CBO TESTIMONY

Statement of
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NOTICE

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Mr. Chairman and Members of the Subcommittee, I appreciate the opportunity to discuss reforms of the Mining Law of 1872. My testimony today will focus on proposals to impose royalties on hardrock minerals extracted from public lands and to charge holding fees or rents on claims that are not yet producing minerals.

The Congressional Budget Office (CBO) has prepared estimates of the effects on the federal budget of royalties and fees included in the President's budget and in S. 257, the Mineral Development and Exploration Act of 1993. In my testimony, I will describe these estimates.

Poor data about mining on public lands and the characteristics of current claimholders make it hard to estimate the effects of these proposals. I will explain the assumptions that we made about the value of minerals now taken from public lands, about how production would change if royalties were introduced, and about how current holders of undeveloped claims would respond to new holding fees. Our assumptions lead to estimates of the federal receipts stemming from royalties and holding fees that are lower than those prepared by the Administration for its proposal.

WHAT IS THE RATIONALE FOR ROYALTIES AND HOLDING FEES?

The argument most often heard supporting the collection of royalties for minerals extracted from public lands and charging holding fees is that they would help ensure that the public would receive "fair-market" compensation for the use of public resources. Current law gives precedence to mining over other uses on a large portion of federally owned lands, and nothing is charged for extracting hardrock minerals.

Many people consider the current practice to be an unneeded and unfair subsidy to the mining industry in the United States. Removing this subsidy by charging for the resources and the use of the land would be fair, in their view, because it would provide a return to the public. This return would come directly through receipts to the Treasury and indirectly through reducing the advantage that mining has over other uses of federal lands.

A second rationale for imposing royalties or fees is that they would help reduce the federal budget deficit. Because it would increase the nation's rate of saving and promote long-term improvements in the

standard of living of U.S. citizens, reducing the deficit is an important national objective. Royalties and fees could contribute to this objective.

In S. 257 and in the President's proposal, 25 percent of the gross receipts from royalties would be shared with the states. S. 257 also would authorize 50 percent of the gross receipts to be spent for reclamation of abandoned mines. The effect of S. 257 on the deficit would be reduced if the amounts authorized are appropriated.

Arguments in favor of royalties or holding fees go beyond generating revenues or prohibiting private firms from selling public resources without charge. Royalties or fees are prices, which in our economic system help allocate resources among various uses, improving the efficiency of their use in producing national output or promoting social welfare. There are a number of efficiencies that stem from royalties and holding fees.

Proper Pricing Would Help Allocate Public Lands to Their Most Desirable Uses

Holding fees would create an incentive for present holders of claims to develop them, make them available for someone else who would develop

them, or relinquish them. We believe that the incentive created by holding fees to develop the claims would have minimal effect on production. In preparing our estimates of receipts from holding fees, we have assumed that many current claims would be relinquished.

The ease with which holders can keep claims, even with no intention of developing them, has caused problems both for mining companies that want to develop resources and for government. Causing claims to be abandoned would release these public lands for other uses, which might include other mining activities, recreation, or conservation of this land as undeveloped wilderness.

When the Mining Law was passed in 1872, it contained a provision for diligent development of the resources once minerals were discovered. Claimants were required to perform at least $100 of work a year per claim. In those days, that amount corresponded to about seven weeks' effort at mining and--considering the short period available for activity at many mining sites--represented a substantial level of effort. Today, the requirement is still set at $100 for development. These charges at today's prices now represent a mere token effort.

The original intent of the requirement for diligent development was to discourage claimants from holding undeveloped property. The proposed holding fees differ in many respects from the requirements for diligent development, but would similarly encourage claimholders to release claims on which they have no intention of mining.

Royalties could have a similar effect. Mining activities that are near the margin of profitability might be abandoned or remain undeveloped. If the royalties or fees were set to reflect accurately the alternative public value of the land, then abandoning some mining activities would probably add to social welfare.

