gold from rock—was disposed of. In this method, finely ground ore was heated to burn off organic matter and release sulfur dioxide from the sulfides. Then it was mixed with chloride of lime and sulfuric acid in revolving wooden barrels to dissolve the gold. This solution was then passed through charcoal beds, which resulted in the gold adhering to the charcoal’s surface. Finally, the charcoal was incinerated, leaving behind molten gold that was formed into ingots. “We’ve got 237,000 tons of arsenic trioxide stored in underground mine tunnels in Yellowknife [Northwest Territories], and nobody knows what to do about it,” Kuyek says (some government documents put this figure at 270,000 tons). “In the old days they used to get the gold out of arsenic-bearing ore by roasting it. Then they would blow the arsenic trioxide into the tunnels to store it.” Although leaching through fractures into Great Slave Lake is minimal at this time, without containment it could become worse, Kuyek says. When the Giant mine—the source of this arsenic—closed in 1999, it was the last goldroasting operation in Canada. During the first three years that it was in business, starting in 1948, as much as 7,000 kilograms of arsenic trioxide per day was emitted from its smokestacks and blown by the wind across the countryside. In 1951, the mine operators started capturing most of the arsenic trioxide and depositing it, although about 25 kilograms continued to escape each day. Other contaminants plague other sites. Libby, Montana, is the site of a closed vermiculite mine that is contaminated with asbestos. Researchers have found high concentrations of asbestos in household dust, yard soil, and elsewhere throughout the town. The human death rate there from asbestosis was 40–80 times higher than expected, and lung cancer mortality was 1.2–1.3 times higher than expected when compared to Montana and the United States overall, according to a 2002 report by the U.S. Agency for Toxic Substances and Disease Registry titled Mortality in Libby, Montana (1979–1998). Also associated with gold mining is mercury, a toxic remnant of the U.S. and Canadian gold rushes of the mid to late 19th century and the Amazon gold rush of the late 20th century. Amalgamation with mercury is one of the oldest chemical methods for separating particles of gold from other materials. (Modern large-scale operations use cyanide.) Gravel and mud, collected through dredging or blown free with water cannons, passed through sluices over a copper plate coated with mercury. The gold combined with the mercury, and the resulting amalgam was boiled to vaporize the mercury, which was captured in a retort. Although mercury, being quite expensive, was most often captured and reused, some invariably found its way into the environment. In California’s Sierra Nevada range, for example, hundreds to thousands of pounds of mercury may remain at each of the region’s hundreds of gold mines, says Alpers [see BLM “Tarnishing the Earth: Gold Mining’s Dirty Focus | The Earth’s Open Wounds Lying in wait. Old mines present structural hazards such as the danger of collapse or accidental falls. Secret,” EHP 109:A474–A481]. In the environment, mercury is transformed by bacteria into the more toxic methylmercury form, and then bioaccumulates up the food chain through invertebrates to amphibians, fish, and fish-eaters such as birds and humans. At high levels, methylmercury has been linked to tremors, paralysis, anemia, bone deformities, and death. Research published by Philippe Grandjean of Odense University and colleagues in the July 1999 issue of EHP demonstrated that mercury poisoning that can be traced to the Amazonian gold mining boom has decreased the performance of indigenous children on a battery of cognitive tests of visual spatial function and memory. But even mercury in its elemental form can prove hazardous, at least to amateur treasure hunters, who often pan for gold in abandoned sluice tunnels left over from the gold rush. Panning in tunnels is dangerous because it can stir up mercury vapors in a relatively enclosed area. But the greater risk—to individuals and to the public at large—is what happens to the gold–mercury amalgam “treasure” at home. People would either roast it, Alpers says, releasing dangerous fumes and allowing mercury to escape into the environment, or they would treat it with nitric acid. “That mercuric nitrate solution might get disposed of inappropriately,” Alpers says. “Someone may just flush that down the toilet or throw it out in the backyard, and then you’ve got mercury in a very bioavailable form, more so than it was to begin with. One flush from somebody’s gold panning operation could [put] more mercury [in the environment] than the whole city of Sacramento [releases in] a year.” In the summer of 2000, the EPA spent about $1.4 million to clean up a tunnel of the Polar Star mine in California where people had panned for gold nuggets, Alpers says. Cleaning up just that one tunnel cost U.S. taxpayers about $3,000 per linear foot, he says, “and there are dozens, if not hundreds, of other tunnels out there, many of them thousands of feet long.” The Cost of Cleanup AMD cleanup can be expensive and lengthy, and, if the AMD isn’t halted, must be maintained indefinitely. Preventing AMD in the first place is vastly preferable to cleaning it up after the fact, and progress is being made in prevention technologies [see “Tarnishing the Earth: Gold Mining’s Dirty Secret”]. But for sites where prevention is no longer an