

MINING TAXES IN TEN WESTERN STATES

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Introduction and Discussion of Data

The mining (oil, gas, precious metals, construction material, industrial metals, and coal) production and taxes explicitly related to mining in 10 states – Alaska, Arizona, Colorado, Montana, Nevada, New Mexico, North Dakota, South Dakota, Utah and Wyoming was reviewed utilizing publically available data on the internet.¹ While there are several omissions due to an inability to access state data on-line, the information on special taxes on mine production or income including state based ad valorem (property) taxes is generally complete. The amount of ad valorem (property) taxes collected by counties which are often based on the value of minerals sold by the mining property are not provided by most state revenue departments and so are not included in these tables with the notable exception of Wyoming. Most states in the region subject mining companies to sale and use taxes (except Alaska and Montana) and corporate income taxes (except Nevada, South Dakota and Wyoming) but that information is not broken out separately for Mining Companies in general reports from state revenue departments and therefore was not available for this report. However, as will be discussed later, such taxes are not related to the actual “severance” of minerals from the land but are general business taxes and serve a very different purpose in state fiscal policy.

Framework for Evaluating Tax Schemes for Commodity Industries

There are five principles economists use to create a sound fiscal system that can be applied to commodity industries. Any fiscal (e.g. tax) approach should:

- (1) be *fair* in assessing tax burden on companies and *efficient* in minimizing the impact (or not having an unreasonable impact) on important production and investment decisions;
- (2) be *responsive* to growth in the industry;
- (3) generate *stable and consistent* revenues, at least as a percentage of the value of the products;
- (4) be *transparent and accountable* to reduce error and instill public confidence; and
- (5) generate *sufficient* revenue to compensate the state for any operational impacts and to allow the state to have sufficient revenue in reserve when the commodity is completely removed. The last principle is the basis of Sovereign Wealth Funds created by a number of oil producing countries with the excess revenue generated from oil leases and oil sales.

“Responsive to Growth” and “Stable and Consistent Revenues”?

In a sound tax system, tax revenues would provide a consistent percentage of the value of the mining production and would be designed to reflect increases and decreases in the price of mineral products. However, this appears to only work for oil and gas production (and in some states, coal production) while taxes on metal mining are far lower and more inconsistent. The following tables compare taxes and the value of oil/gas production and metal production between 2005 and 2006. The tax and production data clearly show the effect of basing tax receipts, wholly or in part, on the gross value of production which yields greater and more predictable revenues. More complete data for each state are included in Appendix A.

	Oil/Gas 2005	Oil/Gas 2006	% change
AK	12.50%	12.50%	0.0%
AZ	0.50%	0.43%	-14.0%
CO	1.44%	2.29%	59.0%
MT	5.07%	8.47%	67.1%
NV	4.87%	1.09%	-77.6%
NM(2006/2005)	4.98%	11.33%	127.5%
ND	4.59%	5.93%	29.2%
SD	1.43%	2.07%	44.8%
UT	1.81%	2.52%	39.2%
WY (State only)	12.03%	12.20%	1.4%
Average All States	4.92%	5.88%	19.5%

	Metals 2005	Metals 2006	% change
AK	1.73%	3.08%	78.0%
AZ	1.15%	0.86%	-25.2%
CO	0.07%	0.13%	90.2%
MT	2.50%	2.68%	7.2%
NV	1.12%	1.00%	-10.7%
NM(2006/2005)	0.28%	0.53%	89.3%
ND	NA	NA	NA
SD	3.79%	3.85%	1.6%
UT	0.32%	0.36%	12.5%
WY (State only)	NA	NA	NA
Average All States	1.37%	1.56%	14.0%

