Committee on Resources

Subcommittee on Energy & Mineral Resources

Witness Statement

THE ECONOMIC IMPACTS OF THE AMERICAN METAL MINING INDUSTRY AND THE POTENTIAL ECONOMIC IMPACTS OF FEDERAL MINING POLICIES

Testimony presented to the
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THE IMPACTS OF METAL MINING ON THE ECONOMY OF THE UNITED STATES IN 1998

Impact as measured by income flows

The metal mining industry of the United States in 1998 had a combined direct and indirect impact on the economy of the United States of:

$112,076,567,000

including combined direct and indirect contributions to the nation's economy of:

$25,010,756,000 in personal income (equal to 666,000 jobs);

$74,851,204,000 in sales for other businesses;

$ 6,806,375,000 in federal government revenues; and

$ 5,408,232,000 in state and local government revenues.

This combined direct and indirect benefit to the national economy came as a result of the circulation (and multiplication) through the economy of the metal mining industry's total direct impact of:

$11,552,139,000

that included direct payments by the metal mining industry of:

$524,010,000 to state and local governments;

$620,156,000 to the federal government;

$7,028,270,000 to other American businesses; and

$3,379,703,000 in personal income for Americans, including the wages and salaries of the industry's 57,000 employees,

who labored to produce ores and metals with a total value of:

$12,029,756,000.

Among the 50 states, **California** received the greatest combined direct and indirect economic benefit ($10.7 billion and 54,500 jobs) from metal mining activity in 1998, although the state ranked only 12th in metal mine output. California's total benefit came largely as a result not only of the state's direct role as a major gold producer but also from its role as a manufacturing, trade, service, and financial center for much of the metal mining and other economic activity in the western United States.

Arizona received the second greatest combined dollar benefit ($10.4 billion and 73,300 jobs) from American metal mining in 1998, mostly because of the state's direct role as the nation's leading copper producer and partly because of its position as a principal manufacturing, trade, and service center for the Desert Southwest that included providing products and services to metal mining activities in Nevada and New Mexico as well as Arizona itself.

Nevada received the third largest combined direct and indirect economic benefit ($8.1 billion and 59,600 jobs) from metal mining in 1998, mainly because of its position as the nation's largest producer of precious metals.

New York was fourth in line as a beneficiary of direct and indirect economic benefit from American metal mining in 1998, receiving a total of $6.6 billion and 27,900 jobs. The state has a small metal mining industry of its own, producing mostly zinc and light metals, but its biggest gain came because of its role as a manufacturing, trade, and financial center for the nation, selling products and services to mining and other enterprises located in other states.

Among the top 25 states that gained the most personal, business, and government income directly and indirectly from the nation's metal mines in 1998, nearly half, 12, including Illinois, Pennsylvania, Ohio, New Jersey, Massachusetts, North Carolina, Georgia, Indiana, Virginia, Wisconsin, Connecticut, and Maryland, had no metal mining activity within their borders. Like New York, their greatest benefits came from selling products and services to metal mining and related businesses in other states and through the disbursement of federal revenues collected from metal mining firms.

Among those same top 25 states that benefitted the most economically from metal mining activity in 1998, only six (California, Arizona, Nevada, Washington, Utah, and Colorado) are in the public land areas of the West that have been traditionally thought of as being the center of American metal mining. Seven (Minnesota, Michigan, Illinois, Ohio, Indiana, Missouri, and Wisconsin) are in the Midwest, while another

seven (Texas, Florida, North Carolina, Georgia, Tennessee, Virginia, and Maryland) are in the South, and the remaining five (New York, Pennsylvania, New Jersey, Massachusetts, and Connecticut) are in the Northeast.

The wide geographic distribution of the total economic benefit from metal mining is the result of the fact that almost 90% of the total impact of metal mining on the economy of the United States in 1998 was in the form of indirect personal, business, and government income created by the circulation and recirculation through the nation's economy of the metal mining industry's direct payments to employees, former employees, shareholders, other businesses, and federal, state, and local governments.

Those direct payments by metal mining firms to individuals, other business firms, and governments in 1998 amounted to more than $11.5 billion. Of that total, the industry paid nearly $3.4 billion (29%) in personal income to employees, former employees, and stockholders. More than 80% of that amount went to pay the wages and salaries of current workers.

The biggest share (61%) of the metal mining industry's direct contributions to the national economy in 1998, however, went to other businesses to pay for the products and services used in the search for and production of metal-bearing ores and metals. Those direct payments to suppliers of materials, equipment, energy, and services used in metal mining amounted to over $7 billion. They were made to suppliers located not just in the mining states, but in every state of the Union and the District of Columbia.