Currently, regulation heavily affects land use. For example, some areas are closed to prospecting and mining activities. Moreover, federal and state environmental regulations affect how land is developed. Royalties may not be a substitute for planning the uses of public lands, but they would reduce mining on some lands that would not be mined if mine operators had to pay fair-market rates for the resources extracted.

Proper Pricing Would Reduce the Rate at Which Mineral Resources Are Exploited

Royalties would tend to slow down the rate of development and extraction of minerals from federal lands. Because no royalties are charged, mining companies have a greater incentive to develop and extract minerals from federal lands than on private or state lands where royalties typically apply. Moreover, charging nothing for the minerals may cause them to be extracted now, rather than later, when they might be more valuable to our economy. How fast our mineral or other resources should be used up is a very complex subject. But faster is not always better.

Proper Pricing Would Charge Miners for Some of the External Effects on the Environment

Mining and exploration have done substantial damage to public lands and the ground- and surface-waters on those lands. Current mining activities on public and private lands are subject to a number of federal environmental regulations introduced in the past several decades. Federal laws that apply to mining activities and that affect the costs of operating

mines include the Safe Drinking Water Act, the Clean Water Act, and the Clean Air Act. Some of the wastes associated with mining are subject to regulations stemming from the Resource Conservation and Recovery Act. State regulations also apply.

Environmental hazards created by past mining activities--mostly ground and surface water pollution--are subject to regulation under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, or Superfund). This law gives the Environmental Protection Agency the right to locate parties who are responsible for the hazard and requires them to pay for cleanup. It is now difficult to identify private parties responsible for environmental hazards at abandoned mining sites on public lands--especially those private parties in a position to pay for cleanup. The federal agencies that manage the lands--ultimately meaning the federal taxpayer--may end up paying for cleanup at many abandoned mining sites.

Beyond the issue of hazardous wastes, reclamation of mined sites is an issue important to proponents of the reform of mining law. Reclamation requirements and authorization of funds to help pay for reclaiming abandoned sites is, for example, contained in S. 257. The

authorized funds would come from the new royalties introduced by the bill.

Aside from being a potential source of funds for cleanup, royalties or other fees would have few beneficial effects on the environmental damage caused by mining activities, since a relatively small reduction in mining activity is expected to result from royalties. The environmental effects of royalties might be positive, but royalties of this magnitude should not be seen as an effective policy tool to achieve environmental goals.

Pricing of Hardrock Minerals Would Make the Treatment Among Federally Owned Resources More Consistent

Hardrock minerals on public lands are treated differently from other minerals. The Mining Law that now applies to hardrock minerals originally applied to all minerals on lands in the public domain. However, subsequent legislation has changed the conditions of access to other mineral resources.

Most important, the Mineral Leasing Act of 1920 distinguished locatable from leasable minerals. Locatable minerals are the hardrock minerals that are the focus of the Senate and Administration proposals. Leasable minerals include coal, oil, and gas. For these fossil fuels, subsequent legislation has defined competitive processes for obtaining leases, established diligence requirements for developing the leases, and required the payment of royalties. The rate of royalties for federal coal is 8 percent; for onshore oil and gas, 12.5 percent; and for offshore oil and gas, 16.7 percent. Although the most common process for obtaining oil and gas leases is the competitive bonus bid with a fixed royalty, other competitive and noncompetitive processes are allowed under the law.

Hardrock minerals are not the only public resource for which there is interest in capturing some of their economic value on behalf of the taxpayer. For example, both the current and previous Administrations have called for auctioning parts of the electromagnetic spectrum for private use--rather than continuing to give it away through a lottery. The winners of these lotteries frequently turn around to sell the rights at considerable profit. The Congress is presently considering legislation that would permit such auctions.

In the same manner, a federal royalty scheme for extracting minerals would permit the taxpayer to share in these gains, rather than having the benefits accrue to a speculator who filed a claim in anticipation of being bought out. In fact, the major developers of minerals often pay a substantial amount to acquire mineral rights from current claimholders, or they pay royalties to these claimholders when they undertake development.

