



THE ECONOMIC CONTRIBUTION OF MONTANA'S HARD ROCK MINING INDUSTRY

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Table of Contents

Introduction	1
About This Study	2
About the BBER.....	3
Organization of this Report	3
Montana’s Hard Rock Mining Industry.....	4
The REMI Model	8
The Economic Contribution of Montana’s Hard Rock Mining Industry.....	11
Impacts Summary	11
Employment Impacts.....	12
Personal Income Impacts.....	13
Output Impacts.....	15
State Revenue Impacts.....	16
Population Impacts.....	16
Summary.....	17
Summary and Conclusions	18
References	19
Appendix: Montana Taxes and Fees Assessed on the Mining Industry	20
Metalliferous Mines License Tax	22
Micaceous Mines License Tax.....	23
Resource Indemnity and Ground Water Assessment Tax.....	23
Bentonite Production Tax.....	23
Cement and Gypsum Tax.....	23
Property Tax – Micaceous Mines Net Proceeds Tax	24
Property Tax – Metal Mines Gross Proceeds Tax.....	24
Property Tax – Other Property Classes Excluding Class 1 & 2	24
Corporation Income Tax.....	25
State-Owned Land Fees.....	25
State Owned Land Royalty.....	25

Introduction

To say that the minerals, metals, fuels and compounds that come out of the ground are what make the economy run and modern life possible is not an overstatement. From the complexity of miniaturized microchips to the simplicity of a concrete foundation, mining products are ubiquitous across the spectrum of products we consume and produce. Yet the physical distances between the mines where these raw materials are produced and the urban areas where most people live obscure this connection for many. Thus the mining industry, in Montana and elsewhere, has always faced challenges in securing political support for its continued operations as well as planned expansions.

This report does not wade in to the political debate over the Montana mining industry's current and future activities, except to offer evidence on one aspect of the mining industry's presence in our state – the contribution of hard rock mining activity here to the size, scope, and prosperity of the Montana economy. Based on operational information on jobs, wages, production, vendor purchases, tax payments and other economic flows provided to the University of Montana Bureau of Business and Economic Research (BBER) by Montana hard rock mining companies, we performed a detailed economic analysis of how mining activities in Montana support jobs, spending and income across the entire state.

This report focuses on Montana hard rock mining industry, whose products are non-fuel metals, mineral deposits and ores extracted from underground and surface mines. The products include gold, palladium, copper, molybdenum, talc, lime and cement. The findings of this report are based on the subset of all hard-rock mining companies that provided operating data for the analysis.

Our basic finding is that the economic contributions of Montana's hard rock miners to the areas in which they operate, as well as the state of Montana as a whole, are substantial. Specifically, we find that the operations of the industry in our state in the year 2021 ultimately supported:

- 18,472 permanent, year-round jobs across a wide spectrum of industries and occupations, many with no direct connection to the industry;
- more than \$1.3 billion in annual, recurring income receive by Montana households, of which \$1.1 billion is after-tax income available for spending the in the local economy;
- an additional \$427.9 million in annual tax and nontax revenues to state government, representing the payments of mines as well as the increased size of the overall economy, and;
- more than \$7.3 billion in additional annual gross receipts (economic output) to business and nonbusiness organizations across the economy.

Table 1 The Economic Contributions of Montana's Hard Rock Mining Industry: Summary

Category	Impact	
Total Employment	18,472	<i>Jobs</i>
Personal Income	1,360.0	<i>\$ Millions</i>
Disposable Personal Income	1,164.2	<i>\$ Millions</i>
Output	7,352.2	<i>\$ Millions</i>
State Tax and Non-tax Revenues	427.9	<i>\$ Millions</i>
Population	25,962	<i>People</i>

Source: BBER Analysis.

All of these impacts include the jobs, income and output of the mines themselves, as well as the economic activity that comes about as the wages, vendor spending, and tax payments are re-spent in the economy. Three factors influence the scale and scope of these impacts.

The first is the highly mechanized, capital-intensive nature of the mining industry. This translates into very high productivity for each mining worker, which supports wages and total compensation rates that are much higher than the state average.

A second reason is the significant tax payments made by natural resource industries in general, and hard rock mining in particular, that support state government spending.