	Oil/Gas	Oil/Gas	% change	Metals	Metals	% change
	2005	2006		2005	2006	
AK*	\$ 16,735	\$ 17,235	3.0%	\$ 275	\$ 466	69.5%
AZ	\$ 6	\$ 7	28.1%	\$ 2,640	\$ 5,080	92.4%
CO	\$ 9,331	\$ 8,585	-8.0%	\$ 1,212	\$ 1,169	-3.5%
MT	\$ 3,306	\$ 3,090	-6.5%	\$ 497	\$ 708	42.5%
NV	\$ 19	\$ 22	11.9%	\$ 3,261	\$ 4,194	28.6%
NM	\$ 24,598	\$ 14,263	-42.0%	\$ 582	\$ 812	39.5%
ND	\$ 2,605	\$ 2,803	7.6%	NA	NA	NA
SD	\$ 228	\$ 153	-32.9%	\$ 29	\$ 40	37.9%
UT	\$ 3,155	\$ 3,055	-3.2%	\$ 2,302	\$ 3,285	42.7%
WY (State only)	\$ 12,287	\$ 11,323	-7.8%	NA	NA	NA
Average All States	\$ 72,270	\$ 60,536	-5.0%	\$ 10,798	\$ 15,754	35.0%

While tax revenues from both oil/gas and metals increased, the increase in tax revenue from metal mining increased far less than the increase in gross value of the commodities mined. The tax levels on metal mining are relatively quite low and thus the small percentage increase does not provide a significant boost in long term revenue. Oil/gas tax revenue, which is generally production based, increased despite a significant decrease in the price of natural gas between 2005 and 2006 which was partially offset by a moderate increase in the price of oil. If you go through each state, it is clear that the percentage recouped is low for metal mining, but that in a number of states, the percentage recouped in metal mining has either declined over all or part of the period of FY 2004 to FY2006. In some cases, such as AZ, the tax system creates the appearance of stable revenue by creating a subset of the actual value of the minerals called the “Net Taxable Sales” which is taxed consistently. However, the taxes received compared to the actual value of the minerals has declined by 25% between 2005 and 2006.

“Sufficient Revenues”: Short-Term Vs Long-Term Needs

The tax structures outside of Alaska (for oil and gas) and Wyoming (for coal), produce relatively modest levels of revenue from mining and oil and gas production and are primarily designed to meet short term fiscal needs. The following tables show the value of mineral production in all the states in this study and the state tax revenue from mining specific taxes. Several states, Alaska, Montana, Utah, Colorado, New Mexico, North Dakota and Wyoming have a provision that allows revenue from mining taxes or royalties to be allocated to special funds for education

or other purposes. These separate funds potentially create a buffer to address the short term impact of fluctuations in commodity prices which will affect state revenue. The states do not have either the natural resources or the tax structures in place to address both immediate needs and to provide some significant cushion. Other than Alaska with its oil and gas taxes and fees, no state in the region gets sufficient “excess” revenue to create a large enough special fund which could address long term needs especially in planning for a future when the mineral resources are depleted or are too expensive to mine, or even when production declines significantly from current levels.

Table 4: Total State Mineral Severance/Production Tax Revenue (2006) (Millions \$)

	Oil/Gas	Coal/Metals/Minerals	Total
AK	\$ 2,154.5	\$ 84.7	\$2,239.2
AZ	\$ 8.0	\$ 43.5	\$ 51.5
CO	\$ 196.7	\$ 10.1	\$ 206.8
MT	\$ 261.7	\$ 76.1	\$ 337.8
NV	\$ 0.2	\$ 44.3	\$ 44.5
NM(2005)	\$ 391.0	\$ 4.1	\$ 395.1
ND	\$ 166.1	\$ 39.8	\$ 205.9
SD	\$ 3.2	\$ 1.5	\$ 4.7
UT	\$ 77.1	\$ 17.0	94.1
WY (State only)	\$ 666.4	\$ 216.0	882.4
Total All States	\$ 3,924.9	\$ 537.1	\$4,462.0

Table 5: Value of Major Mineral Groups (2006) (millions \$)

