

## House Subcommittee on Energy and Mineral Resources

### Legislative Hearing on H.R. 2262 -- Royalties and Abandoned Mine Reclamation October 2, 2007

#### Statement of James F. Cress

Mr. Chairman and members of the Subcommittee,

My name is Jim Cress, and I am testifying today as a mining lawyer in private practice on the subject of mining royalties. I am a partner at Holme Roberts & Owen, a 109-year old law firm that represented miners in Colorado in the late 1800's and today represents mining companies around the globe. I have specialized for nearly 20 years in U.S. and international mining law, as well as oil and gas and coal law. I have represented mining companies and landowners in negotiating royalties for gold, silver, copper, coal, uranium, oil and gas and other minerals, and have advised clients on royalty compliance for private, federal and state royalties and severance taxes. In my international practice, I have negotiated royalty and tax sharing agreements with governments from Asia to the Americas. I have taught in the Graduate Studies program in Natural Resources and Environmental law at the University of Denver Sturm College of Law, am a contributing author to the Rocky Mountain Mineral Law Foundation's American Law of Mining treatise, and am the former Chair of the Mineral Law Section of the Colorado Bar Association. Thank you for the opportunity to appear and speak on the important issue of hardrock mining royalties.

#### **The H.R. 2262 Royalty is a gross royalty, not a "net smelter return," and is not an appropriate measure of fair value for mining on federal lands.**

This hearing focuses on the royalty provisions of H.R. 2262. Section 102(a)(1) of H.R. 2262 provides for a royalty of 8 percent of the "net smelter return" from production from federal mining claims. The term "net smelter return" is defined in Section 102(i) as "gross income" as defined in Section 613(c)(1) of the Internal Revenue Code of 1986. This provision is used to define the depletion allowance under the tax code, and was not intended to capture a fair return for minerals mined from federal lands.

Let's call a spade a spade: the H.R. 2262 royalty is a gross royalty, not a net royalty. The use of the term "net smelter return" in the bill is actually misleading, because this royalty is not a "net smelter return" royalty as customarily used in the mining industry.

A customary "net smelter return" royalty in the mining industry permits the deduction of the costs of smelting (and sometimes costs of leaching and other non-smelting processing methods), refining, transportation from the mine to smelter, transportation from refinery to market, as well as deduction of taxes paid to the government and royalties paid to landowners. The deduction of post-mining costs such

as smelting and refining is, in fact, the hallmark of this type of royalty (thus the name “net smelter return”).

The term “gross income from mining” under Section 613(c)(1) of the Internal Revenue Code is designed to capture the gross value of the mineral after the mining processes end and non-mining processing begin, contrary to the industry definition of “net smelter return.” The intent of this provision of the tax code is to prevent mining companies from claiming a depletion allowance on the value added by the non-mining operations such as smelting and refining operations. Thus, the customary deductions for smelting, refining and other costs under an industry “net smelter return” royalty are actually prohibited under Section 613(c)(1). The result is essentially a gross royalty. A gross royalty is a blunt axe approach to royalty valuation that ignores the comparative value of the federal land base and the value added by subsequent beneficiation and processing of mineral products, and makes little sense in the context of hardrock mineral economics.

### **A gross royalty is not a fair measure of the value of hardrock minerals in federal lands**

Any royalty payment to the United States for hardrock minerals should be based on the value of the United States' ownership interest in the land. That interest is limited to the minerals in the ground, and it cannot justifiably be extended to require a royalty to be paid on values added to the minerals after mining, by the mining company processing, refining and selling the mineral products. The United States makes available land, and any minerals in the land for development, but the United States contributes nothing to the costs and effort of producing and processing the minerals.

Gross royalties are inconsistent with the principle of sustainable development. A gross royalty reduces the volume of an ore deposit that can be recovered. Each deposit of metallic minerals will have varying grades of mineral, generally requiring extensive concentration and refining to be marketable. The portion of the deposit with grades too low to be recovered economically is either removed as waste or left undisturbed in the ground. Adding costs such as royalties raises the “cutoff point” between recoverable ore and waste, shortening the life of a mine by causing what otherwise would be valuable minerals below the cutoff point to be lost. These lost reserves generally can never be recovered, because once the mine is reclaimed, it is uneconomic to recover them.