The third factor contributing to the sizable economic contributions summarized above is the high value-added nature of mining production. The primary input to mining – the ore and rock buried underground – is a made-in-Montana product of relatively little value. Through mining and refining it is transformed into metal and other commodities that command significantly more value.

About This Study

This examination of the economic contributions of Montana’s hard rock mining industry was performed by the University of Montana Bureau of Business and Economic Research (BBER). The report was sponsored by the Montana Mining Association (MMA), which also assisted with gathering the operating data. All conclusions, omissions, or errors in this report are solely the responsibility of BBER.

The results presented in this study address the research question: What would the Montana economy look like if hard rock mining did not exist? This is a purely hypothetical question – no shutdowns or closures are contemplated or examined. The scenario is created to illustrate and quantify all of the connections between mining operations and the state economy.

Since the spending of Montana’s hard rock mining industry received by local workers, vendors, customers, and governments is re-spent within the state and its communities, the economic activity that mining production ultimately supports is larger than the activities of

the mines themselves. Thus, an economy without hard rock mining is smaller by more than just the direct activity of the industry itself. As we describe in this report, we use an economic model to trace and quantify the interactions between mining production and the rest of the economy to arrive at an estimate of this total economic contribution.

About the BBER

The Bureau of Business and Economic Research (BBER) is Montana's preeminent business research organization. Founded in 1948 as the research arm of the University of Montana's College of Business, the Bureau's mission statement states:

"The purpose of the Bureau is to serve the general public, as well as people in business, labor, and government, by providing an understanding of the environment in which Montanans live and work."

BBER has become one of the most sought-after sources of information and analysis on the Montana economy. The Bureau has published the Montana Business Quarterly, an award-winning business periodical, since 1962 and has conducted the Montana Economic Outlook Seminars, a half-day program on the economic outlook presented in 9 cities statewide, annually since 1976.

Organization of this Report

This report details how the operations of Montana's hard rock mining industry interact with the overall economy to grow the economic pie we all share. To assess this economic contribution, it is useful to consider what how the economy would change if the industry were not present. This hypothetical, no-hard rock mining economy would not have the jobs, income and spending of the mines themselves, which means that other jobs and income streams that are supported by that spending would not be present as well. The size and scope of this hypothetical economy can be estimated with the use of an economic model designed and calibrated for this specific use. A comparison of this smaller economy with the actual economy yields an estimate of the industry's economic contribution.

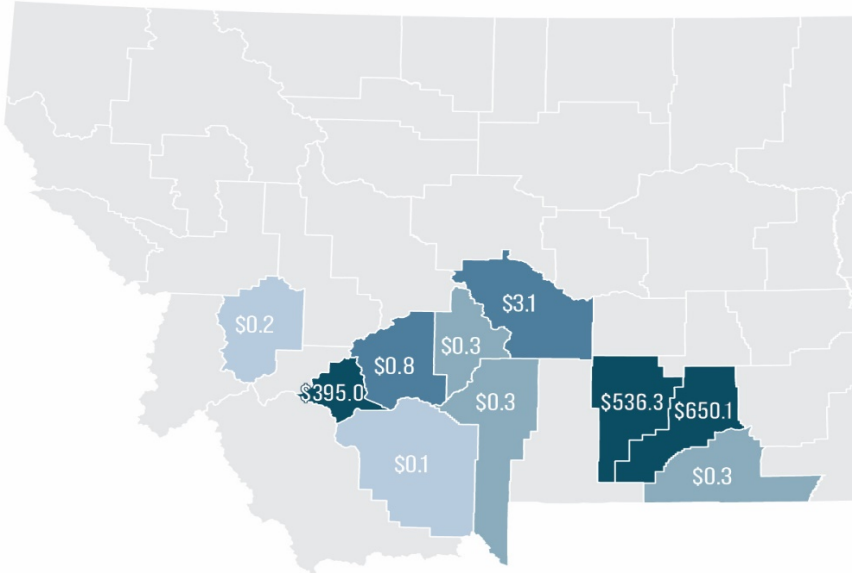
The remainder of this report is organized as follows: After describing the hard rock mining industry's footprint in Montana, we briefly describe the economic model used to trace the interactions between economic flows created by mining activity and the broader economy. This is followed by a presentation of the findings of the study.