option, good methods for “passive” remediation of acid drainage have been developed using wetlands and reaction with limestone to neutralize the acid and eliminate the metals, says Rose. Such methods are now being used to eliminate AMD from many abandoned coal mines and some abandoned metal mines. States such as Pennsylvania are funding numerous volunteer watershed groups to survey for abandoned mine sites, design treatment, and pay for construction of passive systems. Because there are so many unknown factors, estimates of the cost to clean up abandoned mines in the United States vary widely. The number of abandoned mines isn’t known for sure, development of cost-effective remediation methods is still a work in progress, the extent of environmental impacts is often unexamined, and in many cases it appears as though treatment may have to continue indefinitely. The Burden of Gilt pegs the amount of money required to remediate U.S. mines at $32.7–71.5 billion. In Canada, calculating cleanup is just as uncertain. A 1999 report by the Canadian Institute for Environmental Law and Policy, titled Mining’s Many Faces: The Environmental Mining Law and Policy in Canada, puts the cost to clean up Ontario’s more than 5,000 abandoned mines at Can$3 billion. A 2000 report by MiningWatch Canada and the Pembina Institute for Appropriate Development (an independent research entity) said that the cost in Ontario would be Can$300–400 million. The same report also estimated Can$639.5 million as the public liability for cleaning up mines in the Northwest Territories and Yukon, more than Can$85 million in British Columbia, and Can$75–350 million in Québec. But the 2002 Report of the Commissioner of the Environment and Sustainable Development by the Office of the Auditor General of Canada sets the costs to clean up “abandoned mines in the North,” which includes the Northwest Territories, Yukon, and Nunavut, at Can$555 million. In 2002 alone, Indian and Northern Affairs Canada spent Can$26 million to address water contamination from abandoned mines in these areas. More concrete are figures for mine cleanups that have been completed or are in progress. Mining in Butte, Montana, started in 1864, has deposited tons of cadmium, arsenic, copper and other toxicants in the 120-mile-long Clark Fork River. Much of this mine waste accumulates at the Milltown Dam, which is about 5 miles upstream of Missoula. Milltown Dam is one of the most expensive Superfund sites. So far, more than $700 million has been spent cleaning up the site, and projections tag the cost to complete the project at as much as another $100 million over the next 12 years. Of the 1,234 industrial sites on the Superfund National Priorities List dated 24 October 2002, about 25 are mines—some of which are active. When a company abandons a mine site but stays in business, lawsuits can be brought by government agencies, individuals, and nonprofit groups to remediate the environmental damage. In California in 2000, Aventis Crop Sciences USA, then a A 160 VOLUME 111 | NUMBER 3 | March 2003 • Environmental Health Perspectives Focus | The Earth’s Open Wounds A mountain of problems. The Iron Mountain mine site in Shasta County, California (left), once a site of gold, copper, and zinc mining, encompasses 4,400 acres. The Minnesota Flats treatment plant (right top) was built in 1994 to treat AMD from the site. Drainage from the site’s Richmond mine collects in a pool (right bottom). division of European giant Aventis SA, agreed to pay $160 million down for an insurance policy that will pay up to $300 million in cleanup costs over the next 30 years if it is needed, plus a final $514 million payment in 2030. These funds will be used to remediate the closed Iron Mountain mine in Redding, California. This was in addition to more than $200 million spent by the company and the U.S. EPA on site characterization, remediation, and water treatment prior to 2000. The copper mine closed in 1963, yet, according to a 19 October 2000 EPA press release, “Prior to the action required by the U.S. EPA and the state, the mountain discharged approximately a ton of copper and zinc each day—equal to approximately one-quarter of the total national discharge of copper and zinc to surface waters from industrial and municipal point sources.” For mines whose owners are long forgotten, however, the role of addressing cleanup invariably falls to governmental agencies, generally to the federal land management agencies. In some cases, the actual costs are covered by special funds to which the mining industry contributes. In the United States, the U.S. Surface Mining Control and Reclamation Act of 1977 (SMCRA) requires that the Office of Surface Mining collect funds to pay for the restoration of coal mines that closed before 3 August 1977. Coal mining companies must pay 35¢ per ton for surface-mined coal, 15¢ per ton for coal from underground mines, and 10¢ per ton for lignite, which is a moist brown or yellow intermediate between coal and peat. The Abandoned Mine Reclamation Fund, administered by the Office of Surface Mining, manages this money, half of which is returned to SMCRA states for cleanup purposes. State abandoned mine land projects are free to use this money to remediate any abandoned coal mine. And if all of the state’s coal mines have been restored, the funds can be used to remediate hardrock mines. According to several mining experts, much of this funding—as much as $1.5 billion—is tied up in congressional and administration politics.