If mining costs can't be deducted, a mining company would have to pay the royalty regardless of how high those costs may be for difficult mining situations or for low grade ores. This would require a mining company to continue paying a royalty even when it is operating at a loss, and that royalty could even cause the loss. No mine can be operated long at a loss. The result would be that some mines would shut down prematurely, creating loss of jobs, federal state and local taxes not paid, and suppliers of goods and services suffer. The result is lost economic vitality affecting both those directly involved in the mining activity and the governmental entities, including the United States, that are sustained by those activities.

## **Hardrock minerals are different, and should be treated differently than coal and oil and gas**

Why should hardrock minerals not be subject to the 8 percent or greater royalty imposed on oil & gas and coal? The dramatically different characteristics of the minerals themselves and the ways in which they are explored for and developed justifies different treatment.

Oil and gas are fluid and usually collect in sedimentary basins. Exploration for oil and gas usually consists of seismic studies to detect the type of structures where oil and gas are found. These studies are conducted at relatively low cost and usually without the need to acquire more than an easement over the property to be explored. When a promising prospect is identified leases are acquired, a well is drilled and core samples, drill stem tests and logs are taken to determine whether the well is successful. The costs of drilling can sometimes be quite high, but a single well can also drain a large area because of the fluid characteristics of oil and gas. Development of a field is usually accomplished through the initial exploratory well and one or more development wells that are drilled in locations reasonably expected, as a result of the information gathered from seismic studies and the initial wells, to draw from the same reservoir. Once a prospect has proved successful, identification of the size and shape of the reservoir can be conducted with relatively low risk and expense.

After extraction, oil must be processed and refined before it is ultimately consumed as vehicle fuel or other product. The royalty on oil produced under federal leases is not based upon the value of these refined products, however; it is measured by the value of the crude oil at the lease or wellhead, prior to such processing and refining. Unlike many other minerals, there is a market for oil in its crude, unrefined state and therefore a ready value for royalty purposes before the value added by refining and processing. Most oil is sold at the wellhead into this crude oil market and that wellhead sales price establishes the value of the oil for federal royalty purposes. Thus, it is somewhat misleading to call the federal royalty on oil a “gross” royalty. Because the royalty is typically based on the value of the crude oil prior to processing and refining, the royalty is, in essence, “net” of those costs.

Similarly, federal royalty on gas is also based upon the value of the gas at the lease. After gas is extracted, often the only thing required for consumption by the ultimate end-user is transportation (the cost of which, if paid by the producer, is deducted before royalties are calculated). Sometimes further processing is required to remove sulfur and separate gasoline, butane and other constituents from the gas. The royalty, however, remains payable on the value of the gas at the lease or wellhead and the processing costs incurred by the producer downstream of the lease are deducted under the federal rules before calculating royalty, to arrive at essentially a “net” value at the lease.

Coal is a solid mineral of generally uniform quality and composition. In the West, where most federal deposits exist, coal beds often consist of vast deposits of great thickness, in Wyoming averaging 80 feet and up to 200 feet. Little exploration for coal is

required, and it is relatively easy to determine the quality of the coal and the thickness of a seam prior to mining. The western coal miner thus knows much about the characteristics of the mineral he has to sell prior to actual mining. At the same time, coal mining is an extremely labor and capital-intensive enterprise. Because of the need to construct facilities, obtain equipment, employ workers, and comply with substantial permitting requirements, it can take years to design, permit and construct a mine. For these reasons, coal from federal lands in the West has often been sold under fixed, long-term contracts entered into prior to construction of a mine. Based on the certainty of a market provided by these contracts, the coal miner can lease sufficient reserves to mine over the life of these long-term contracts and make the considerable capital investments required to construct the mine. Additionally, many long term coal contracts and state utility laws allow for the pass through of the royalty burden to the consumer, while no such pass-through is available for many hardrock minerals, which are sold and priced in global markets.