State	oil/gas	coal	metals	minerals	Total
AK	\$ 17,235	\$ 50	\$ 2,653	\$ 50	\$19,988
AZ	\$ 7	\$ 208	\$ 5,080	\$ 1,637	\$ 6,932
CO	\$ 8,582	\$ 974	\$ 1,169	\$ 593	\$11,318
MT	\$ 3,090	\$ 234	\$ 708	\$ 5	\$ 4,037
NV	\$ 22	\$ -	\$ 4,194	\$ 592	\$ 4,808
NM	\$ 14,263	\$ 718	\$ 811	\$ 640	\$16,432
ND	\$ 2,802	\$ 258	\$ -	\$ 56	\$ 3,116
SD	\$ 153	\$ -	\$ 40	\$ -	\$ 193
UT	\$ 3,056	\$ 603	\$ 3,285	\$ 811	\$ 7,755
WY	\$ 11,303	\$ 2,886	\$ 17	\$ 380	\$14,586
Total all States	\$ 60,513	\$ 5,931	\$ 17,957	\$ 4,764	\$89,165

Other than the Constitutional Budget Reserve Fund in Alaska, no state sets aside significant funds for long term needs or other purposes. The absence of significant revenue means that states in the region cannot accumulate enough funds to address environmental clean-

up issues or, as the Norwegian and Saudi government acknowledge, the inevitable production declines. Due to high commodity prices, most states have reported increased levels of mineral exploration which may lead to either new production of certain metals with high prices or it may make low grade ores economically recoverable. In the short run, high prices mask production declines, as can be seen with Alaska oil but ultimately production will decrease. In addition, low tax rates will limit the positive economic impact of future production, as will new technology which will reduce the employment levels so that the immediate and local impact of new mines on the economy will decrease over time. For example, in December 2007, Freeport-McMoRan announced that the Climax Mine (Molybdenum) in Leadville, CO is going to be reopened in a couple of years. It was closed in 1987 and laid off thousands of miners. When it reopens it is expected to have a regular workforce of 350 miners. The remaining ore reserves are estimated to be 500 million pounds of molybdenum, contained in ore at an average grade of 0.165%. Production is expected to be 30 million pounds per year, starting in 2010. That means there will be 10 – 20 years of production before it closes again. When it closes the next time, there is no mechanism to replace those jobs or economic resources.

Approaches To Taxing Metals Mining

Table 6 summarizes the basis for special mining taxes for oil, gas, coal, metals and minerals. All the states that produce coal, oil or gas base their taxes on gross value or contract sales price. NV is the sole exception which taxes everything based on net proceeds which subtracts from the sale price the value of the actual costs for the direct production of minerals. For mining other than coal, oil and gas the states have a hodgepodge of approaches. These range from a fee per ton to various percentages of the sale price to a straight percentage of the gross value. To be fair, metals mining is different than oil, gas or coal in that the product for sale does not exist until it leaves the smelter or other processing operation. Oil or gas is pumped out of the ground (e.g., severed) and put into the pipeline and shipped. Coal is severed and put in rail cars and shipped. Molybdenum, Copper or Gold ore is severed from the ground in rocks containing just a few percent or even a few tenths of a percent metal. To be fair, a tax system, such as the “Net Smelter Royalty”, should recognize the differences in hard rock mining vs. oil/gas but some of the difference in tax structure in these states appears hard to explain on

purely economic grounds. For example, NM recoups 11.33% of the value of the oil/gas severed from NM land but only 0.53% of the value of the metals severed.

Table 6: Basis of Taxes on Mining in Effect in 2006 (the most recent year with production and tax information available)