EFFECTS OF ROYALTIES AND HOLDING FEES ON U.S. MINING FIRMS AND EMPLOYMENT IN THE INDUSTRY

Imposing royalties on minerals extracted from public lands would reduce returns to mining operations. In turn, this reduction would discourage the development of new mines and could reduce the rate of production in existing mines and hasten their abandonment. Less activity in mining could reduce employment and hurt the economies of areas in the West where such mining takes place. Holding fees would have little or no direct effect on production or employment in mining. Use by the states of their share of the royalties collected and new reclamation activities, if any, could offset a large part of the economic effect of reduced mining activity.

Unfortunately, the information required to analyze these effects fully is poor or lacking entirely. I will briefly review, however, some of the expected economic effects of royalties and holding fees and comment on an economic study that looks specifically at some of these issues in gold mining.

The Effects of Royalties on the Decision to Mine on Federal Lands and on the Production of Existing Mines

Royalties can affect development of potential mines, the rate of production at existing mines, and the decision about when to abandon an existing mine. The decision to establish a new mine on federal lands is based largely on its expected profitability. Royalties would reduce expected profits in a way similar to a drop in the expected market price for the mineral and may make some new projects unprofitable.

For existing mines, introducing royalties would have different qualitative effects: subsequent production levels would tend to be lower in all periods, mines might be abandoned sooner than otherwise, and as a result more resources would be left in the ground. Higher-cost mines would scale back their operations the most. For most mines, this step

would not mean abandoning them immediately, but rather closing them earlier--say, 10 years in the future rather than 15 years.

CBO has not conducted its own analysis of the effects of royalties on mining activity in federal lands. Compounding the problem of poor data has been the tremendous impact of recent technological changes, which have led to rising production of gold, for example, even in the face of static or falling prices. To understand how a royalty could affect hardrock mining, we reviewed several studies of mining costs in the United States. These studies covered mining on both public and private land, not just mining on federal lands.

One particularly useful report by the University of Nevada summarized data on average operating costs for 51 mines accounting for about 90 percent of total U.S. capacity for primary gold production. Using data from this study on average operating costs of mines in 1990, we conclude that an 8 percent drop in gold prices would probably have a small effect on production. The 8 percent price drop means that mines accounting for 1 percent to 2 percent of total production that year would not cover their reported average operating costs. An 8 percent drop in gold prices would be equivalent to an 8 percent royalty if the market price

of gold were left unchanged by the resulting drop in production. U.S. prices of gold and most other minerals extracted from federal lands are determined on world markets and would not be affected by relatively small cuts in U.S. production.

The implication to be drawn from this exercise is that the effects of an 8 percent royalty on production from these mines could be small. How this implication might apply to gold mines on federal lands or even more broadly to all mines on federal lands is hard to determine. We know little about differences in costs between mines on federal and private lands.

On the one hand, these values could overstate the actual response of supplies to a royalty. One reason is that some elements of a mine's operating costs (for example, corporate tax payments) would drop along with net proceeds. Another is that varying production costs would themselves fall as mines lowered their output, thereby offsetting the cut into average profits.

On the other hand, the total response of mineral supplies from federal lands may be greater than indicated by the example of gold since

the production of other important minerals (such as copper, silver, and lead) is likely to respond more to a price change than would gold.

For our estimate of receipts from royalties, CBO has assumed that the drop in production from mines on federal lands would be several times greater than inferred from the data on gold mines in the study mentioned. We have assumed that an 8 percent royalty would cause a 5 percent reduction in the value of production of mines on federal lands.

The Effects of Holding Fees on Production and Abandoning Claims

The effect on the industry of introducing holding fees would be different from that of royalties. Three things could happen, depending on the level of the fee. First, such fees could encourage the claimholder to begin development because the fees would impose a cost of delay not now present. Of the possible reactions of claimholders to the new fees, this possibility--immediate development--is probably the least likely for the simple reason that the benefits of avoiding payment of the proposed holding fee would be small relative to the costs of initiating production prematurely.