Montana's Hard Rock Mining Industry

Like a lot of western states, mining exploration and discoveries figure prominently in the early political history of Montana. Shortly after the discovery of gold in the 1860s, the territory of Montana was founded in 1864. The booms and busts of mining, both because of price fluctuations as well as due to exhaustion of easily harvested resources, led to the growth and declines of the communities whose economic foundation was built on mining activity.

The number of active mines in Montana today is a tiny fraction of what existed during the early boom days. As measured by the market value of production that forms the basis for the state's Metal Mine Gross Proceeds Tax, production takes place in 10 of the state's 56 counties in 2022, as shown in Figure 1. Just three counties – Silver Bow, Stillwater and Sweet Grass – accounted for all but 0.3% of total state production.

Figure 1 Metal Mines Market Value by County, 2022

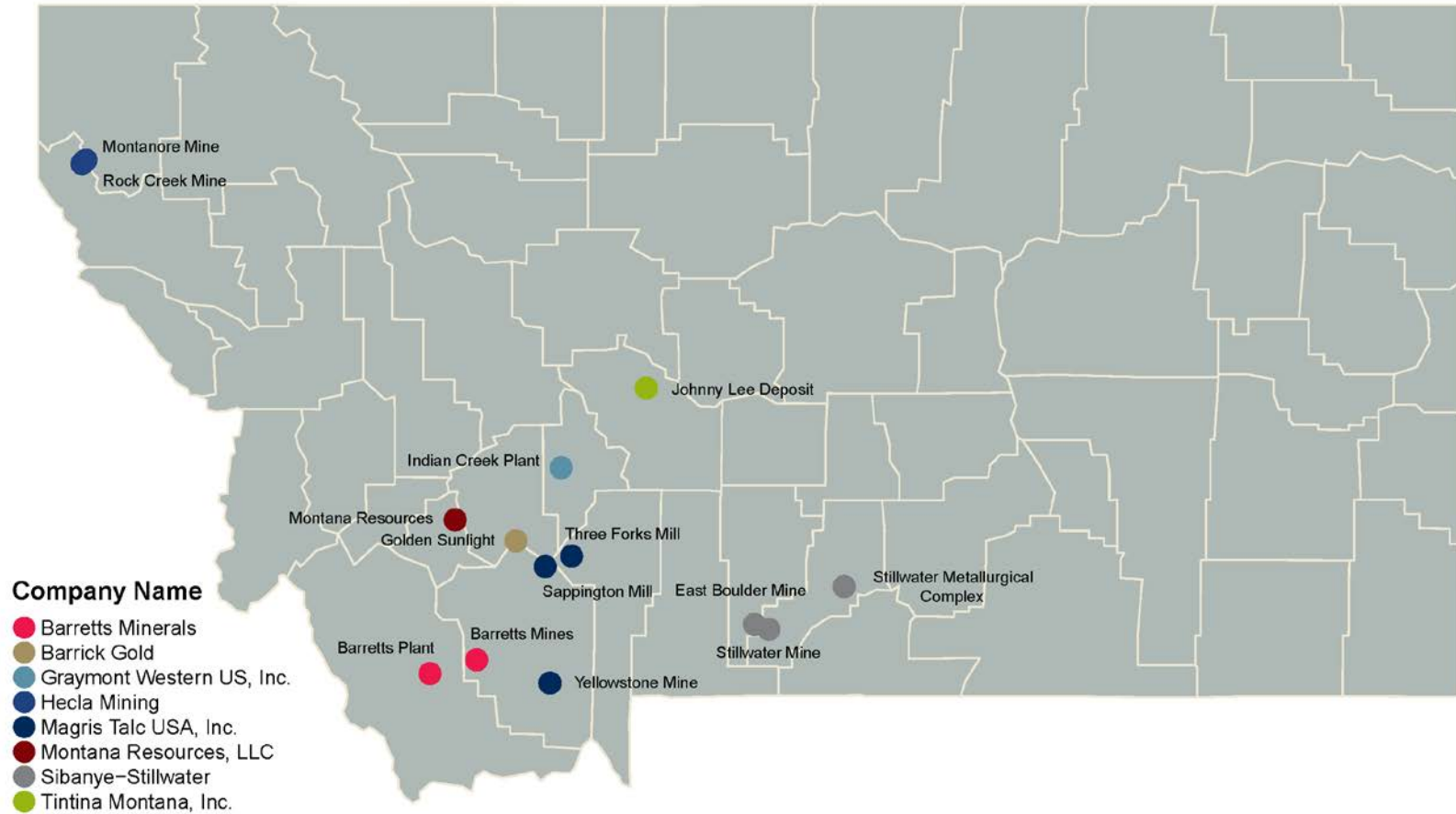


Source: Montana Dept. of Revenue, Statewide Accounting, Budgeting & Human Resource System (SABHRS)