COMBINED DIRECT AND INDIRECT CONTRIBUTIONS OF THE METAL MINING INDUSTRY TO THE ECONOMIES OF THE INDIVIDUAL UNITED STATES IN 1998

State	Combined Impact	Total Jobs
California	$10,720,318,000	54,500
Arizona	10,373,506,000	73,300
Nevada	8,050,718,000	59,600
New York	6,578,826,000	27,900
Texas	6,244,634,000	33,800
Minnesota	5,622,105,000	39,100
Michigan	4,971,515,000	29,600
Illinois	4,171,134,000	20,400
Florida	3,794,776,000	22,100
Pennsylvania	3,773,345,000	19,800
Ohio	3,718,416,000	20,800
New Jersey	2,808,002,000	12,600
Washington	2,536,572,000	14,900
Massachusetts	2,517,989,000	11,500
North Carolina	2,207,440,000	12,600
Utah	2,142,958,000	15,700
Georgia	2,126,812,000	11,600
Indiana	1,948,739,000	11,400
Missouri	1,915,379,000	12,000

Tennessee	1,841,700,000	11,200
Virginia	1,836,290,000	10,100
Colorado	1,796,291,000	10,900
Wisconsin	1,630,189,000	10,000
Connecticut	1,436,236,000	6,100
Maryland	1,355,514,000	7,300
Alabama	1,282,751,000	8,700
New Mexico	1,270,576,000	10,600
Oregon	1,191,714,000	7,300
South Carolina	1,008,185,000	6,500
Louisiana	968,679,000	5,700
Kentucky	951,266,000	5,900
Montana	840,123,000	7,100
Iowa	806,361,000	5,300
Alaska	764,309,000	6,700
Oklahoma	733,798,000	4,600
Kansas	699,710,000	4,200
Idaho	653,523,000	5,400
Arkansas	580,900,000	3,800
Mississippi	559,533,000	3,700
Nebraska	445,716,000	2,800
South Dakota	442,854,000	3,600
New Hampshire	381,711,000	2,100
District of Columbia	358,816,000	700
West Virginia	344,587,000	2,200
Delaware	327,831,000	1,600
Maine	302,881,000	1,900
Hawaii	279,095,000	1,500
Rhode Island	278,320,000	1,500
Wyoming	197,429,000	1,500
Vermont	158,365,000	1,000
North Dakota	128,130,000	900
TOTAL	**$112,076,567,000**	**665,600**

The metal mining industry also made significant payments directly to state and local governments, largely in the states in which they conducted exploration or mining activities. The amount of such direct payments by metal mining firms to state and local governments in 1995 exceeded $620 million, more than 5% of the industry's total direct impact on the economy. The federal government got a little less in 1998, mainly because corporate profits were low, although payroll taxes remained high. Direct payments by metal mining firms to the United States Government in 1998 amounted to more than $524 million, about 4.5% of the

industry's total direct impact on the nation's economy.

Impact as measured by materials flows

The metal mining industry does more, of course, than provide money for its employees, former employees, stockholders, suppliers, and governments. The industry also provides tangible physical products for use by other American industries, particularly the manufacturing and construction industries. Those industries, in turn, use the metals supplied to them by the domestic metal mining industry to make products for sale or use by virtually every other sector of the American economy.

It is in the provision of essential raw materials for other American industries that the nation's domestic metal mining industry has its greatest impact on the economy of the United States, primarily by providing a supply of raw materials directly to specific manufacturing industries and then to other manufacturing activities and the construction industry. In 1998, metal mines in the United States provided more than 39% of the metals used by the nation's other goods-producing, non-extractive industries (manufacturing and construction). The other 61% came from imports and the use of scrap metals.

The personal income earned by workers in the non-extractive, goods-producing industries that used the metals provided by the nation's domestic metal mining industry amounted to almost $270 billion in 1998. That is equivalent to more than 8.4 million workers in manufacturing and construction whose incomes were dependent upon domestic metal mining last year. It represents about 5% of the earnings of all American workers in 1998.

The sales of those goods-producing industries that were directly dependent upon the metals provided by the nation's metal mining industry amounted to over $902 billion in 1998. That represented almost 13% of the total sales of American businesses.

State and local governments also received substantial revenues from the goods-producing industries that were dependent upon domestically mined metals. Such revenues in 1998 amounted to almost $34.7 billion, nearly 4% of all revenues received by state, county, municipal, and school district governments.