Second, the claimholder could continue holding the land without developing it. By so doing, the claimholder would indicate that he or she believes that the prospects for future profit from developing (or selling) the claim exceed the newly imposed cost of holding it. For many, holding a claim is an investment with an uncertain future payoff. The investment now has small carrying costs.

The third alternative for the current claimholder is to avoid paying the holding fee by releasing the claim. It would then be available for competing businesses or for different uses altogether--again, to be developed immediately or held.

The most likely immediate result of introducing holding fees would be that small claimholders would release or immediately sell many claims, with some of those released claims ending up in the hands of larger mining interests. This outcome would take place if small holders of claims find that the cost of the proposed holding fees exceeds the value they placed on those claims--on the basis of expected returns from either mineral or nonmineral uses (for example, recreational). Even larger firms could find it in their interest to give up some marginal claims.

CBO has not conducted a quantitative analysis of the effects of holding fees on the mining industry. To estimate receipts from holding fees, we have assumed that a substantial proportion of claims would be abandoned. This is a conservative assumption of its effect on federal revenues. Regardless of the number of claims that would actually be returned to the government as a result of this policy change, however, it is hard to see how production of minerals or employment in the industry could be adversely affected.

The Effect of Royalties on Regional Economies and Employment

Any reduction in mining activity that resulted from newly imposed royalties would reduce employment and incomes in the affected areas. The direct effect of royalties could be mitigated by the states' use of their share of the receipts--in S. 257, 25 percent of the royalties collected are remitted to the states; a similar portion is shared with the states in the President's proposal.

S. 257 also authorizes spending 50 percent of the total royalties collected for certain reclamation activities. Spending for reclamation is

subject to annual appropriations, but if these funds are made available, a large share of the detrimental effect of royalties on employment and incomes could be offset. Some portion of the expected increase in federal costs of administering the royalties and holding fees would also accrue to the affected areas.

CBO has prepared an illustrative analysis of the effects that royalties might have on incomes and employment in the affected areas. For purposes of this illustration, CBO assumed that imposing an 8 percent royalty would cause a 5 percent reduction in the value of production from mines on federal lands. This loss would amount to about $60 million annually, based on an assumed level of total annual production on federal lands of $1.2 billion--the value of production assumed in the CBO estimate of receipts that would be generated from a royalty.

Such a loss in direct output would have subsequent effects on other economic activities in the affected states. Department of Commerce estimates of regional economic multipliers for "miscellaneous" mining (which excludes oil, gas, and coal) give an idea of how the region might be affected. These multipliers indicate the relationship between a change in the value of output from mining and the total direct and indirect

change in value of local output and employment by industries providing intermediate goods and services to the mining industry. The values are imprecise for the purpose of this analysis, since statistics for minerals of greatest economic interest on federal lands are combined with those for iron and aluminum.

The overall multipliers suggest that a $1 million reduction in the value of miscellaneous mining in the major hardrock mineral-producing states could lead to a total loss in output of $1.5 million to $2 million (including the direct $1 million in mining). The associated losses in employment would be 15 to 25 jobs. These values do not include losses for businesses or local governments that do not provide goods or services directly or indirectly to mining but that, nevertheless, depend on the incomes of mine owners and their employees.

Applying these multipliers to the assumed $60 million direct loss in mining output that results from imposing royalties indicates a total loss (direct and indirect) of between 900 and 1,500 jobs and a total loss of economic output of between $90 million and $120 million.

These estimates do not include the compensating effects of increased spending from the royalty proceeds, with their multiplier effects. Of the $90 million gross royalty receipts that we estimate the Senate proposal would generate each year, 25 percent would be returned to the states. Another 50 percent would be designated for the abandoned mineral mine reclamation fund, although spending from that fund would be subject to annual appropriations.

Thus, depending on actual spending on abandoned mines, between $20 million and nearly $70 million could return to be spent in mining states. This money could add between 300 and 1,700 jobs, and compensate regional economies with added economic output of between $30 million and $140 million.

The preceding estimates suggest the net result of direct and indirect effects of royalties on economic activity and employment may be relatively small. As indicated earlier, these estimates are far from firm. Moreover, even if the net economic effects in the region were to be small, individual workers, some mining support industries, and particular communities might still undergo painful adjustments.