While fewer in number, hard rock mines in Montana remain important nationally. In 2021 Montana's mines ranked 13th in terms of the total value of mineral production in the United States extracting a variety of minerals, including copper, gold, talc, and palladium (U.S. Geological Survey, 2022).

The results presented in this report are based on an analysis of mining operations that submitted the necessary operating information to BBER. The locations of each operation are shown in Figure 2. Note that not all of the operations included in the analysis have commenced production. Additionally, refining and recycling activity carried out by companies within Montana are included in this analysis as well.

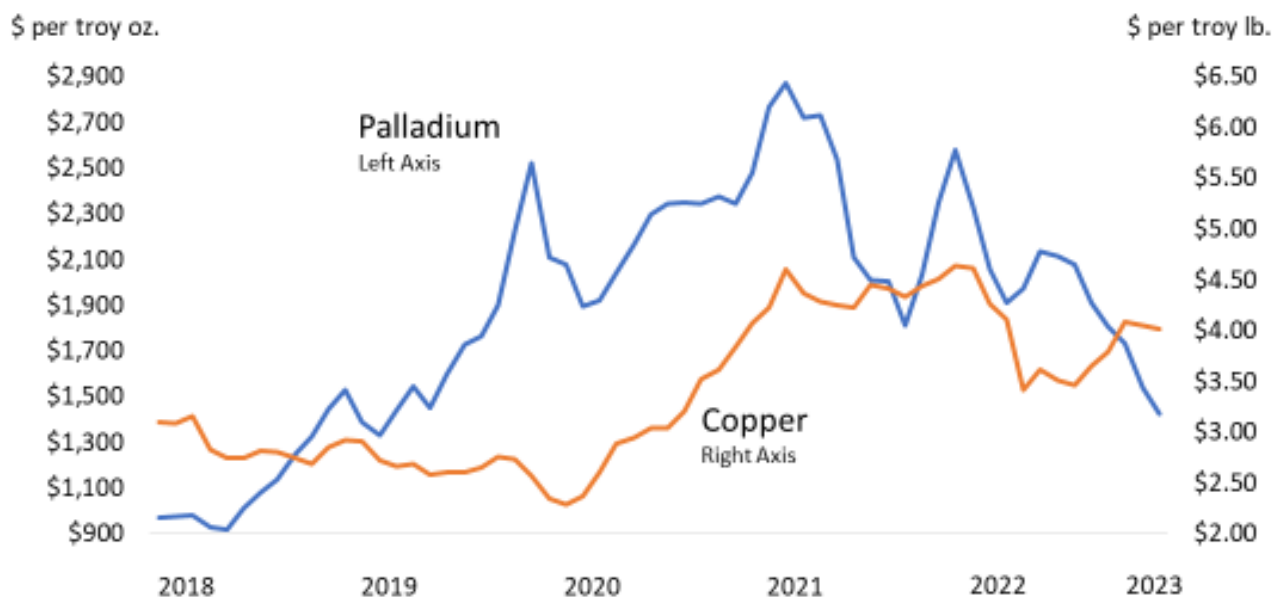
Figure 2 Montana Hard Rock Mining Operations



In the base year used in this analysis, Montana’s hard rock mining operations employed 2,646 people and had produced minerals and other outputs with market value of almost \$1.6 billion. Production of two metals – copper and palladium – make up the lion’s share of Montana mining output. Because mining products are commodities sold in the global market place, their value can fluctuate substantially with swings in prices.

The cooling of the global appetite for copper and palladium that began in 2022 is apparent from the behavior of the prices of those two commodities as shown in Figure 3. The invasion of Ukraine by Russia in the beginning of last year largely ended a vigorous runup in palladium prices that peaked at almost \$2,900 per troy ounce, nearly three times as high as prices that prevailed five years earlier.