The federal government got about twice as much. In 1998, the federal revenues received from goods-producing firms that were dependent upon domestically mined metals reached almost $70 billion. About 70% of that came from manufacturing firms that used domestically mined metals, while 30% came from construction firms that used products made from metals mined in the United States. The total represented almost 4% of federal government revenues in 1998.

The Metal Mining Industry of the United States

The metal mining industry of the United States as referred to here includes all of those firms that mine ores of iron, molybdenum and other ferrous alloying metals, copper, gold, silver, platinum, palladium, lead, zinc, beryllium, magnesium, titanium, silicon, and uranium. It also includes those operations that smelt and refine nonferrous metals from primary ores.

In 1998, the ferrous metal mining industry produced iron ore and ores of molybdenum with a total value of nearly $2.4 billion and employed almost 10,000 workers, mainly in Minnesota, Michigan, Colorado, Idaho, and New Mexico. The precious metal mining industry produced ores, dore, and finished gold, silver, platinum, palladium, and other byproduct metals with a total value of more than $3.9 billion with a work

force of more than 20,000 people from operations mostly in Alaska, California, Colorado, Idaho, Montana, Nevada, South Carolina, South Dakota, Utah, and Washington. The nation's primary copper industry produced copper and byproduct metals, including molybdenum, gold, and silver, worth a total of almost $3.4 billion with a work force of nearly 19,000 people at operations in Arizona, Montana, Nevada, New Mexico, Texas, and Utah. The primary lead and zinc mining industry produced metal and ores containing lead and zinc as well as byproduct metals worth a total of almost $1 billion and employed nearly 4,000 people at operations in Alaska, Colorado, Missouri, Montana, New York, and Tennessee. Other metals that were produced from primary mining operations in 11 states included beryllium, magnesium, titanium, silicon, and uranium and involved more than 4,000 workers.

THE POTENTIAL IMPACT OF FEDERAL METAL MINE ROYALTIES ON THE ECONOMY OF THE UNITED STATES

The Issue

Proposals have been made to impose a royalty, payable to the Federal Government, on all metallic minerals mined from federal lands. Heretofore, metallic minerals have been considered "locatable", under the General Mining Law of 1872, as amended, meaning that private ownership of such mineral resources on federal land could be secured by "locating" (staking and filing) a mining claim (or claims). Whether the mining claims were then patented (purchased from the federal government for a per-acre fee) or were allowed to remain unpatented during mining operations, the production of those minerals from federal lands has not been taxed by the federal government, except for the income taxes imposed on the corporations, partnerships, or individuals who made a profit from mining and selling those minerals. The governments of the states in which the federal lands are situated, however, have imposed taxes, including property taxes, severance taxes, income taxes, and payroll taxes on such mining activities conducted on federal land.

Specific proposals to impose a federal royalty on the production of metallic minerals from federal lands (at present subject only to corporate or individual income taxes) have included proposals to base such royalties on gross receipts, net smelter returns (actually equivalent to gross receipts from mining) or on net receipts. These bases have been defined in various ways, and the royalties proposed have been set at various percentage rates of the variously defined bases. Royalties imposed on gross receipts, however defined, would have the effect of lowering the price of the metal being mined to the producer of the metallic mineral. Royalties imposed on net receipts or net income would have the effect of increasing costs of operation and lowering after-tax profits. Regardless of the base upon which a federal royalty might be imposed, gross or net, the essential effect of the new charge to producers would be to lower the value received by those producers for their investment, operating expenditures, risk, and effort.

The Rationale

Proponents of the proposed royalty on metallic mineral production from federal lands argue that since the lands belong to the Federal Government before the minerals are discovered and produced, then the Federal Government should be paid a specific fee for those minerals when they are mined and sold. Mineral royalty supporters argue that such payments for metallic minerals, similar to those now imposed under federal mineral leases (for mineral fuels and certain non-metallic minerals) would bring in added revenues to the federal government and thereby provide additional money from federal lands for federal purposes.

The Basic Assumption

The arguments for a metallic mineral royalty assume that the imposition of a new cost on minerals producers (or an increase in an existing cost) or an effective decrease in the value of the industry's output will have no effect on the mining industry's operations or on the way it distributes the money that it receives from the sale of its product to the remainder of the economy. More specifically, the arguments assume that the imposed increase in cost of operation (or reduction in the value of output) will have no adverse effect on the revenues currently received by the government from the metal mining industry.

The basic assumption is false. Virtually all significant changes in the various components that make up the total cost of mining and processing metallic minerals affect management decisions regarding other costs and the

ways in which available funds are spent. Similarly, virtually all significant changes in the value received for their products affect the way metal mining managers allocate their available resources, especially their money. Since changes in costs and receipts affect resource allocation decisions within the industry, such changes also affect the flow of money from the industry to other sectors of the economy, particularly to the industry's employees, its suppliers of goods and services, and to various governments with taxing jurisdiction over its operations.