ESTIMATES OF THE BUDGETARY EFFECTS OF ROYALTIES AND HOLDING FEES

The Congressional Budget Office has prepared preliminary estimates of the effects on the federal budget of the royalty and fee proposals contained in S. 257. The bill would establish an escalating annual rental payment for all hardrock mining claims and would impose a royalty totaling 8 percent of the gross income from production on public lands.

The President proposes to make permanent the temporary $100 per claim annual holding fee now in force. The President also proposes a 12.5 percent royalty on the value of production to be phased in gradually over the three-year period beginning in 1995 (see Table 1 for CBO's estimates of these proposals and the Administration's estimate of receipts from its proposal).

CBO estimates that over the five-year period beginning in 1994 the royalty provisions contained in S. 257 would increase federal receipts, net after payments to states, by about $140 million. This estimate does not reflect the costs of any new reclamation activities authorized in the bill. The holding fees established by the bill would produce net receipts totaling an estimated $190 million over the same period.

TABLE 1. ESTIMATED NET FEDERAL RECEIPTS FROM ROYALTIES AND HOLDING FEES (In millions of dollars by fiscal year)

	1994	1995	1996	1997	1998	1994-1998
			Preliminary CBO Estimates			
S. 257						
Royalties[a]	0	0	0	70	70	140
Holding Fees	0	10	10	85	85	190
President's Proposal						
Royalties[a]	0	28	54	106	105	292
Holding Fees[b]	57	57	57	57	57	285
			Administration Estimates			
President's Proposal						
Royalties[a]	0	63	131	277	277[c]	748
Holding Fees[b]	97	97	97	97	97	485

SOURCES: Congressional Budget Office; Office of Management and Budget.

NOTE: Estimates do not include additional collection and administrative costs that would result from these royalties and fees.

a. Royalty amounts shown represent the federal share of receipts after making required payments to states.

b. The President proposes to commit about $17 million annually of these holding fees to cover certain collection and administrative costs.

c. Pre-filed versions of this testimony incorrectly reported this value as 471.

We estimate that royalties in the President's proposal would increase federal receipts, net after payments to states, by $292 million through 1998. Over the same period, we estimate that the holding fees in the proposal would yield receipts of $285 million.

Assumptions Underlying the Estimates

As discussed earlier, estimating the effect of mining law reform is difficult principally because no comprehensive data exist on hardrock mining on public lands. The Department of the Interior (DOI) has been unable to provide an estimate of the value of production of hardrock minerals on public lands. Furthermore, the lack of data makes it hard to predict how many claimholders would choose to maintain their claims when faced with paying an annual rental or holding fee. Better data from the agencies responsible for overseeing activities on public lands would provide a more reliable basis for estimating budgetary effects and making policy judgments in this area.

Three key assumptions underlie our estimates. They involve the value of minerals extracted from public lands, the effect of royalties on

production and prices, and the response of claimholders to new holding or rental fees.

The Value of Minerals Extracted from Public Lands. CBO assumes that the current value of annual production from public lands totals about $1.2 billion. This estimate is based on a General Accounting Office (GAO) study that surveyed Western mining operations involving the production of eight minerals.[1] The study did not cover all mining operations or all minerals--which suggests the GAO figure may be conservative--but it did include copper and gold production, which accounts for a large percentage of the value of hardrock minerals produced on public lands.

Furthermore, the large number of patent applications recently filed and pending approval at the DOI (450 applications covering about 150,000 acres) suggests that a significant amount of current production on federal lands may move into private hands before S. 257 or the President's proposal could become law. If so, production of hardrock minerals ultimately subject to a royalty could be lower than many expect.

1. General Accounting Office, *Value of Hardrock Minerals Extracted from and Remaining on Federal Lands*, RCED-92-192 (August 1992).