While the 12.5% royalty imposed on coal in 1976 was a considerable increase over the coal royalties typical at the time, the royalty did not take effect for many federal coal leases until they were readjusted, which occurred over a period of 20 years. In the meantime, the demand for low-sulfur western coal boomed due to the increasingly stringent requirements of the Clean Air Act, and transportation costs out of the Powder River Basin decreased, which permitted the large surface coal mines developed in Wyoming during this period to bear the increased royalty burden, which in any event was generally passed on to utilities (and consumers) under long term coal contracts. The higher-cost coal production in Colorado and North Dakota did not fare as well as Wyoming. Colorado's production initially plummeted, and North Dakota's fared little better, and only because North Dakota mines are associated with mine mouth power plants and because the state made efforts to prop up the industry by lowering taxes and discouraging import of coal from Wyoming. The higher BTU or heating value and low sulfur content of Colorado coal has allowed the market to rebound since that time, and to bear the 8% royalty applicable to Colorado's underground coal deposits (although some Colorado mines have operated under royalty reductions during economic downturns).

In addition, the federal coal royalty regulations permit the deduction of the most material costs, including coal washing where required, and transportation. Thus, the federal coal royalty is not a gross royalty in the strictest sense.

Oil and gas and coal are not the only leasable minerals on federal lands. Sodium, potash, and phosphate are also leasable minerals. These minerals are commonly occurring, low margin industrial and fertilizer minerals the economics of which cannot support a 12.5% or even an 8% royalty. The statutorily established base rate for phosphate is 5% and for sodium and potassium is 2%. That is because the nature of these commodities and the economics around their extracting and marketing differ from oil and gas and coal. In practice, these mines have operated under government-sanctioned reduced royalties during periods when economic conditions and foreign competition threatened to close the mines.

These examples demonstrate clearly why prevailing royalties differ from mineral to mineral. Specific analyses can be made for many other types of minerals. It is clear, however, that application of a gross royalty at a rate of 8% to hardrock minerals simply because that is what is done with coal and oil and gas would be dangerously naive.

Hardrock minerals are, by comparison, scarce and hard to find. Unlike oil and gas and coal, the size and geometry of a hard rock ore deposit, the quality of the ore, the mineral composition, the value of the mineral products, the metallurgical processes required, the mining methods, the commodity prices and the capital costs all vary for each operation. Commercial ore bodies may be found under as little as a few acres of land. Exploration is conducted through exploratory drilling which gives initial clues regarding the deposit, followed by many expensive development drill holes to define a deposit for development. Once a prospect is identified, development commences at considerable cost, with the capital and labor intensiveness of large coal mines, but without the geologic or metallurgical certainty of coal mines nor the economic certainty and incentive of long-term coal sales contracts, which are not customary for most hard rock minerals. The prices of hard rock minerals have historically been subject to great fluctuation. Because hardrock deposits were often concentrated by ancient subsurface magma flows which have been altered by subsequent faulting, the concentration of metals varies considerably over relatively small distances, unlike the relatively constant quality of western coal deposits. As a result, portions of a hardrock deposit may be economic while other portions may contain near- or sub-economic ore that is extremely sensitive to the addition of royalty and other burdens. The combination of price volatility and the variations in the concentration and the chemical and geological characteristics of the minerals within an ore body can turn a profitable mine into valueless rock with a sudden downturn in the market.

Hard rock minerals, therefore, require considerably different approaches to exploration and extraction than do oil and gas and coal. Oil and gas and coal are relatively plentiful, and occur over relatively large areas where found. Hardrock minerals are scarce and occur in small concentrations, and must be discovered by expending considerable money pursuing elusive prospecting clues. The period between exploration and extraction for hard minerals is much more lengthy than with oil and gas or coal, and since hard minerals prices are not stable, the risk of the project becoming uneconomic before production begins is substantial. These factors are some of the reasons that hard rock mining transactions and agreements are considerably different from each other and from those dealing with oil and gas and coal. These factors also weigh in favor of a royalty reduction provision in the bill, so that site-specific determinations can be made to reduce costs and achieve the maximum economic recovery from federal mineral deposits.