In reality, any imposition by the Federal Government of a new cost on the metal mining industry, or any federal action that will decrease the value of the industry's output, will have some effect on the way the industry distributes its funds to other sectors of the economy and even on the level of existing income and payroll taxes paid to the Federal Government. Such effects must be recognized and quantified if the desirability of a federal royalty on metallic minerals production is to be assessed accurately.

The Impact of a Federal Royalty on Metallic Minerals Production

Analyses of the impacts of metal mining industries on their ambient economies over the past 35 years indicate clearly that such impacts change significantly from one year to another in conjunction with changes in industry cost structures and industry revenues. It has been well established that the economic impacts of metal mining, measured as direct and combined direct and indirect contributions to employment, personal income, the sales of other businesses, and federal, state, and local government revenues, vary in accordance with variations in the value of mining output, the costs of factor inputs (especially wages and energy costs), taxes, and the effects of regulatory requirements (especially environmental regulations).

Consequently, in order to determine the potential effect of proposed changes in the value of metal mining output from federal lands caused by the imposition of a federal royalty that would effectively decrease the value of mining output from such lands, a detailed analysis was made of one metal mining industry for the periods from 1986 to 1998 and 1991 to 1998 to determine the precise relationships between the value of industry output and the industry's direct and combined direct and indirect contributions to personal income, the sales of other businesses, and federal, state, and local tax revenues in the United States. The industry studied was the Arizona copper mining industry, primarily because: (1) it forms two-thirds of the nation's largest metal mining industry; (2) it produces most of its product from lands that originally were or are now federal lands; (3) its technology and scale of production, and therefore, its use of factor inputs is similar to much of the other metal mining industries, especially the gold mining industry, that also use federal lands; and (4) detailed data on the economic impacts of the industry on the national economy as well as the variations in output values, costs and uses of factor inputs, and determining tax structures are readily available for the past several product price cycles and through several national economic and political cycles.

The resultant analysis of the relationships between changes in product value and the various types of economic impact indicate that:

For every dollar of federal revenue raised by the imposition of a royalty (whether on a gross or net basis) on metal mine production from federal lands:

1. **Federal revenues currently received directly from the corporate income taxes and payroll taxes paid by metal mining firms would be reduced by 8 cents, but total federal revenues generated both directly and indirectly by metal mining activity would be reduced by 87 cents.** Since about half of the federal revenues received from metal mining activity during the current administration (1993 through 1997) have come from payroll taxes paid to support the nation's social security program, the imposition of the metal mining royalty would effectively create a shift of about 44% of such revenue from the social security program to the Treasury's general fund.

2. **All revenues currently received directly from the metal mining industry by all levels of government (federal, state, and local) would be reduced by 11 cents, but total government revenues generated both directly and indirectly by metal mining activity would be reduced by $1.17.** This means that the Federal Government would realize a net gain of about 13 cents per dollar ($1 gained minus 87 cents lost) from the new metal mine royalty, but the state and local governments would lose proportionally much more, and that all levels of government would find their total revenues reduced by 17 cents more than the royalty would generate directly. Thus, the proposed royalty would cause a substantial shift in tax revenues from the state and local level to the federal level and would actually create a total government revenue loss significantly greater than the proposed royalty would add.

3. **The sales of non-mining businesses directly to the metal mining industry would decline by 52 cents, but the total sales of American businesses generated both directly and indirectly by metal mining activity would decline by more than $4.** Thus, the brunt of the burden of the proposed mineral royalty would not be borne by the metal mining industry itself, nor even by the direct suppliers of goods and services to the metal mining industry, but by the rest of American business. Furthermore, the burden would be far greater than the direct financial benefit to the Federal Government.

4. **The personal income received directly from metal mining (mostly as wages and salaries by employees of metal mining firms) would be reduced by 15 cents, and the total personal income received by all residents of the United States both directly and indirectly from metal mining activity would be reduced by $2.77.** The total effective reduction in personal income for the nation as a whole would be almost triple the amount of revenue received directly by the Federal Government by the imposition of the proposed royalty.

Therefore, from the point of view of the nation's economy as a whole, from the point of view of the nation's state and local governments, from the point of view of the nation's mining and non-mining businesses, and from the point of view of the nation's workers and social security recipients, the proposed metal mining royalty is extremely ill advised at any rate on any base that would lower the value of the industry's output.