How Royalties Would Affect Minerals Production and Prices. CBO estimates that an 8 percent royalty would result in a 5 percent drop in production in the short run from federal lands. This response is based in part on data reported in a University of Nevada study on average operating costs for gold mines and in part on an analysis of production and price data for other important hardrock minerals.[2] We further assume that mineral prices will remain generally stable between 1994 and 1998.

How Current Claimholders Would React to New Holding or Rental Fees. CBO assumes that in the short run about 60 percent of the existing claims of record would be relinquished when claimants are faced with paying an annual rental or holding fee. We believe that a significant number of claims are being held for speculative purposes and that many current claimholders are likely to drop marginal claims rather than pay to hold them. Some of these claims are likely to be located and staked again in later years.

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2. John Dobra and Paul Thomas, "The U.S. Gold Mining Industry 1992" (University of Nevada Reno, Makay School of Mines, Nevada Bureau of Mines and Geology, Special Publication 14, 1992).

Differences Between S. 257 and the President's Proposals

The estimated budgetary effects of the two proposals differ primarily because of differences in the royalty rate, the holding fees, and the effective dates of the provisions.

The royalty rate in S. 257 is 8 percent of gross income and would not become effective until fiscal year 1997. The President proposes a royalty rate of 12.5 percent that is phased in over three years beginning in 1995. CBO estimates that receipts from the President's proposal would exceed those from S. 257 by about $150 million over the five-year period for this reason.

The holding fee (or rental rate) in S. 257 would total $5 per acre for each of the first five years following location of a claim and would escalate in $5 increments every five years until it reached $25 per acre in the 21st year following location. Holders of new claims located after the bill's effective date (October 1, 1994) would begin paying the fee in fiscal year 1995. Existing claims would have three years to convert and would thus be subject to the rental fee provisions beginning in 1997.

The fee proposed in the President's budget is quite different. It would be an extension of the $100-per-claim holding fee that was imposed on all existing hardrock mining claims in the 1993 Interior appropriation bill (Public Law 102-381). The President would commit some of these funds--about $17 million annually--to cover the administrative costs of the mining program. Annual receipts from these fees in 1998 are estimated to be about $30 million lower than receipts from holding fees in S. 257.

Differences Between CBO and Administration
Estimates of the President's Proposals

CBO's estimates of the receipts generated by the royalty and holding fee proposals included in the President's budget are lower than those prepared by the Administration. The major sources of the differences in the estimated royalties are the following:

- The Office of Management and Budget (OMB) assumed that the current value of hardrock mining production on public lands totals about $3 billion annually. As explained above, CBO assumed an annual value of production of $1.2

billion. This difference is the principal reason why CBO's estimates are lower.

- OMB held production constant as royalties increased over time. CBO assumed that production would decline (about 8 percent for a 12.5 percent royalty) as royalties increase. This assumed decline also has the effect of lowering the estimate of receipts.

The major sources of differences in the estimated receipts from holding fees are the following:

- CBO assumes that more of the existing mining claims (up to 60 percent rather than 25 percent as estimated by the Administration) will be relinquished when claimants are faced with paying annual holding or rental fees.

- In its calculation of the number of mining claims that would be subject to annual fees, CBO accounts for the fact that some claims are administratively closed each year. This

assumption has the effect of further lowering the number of claims subject to the fee.

CONCLUSIONS

The proposed mining law reforms contained in S. 257 and the President's budget have a number of likely effects:

- o They generate receipts to the Treasury that can be used for deficit reduction or other purposes, although CBO's estimates of receipts yields are smaller than the Administration's;
- o They increase the efficiency and fairness of the way in which public resources are used; and
- o They provide modest support to environmental objectives.

At the same time, they lead to economic costs and disruption:

- They will cause some loss of profits and drop in production--although the magnitude of loss appears to be relatively moderate. We estimate that output would drop about 5 percent with an 8 percent royalty (and 8 percent with a 12.5 percent royalty).

- The displacement of employees will generally be modest overall, although the local effects may be significant. Such local effects, if they occur, could be partly or fully offset, depending on the manner in which receipts from royalties are shared with states and the amount of employment that might accompany the provisions on abandoned mines of S. 257.