While individual royalties for specific commodities would theoretically be the best approach, such a system might be too difficult to administer. The most reasonable approach given the large number of commodities to be covered would be a uniform net royalty that permits deduction of mining and processing costs. The Nevada net proceeds tax provides a model that has been tested in practice, and you should consider a similar approach for federal lands.

**If mining companies use net smelter returns in private negotiations, why shouldn't the government follow that approach if it imposes a royalty?**

A negotiated royalty between private parties is not analogous to the federal government's imposition of a royalty on millions of acres of unexplored federal lands. Private royalties are negotiated on a case by case basis for each property. Usually, the royalty negotiated depends on what information is known about the property at the time of the negotiation. The less that is known, the lower the royalty.

An 8% gross royalty for lands not proven to contain a mineral deposit is virtually unheard of. I am aware of only one royalty of this magnitude in 20 years of practice. In that case, there was a known ore body containing millions of ounces of gold on the property when the royalty was negotiated and the owner conveyed the mineral rights to the surrounding area (measuring roughly 25 miles by 15 miles), free from any royalty. Clearly, this is not the typical case on unexplored federal land.

Any particular private royalty is not the proper benchmark for setting the federal royalty for tens of millions of acres of federal lands. The purpose of the federal royalty is to encourage exploration and discovery on lands which are not yet proven to contain mineral deposits.

In privately-negotiated royalties, there are almost as many royalty rates and calculations as there are minerals. Each is dependent upon the nature of the product that is produced and sold, customs and practices in the industry, the strength of the market for the particular mineral, the mining cost/processing cost ratio, and many other factors. Use of a net royalty for the federal royalty avoids the need for extensive, mineral-specific legislation. All mines measure net revenues, or profits, and bear determinable operating costs. Therefore, a reasonable percentage net proceeds royalty can be applied and achieve a reasonable return for the use of federal lands, without disproportionate impacts on any particular mineral industry.

In my experience, other countries are paying considerable attention to the appropriate royalty and tax burden to encourage mineral exploration and development. The United States has relatively low grade deposits of many hardrock minerals, relatively high labor costs, and stringent environmental and operating requirements. These must also be balanced in determining whether a royalty is necessary on federal lands. The United States should not impose a royalty without careful consideration of the economic and competitive impacts.

**British Columbia's failed experiment with a "net smelter returns" royalty is instructive.**

In 1974, British Columbia enacted the Mineral Royalties Act, which imposed royalties on mines located on Crown Lands and the Mineral Land Tax Act and subjected owners of private mineral rights to royalties equivalent to those applied to Crown Lands. The government imposed a net smelter royalty of at 2.5% in 1974, and 5% thereafter.

The results were devastating for British Columbia mineral development. During the period the royalty was in effect, no new mines were developed, several marginal mines ceased operations, and non-fuel mineral output fell, despite increased prices. As a result, revenue collected from royalties on metal mines declined from \$28.4 million in 1974 to \$15 million in 1975. During the two year period the royalties were in effect, nearly 6,000 mining-related jobs were lost. In 1972, \$38 million Canadian was spent on exploration expenditures. In 1975, exploration expenditures fell to \$15.3 million Canadian (a 60% decline) while exploration expenditures in the Pacific Northwest -- outside British Columbia --increased. New mine exploration and development spending (excluding coal) decreased from an annual average of \$131 million in the years 1970-1973 to an estimated \$20 million in 1975 (an 85% decline). In 1972, 78,901 new claims were staked. In 1975 the number of new claims staked fell to 11,791 (an 85% decline).

The royalty was repealed in 1976. After the royalty was repealed, BC Mine Minister Tom Waterland said that “[t]he Government’s decision to introduce royalties in 1974 was the result of inadequate understanding of the realities of mineral resource development and the economic characteristic of that development..”

I thank the Subcommittee for the opportunity to address this important public lands issue, and I am happy to answer any questions you may have.