State	Commodity	Basis of Tax
AK ²	Coal	\$4000 + 7% over \$100,000.
	Oil and Gas	12.25% - 15% of production value.
	Metals	\$4000 + 7% over \$100,000; 3% Royalty.
	All	Corporate Income Tax.
AZ	Coal	3.125% of total gross proceeds of sale.
	Metals	Net Severance base: 50% of (gross value minus production costs).
	non-metals, oil / gas	3.125% of total gross proceeds of sale.
CO	Oil and Gas	\$10,750 + 5% of gross income over \$300,000.
	Coal	54 cents/ton with 1.2 million tons/yr exempted.
	Molybdenum	5 cents/ton at gross value with 2.5 million tons/year exempted.
	Metallic Minerals	2.25% of gross income over \$19 million. Can use county <i>ad valorem</i> taxes to offset 50% of severance tax liability.
MT	Coal	Severance 10-15% of "contract sales price" (e.g. sale price minus production taxes).
	Oil/Gas	5-15% Royalty based on total gross value of oil or gas.
	Metals	Metal License: 1.6%-1.81% of gross value [gross value = sale price minus transport, treatment and refinery costs.] Gross Proceeds (<i>ad valorem</i>): Base is 3% of Annual Gross Proceeds.
	Misc Mines	Net Proceeds (<i>ad valorem</i>): Base is 100% of "Net Proceeds".
	RIGWAT	4% gross value of Talc; 0.4% of coal; 1% of garnets; 10% of quicklime; 2% of vermiculite and 0.5% of other.
	Cement	22 cents/ton produced.
	Gypsum	5 cents/ton produced.
NV	All	5% of Net Proceeds (above \$4 million). Note: "Net proceeds" is calculated by subtracting from the proceeds of sale the actual costs for direct production of minerals including labor, supplies, transportation, processing, etc
NM	Oil and Gas	Ad Valorem Production Tax: Property value equals 150% of the value of products sold from each production unit. Severance Tax: 3.75% of taxable value (TV=sales price). Conservation Tax: 0.19% of taxable value (TV=sales price). Emergency School Tax: 3.15% of taxable value (TV=sales price).
	Coal	Surface: \$0.60/ton (1994 base). Underground: \$0.58/ton (1994 base).
	Copper	Ad valorem: Base equals 30% of the value of copper sold in previous year. Severance: 0.5% of Total Value. Note: Total Value = 2/3 times the sale price.
	Potash	Severance: 2.5% Total Value. Note: Total Value = 1/3 times the sale price
	Pumice, sand, gypsum, gravel, clay and other non-metallic minerals	Severance: 0.125% Total Value.
	Lead, zinc, thorium, molybdenum, manganese, rare earth and other metals	Severance: 0.125% Total Value. Note: Total Value = 50% sale price (accounts for hoisting, loading, crushing and processing).
	Gold and Silver	Severance: 2% Total Value; Total Value = 50% of gold sale price and 80% of silver sale price.

ND	Oil	Production Tax: 5% of gross value. Extraction Tax: 6.5% of gross value (can be 4% for certain types of wells).
	Gas	Production (2006-7): \$0.1640/thousand cubic feet.
	Coal	Severance Tax: 37.5 cents per ton. Lignite Research Fund: 2 cents per ton. Conversion Tax (Electrical Generating Plants - capacity): 0.65 mill times. 60% of installed capacity times the hrs in period. Conversion Tax (Electrical Generating Plants - production): .25 mill per kwh of electricity produced for sale. Conversion Tax (gasification): 13.5 cents/thousand cubic feet. Conversion Tax (other than gasification): 4.1% of gross receipts.
SD	Energy Minerals	4.5% of taxable (gross) value.
	Precious Metals	\$4/oz of gross production +10% of net income and 8% of royalties other than owned by any government
UT	Oil	Severance: 3% for first \$13/bbl; 5% above \$13/bbl. Conservation Fee: 0.20%.
	Gas	Severance: 3% up to \$1.50/thousand cubic feet; 5% over \$1.50/thousand cubic feet. Conservation Fee: 0.20%.
	Beryllium	2.60% of Taxable Value. Note: "Taxable Value" = 125% of Direct Mining Costs.
	Mining (except Beryllium)	Severance: 2.60% of Taxable Value. Note: "Taxable Value" = 30% of gross proceeds.
WY		<i>Ad Valorem</i> tax varies by county from 5.93% to 7.36%
	Oil (bbls)	Severance tax (based on taxable value of production): 6%.
	Gas 1000 cubic feet)	Severance tax (based on taxable value of production): 6%
	Coal	Severance tax (based on taxable value of production): Surface = 7%; Underground = 3.75%; Leonardite/Lignite = 2%.
	Other	4% of taxable value of production (= gross value).

¹ Idaho is not included because production and tax revenue data were not accessible on line in any sufficient detail.

² In 2007 Alaska changed its oil and gas tax rate, this table shows what was in effect for 2006.