Figure 3 Palladium and Copper Prices, August 2018 to March 2023



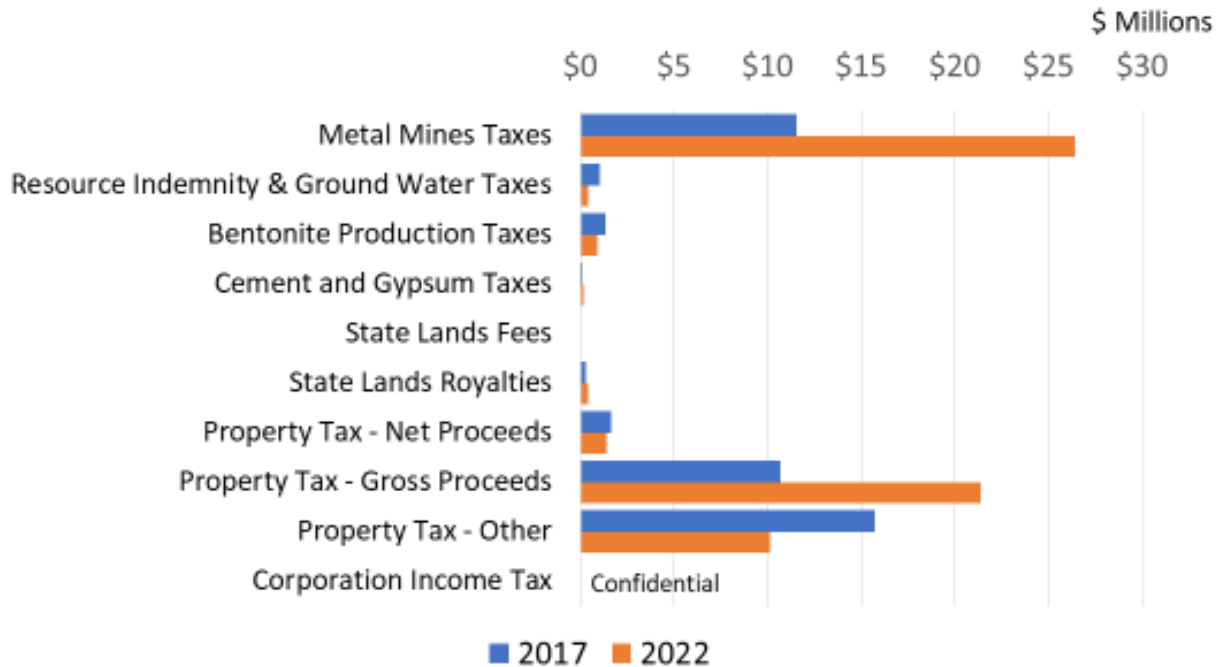
Source: International Monetary Fund- Primary Commodity Price System

The special tax treatment in Montana of mining in general, and of hard rock mining in particular, results in an outsized tax contribution of the industry compared to other kinds of businesses. As we detail in the appendix, some taxes levied on mining production are based on value and others are based on volume, or other bases. Also, some taxes are remitted to the counties where the mines operate, while others are remitted to the state.

It is apparent which of the ten different categories of taxes and fees paid by the hard rock mining industry in Montana are based on the value of production from the data on collections shown in Figure 4. The Metalliferous Mines License Tax, known as the Metal Mines Tax, produced \$26.4 million in revenue to the state in fiscal year 2022, more than double the revenue from five years earlier. Revenues from both the Metal Mines Tax and the Gross Proceeds Tax, which has also more than doubled, are based on the value of production.

The total of the 10 different taxes shown in Figure 4 for 2022 amounts to \$61.2 million, a 44.3% increase from the collections from fiscal year 2017. It is important to note that the tenth tax in the list shown in Figure 4, the Corporation Income Tax, is not publicly available and thus cannot be included in this description or in the analysis.