#### Trust fund is effective and works.

OSMRE 11/14 Statement for the Record Office of Surface Mining Reclamation and Enforcement U.S. Department of the Interior Committee on Natural Resources Subcommittee on Energy and Mineral Resources U.S. House of Representatives H.R. 4248, the Surface Mining Control and Reclamation Act Amendments of 2019 November 14, 2019 TJHSSTAD

AML grants to states and tribes are used for construction ($3.7 billion), project design ($1 billion), administrative costs ($407 million), acid mine drainage ($374 million), and undelivered orders ($242 million), which include any orders for which advance payment has been made but for which delivery or performance has not yet occurred. Administrative cost for the program amount to approximately 7 percent of the total funds allocated for construction. In these projects, funds are used on the state and local level to develop plans to address the AML problem, and complete the reclamation utilizing private contractors. There is a measurable effect on local economies from AML funding, not just in the work on the projects themselves, but also in associated services to support that construction. See the attachment for more information. Since the Fund’s initiation, OSMRE and its state and tribal partners have worked together, as Congress envisioned, to address the hazards associated with abandoned mine areas that occurred prior to SMCRA’s passage. OSMRE, states, and tribes are continuing to see the impacts of abandoned mine lands on communities across the country. Millions of Americans live within a mile of an AML issue, and as communities expand into more remote areas, once minor AML issues are now posing greater public risks. SMCRA established a priority system for expenditures of moneys from the fund on reclaiming eligible coal problems. The priorities are: • First priority - "the protection of public health, safety, and property from extreme danger of adverse effects of coal mining practices." • Second priority - "the protection of public health, and safety from adverse effects of coal mining practices." • Third priority - "the restoration of land and water resources and the environment previously degraded by adverse effects of coal mining practices." SMCRA also provides funding for states and tribes to expend money on replacement of water supplies adversely affected by past coal mining activities and on non-coal reclamation projects related to minerals development and extraction. Examples of non-coal reclamation projects on which states can expend AML funds include remediation of dangerous highwalls, stabilization of subsidence events associated with underground mineral mining, water supply replacement, and road repair. States can also place a portion of their AML grants in an interest bearing account for the purpose of abating acid mine drainage. Congress authorized the Fund to earn interest in Fiscal Year (FY) 1990. Since 1992, interest earned on the Fund has been available for direct transfer to the UMWA Combined Benefit Fund and, since 2006, this interest has been available for the direct transfer to two additional plans within the UMWA Health and Retirement Funds. In each instance, the interest is available to defray the costs of providing health care benefits to eligible retired coal miners and their dependents. Accomplishments AML reclamation over the past 42 years has become more effective because OSMRE and its state and tribal partners have developed, demonstrated, and promoted innovative mine reclamation technology, techniques, and best practices in collaboration with industry and universities. When Congress created OSMRE, legislators contemplated that OSMRE’s and the state/tribal partnership would embody cooperative federalism. These relationships are built on federal and state governments and stakeholders working together to benefit communities and American workers. The development of these best practices and techniques, have proven to be effective: ● In Montana, the State’s AML program overcame multiple obstacles, including weather and engineering challenges, to provide safe and abundant drinking water to a historic mining town. ● On Navajo Nation land, the Tribe’s AML program addressed a coal seam fire that burned for more than 50 years, causing air pollution and threatening both wildlife and livestock grazing lands. ● In Pennsylvania, the AML program eliminated the threat of old mine pits that, prior to reclamation, took the lives of six people when their vehicle fell into a water-filled pit in an AML hazard area. ● In Kentucky, the AML program dealt with mine subsidence near a local elementary school that placed students, parents, and staff in danger as they arrived at or left the school’s parking lot. Since SMCRA’s enactment examples of accomplishments of the Abandoned Mine Land Program include: • Closure of over 45,000 underground mine shafts and openings; • Elimination of over 960 miles of dangerous highwalls; • Elimination of nearly 131,000 acres of dangerous spoils and embankments; and • Restoration of nearly 859,000 acres of streams and land. H.R. 4248 H.R. 4248, the Surface Mining Control and Reclamation Act Amendments of 2019, would reauthorize the AML fee, extend fee collection for another 15 years to FY 2036 (with the last normal distribution occurring in FY 2037), and increase mandatory minimum program annual payments from $3 million to $5 million from the Federal Share of the AML Fund. In addition, H.R. 4248 contains new provisions that would: • Fund AML emergency programs as a mandatory expenditure from the Federal Share of the AML Fund. • Allow all states and tribes (including certified AML programs) to use a full 30 percent of their AML grants to address acid mine drainage (AMD) by establishing AMD set aside accounts. • Exempt AML grants from future sequestrations. • Authorize the release of previously sequestered AML monies to all states and tribes. The provisions that increase minimum program payments and fund AML emergency programs as mandatory expenditures from the Federal Expense Share of the AML Fund would significantly reduce OSMRE’s annual AML operational appropriations. As Congress considers the future of the AML Fund reauthorization, OSMRE stands ready to assist in understanding these and other issues related to SMCRA. We will continue to work with states and tribes, the Interstate Mining Compact Commission (IMCC), the National Association of Abandoned Mine Land Programs (NAAMLP), local watershed groups, industry and other stakeholders to identify opportunities to address SMCRA priorities. OSMRE is fully committed to the success of the AML program. Thank you for the opportunity to present this testimony.

### 1NC vs Kant Add-on

# 2NR

### 2NR O/V

### A2 Not Competitive

### A2 General Principle