REDUCTIONS IN THE ECONOMIC IMPACTS OF THE COPPER MINING INDUSTRY CAUSED BY REDUCTIONS IN THE VALUE OF MINE OUTPUT

Decrease in income flow for every $1

Decrease in the Value of Output

Type of Income Flow	Direct Decrease	Total Decrease
Personal Income	$0.15	$2.77
Sales of other businesses	$0.52	$4.10
State and local government revenues	$0.04	$0.31
Federal government revenues	$0.08	$0.87
All government revenues	$0.11	$1.17
Total Decrease	$0.78	$8.04

Note: Direct impacts based on relationships existing from 1986 to 1998; Total direct and indirect impacts based on relationships from 1991 to 1998.

THE NEED FOR IMPROVEMENTS IN FEDERAL MINING POLICY

Significant changes since 1872

There have been a number of major changes in the conditions under which the mining industry operates on federal lands since the enactment of the General Mining Law in 1872. Some of those changes already have been accommodated by amendments to the original law and clarified by court decisions and by the enactment of other laws that govern mining on federal lands. There remain, however, three major changes that have not been addressed.

1. The **value of land as surface space** in the states where public lands exist and mining takes place have increased dramatically since 1872. Alaska was purchased for about 2¢ per acre in 1867, while the Gadsden Purchase in 1854 cost only about 53¢ per acre. Such land values are no longer realistic, and the changing values of surface space in the West make the current per acre fee for mineral patents completely unrealistic.

2. **Mining methods** have changed drastically since 1872. Then, it was normal for metal mining to involve small-scale, underground mining with a minimal use of surface space. Now, however, most metal mining involves large-scale surface mining methods with substantial need for useable surface space both for actual mine excavation and surface plant, as well as for waste storage.

3. **Mineral exploration technology** has changed markedly since 1872. Then, virtually all exploration for metallic minerals was done on a small scale by individuals or small teams of prospectors looking for surface indications of metallic minerals. Now, mineral exploration involves a much higher level and bigger scale of technology involving sophisticated geology, geophysics, and geochemistry in the search for ores that are generally hidden from surface observation.

Policy changes needed to accommodate changes in reality

In order to bring federal mining land policy in line with current economic, geologic, and technical reality, it is suggested that five changes be made in the existing policy and that one proposed change not be made, as follows:

1. Unpatented mining claims should be issued (or allowed to be recorded) for exploration purposes

only and then only for a specific time period.

2. Any individual or firm wishing to buy land from the federal government for purposes of mining should pay the appraised surface value of the land patented, and such patents should be issued only if preceded by unpatented claims upon which the presence of a mineable mineral deposit has been demonstrated, and anyone wishing to actually mine on federal land must first buy the land at the surface value.

3. A waste storage claim should be defined specifically, such as millsite claims were in the original law, and should be sold to the mineral producer at surface value as needed in accordance with an approved mining plan.

4. The practice of severing mineral rights from surface rights should be discontinued. Those who buy the mineral rights, should get the surface and pay the price. Those who buy the surface should get the mineral rights, subject, of course to existing claims to legitimate mineral deposits.

5. The arbitrary and artificial distinction between "mineral" and "non-mineral" land should be discontinued. All land is composed of minerals, some of which are valuable, and some of which are not, at different times under different conditions.

6. The Government of the United States should not impose any royalty, either on a gross or net basis on production of metallic minerals from deposits that have been discovered and developed by private parties on public lands. The lands containing such deposits should be sold at surface value and the ownership transferred to the mineral producer with no reversion of ownership after mining.

The economic consequences of the needed changes

Implementation of the above suggested changes to bring federal mining land policy into conformance with the realities of modern mining and economic conditions on the public lands are likely to yield several results, as follows:

1. They will provide a more secure political climate for mineral exploration and metal mining in the United States.

2. There will be a reduction in the abuse of the mining law and unpatented claim procedure to procure public land for private purposes at a cheap price.

3. The availability of private land after mining has been curtailed or ceased in any given area will provide increased economic stability to rural mining areas that will need to diversity their economies if mining is halted or seriously curtailed and local tax revenues are reduced.

4. An increase in domestic mining and mineral exploration will result in healthier economies in the mining states and in the nation as a whole.

5. A healthier mining industry will provide increased tax revenues for federal, state, and local governments throughout the United States.

SUPPLEMENTAL SHEET

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TOPICAL OUTLINE FOR
THE ECONOMIC IMPACTS OF THE AMERICAN METAL MINING INDUSTRY AND THE POTENTIAL ECONOMIC IMPACTS OF FEDERAL MINING POLICIES

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