Figure 4 Taxes and Fees Paid by Montana Mining Industry, FY 2017 and FY 2022



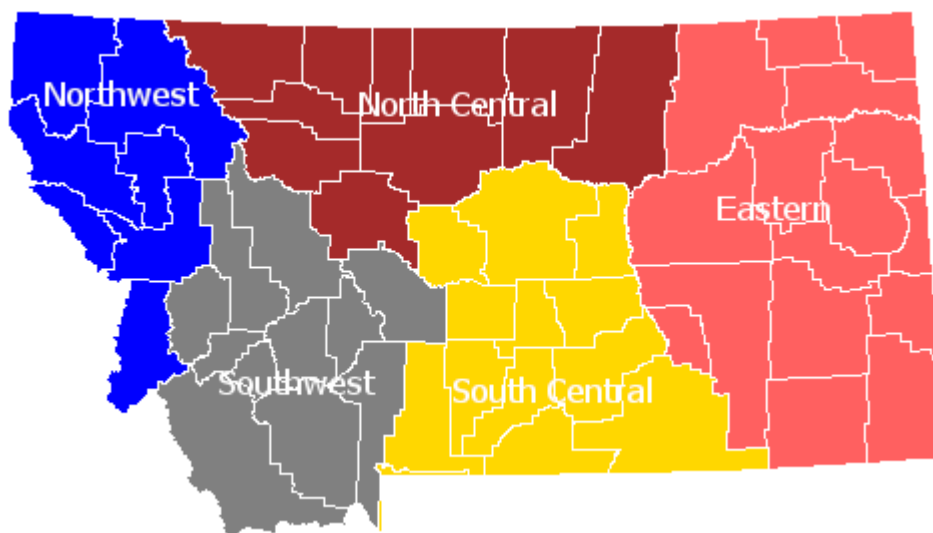
The REMI Model

Economic impacts occur because of events or activities that create new expenditures. Spending which is new – which is over and above existing expenditures and does not simply displace spending elsewhere in the region – not only adds to economic activity in its own right, but it also induces further spending as the recipients of wages, sales, and tax revenues spend a portion of their income in the local economy. Changes in the path of investment, migration, and prices and wages are possible as well.

The basic tool used in this study to assess the economic contributions of Montana’s hard rock mining industry is an economic model, calibrated to represent the interactions in the Montana economy. The model is leased from Regional Economic Models, Inc (REMI). The REMI model is one of the best known and most respected analytical tools in the policy analysis arena and has been used in more than 100 previous studies as well as dozens of peer-reviewed articles in scholarly journals. It is a state-of-the-art econometric forecasting model that incorporates dynamic feedbacks between economic and demographic variables. The REMI model forecasts employment, income, expenditures, and populations for counties and regions based on a model containing more than 100 stochastic and dynamic relationships as well as a number of identities. A full explanation of the design and operation of the model can be found in Treyz (Treyz, 1993, 2013)

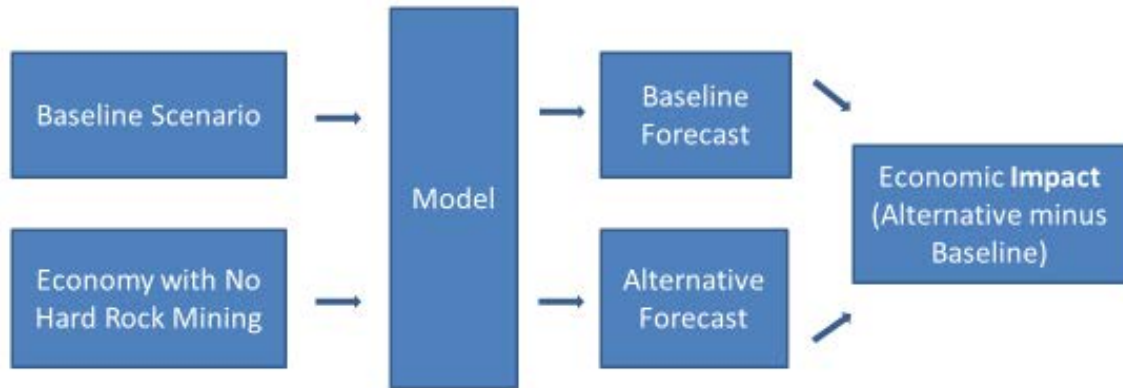
The model used in this study disaggregated the state economy into five regions: Northwest, Southwest, North Central, South Central, and Eastern. It explicitly recognizes trade flows that exist between these regions, as well as between the regions and the rest of the world. Statewide impacts reported here represent the totals for the five regions. The definition of the regions is shown in Figure 5 below.

Figure 5 REMI Economic Regions



Source: BBER.

Figure 6 Policy Analysis With the REMI Model



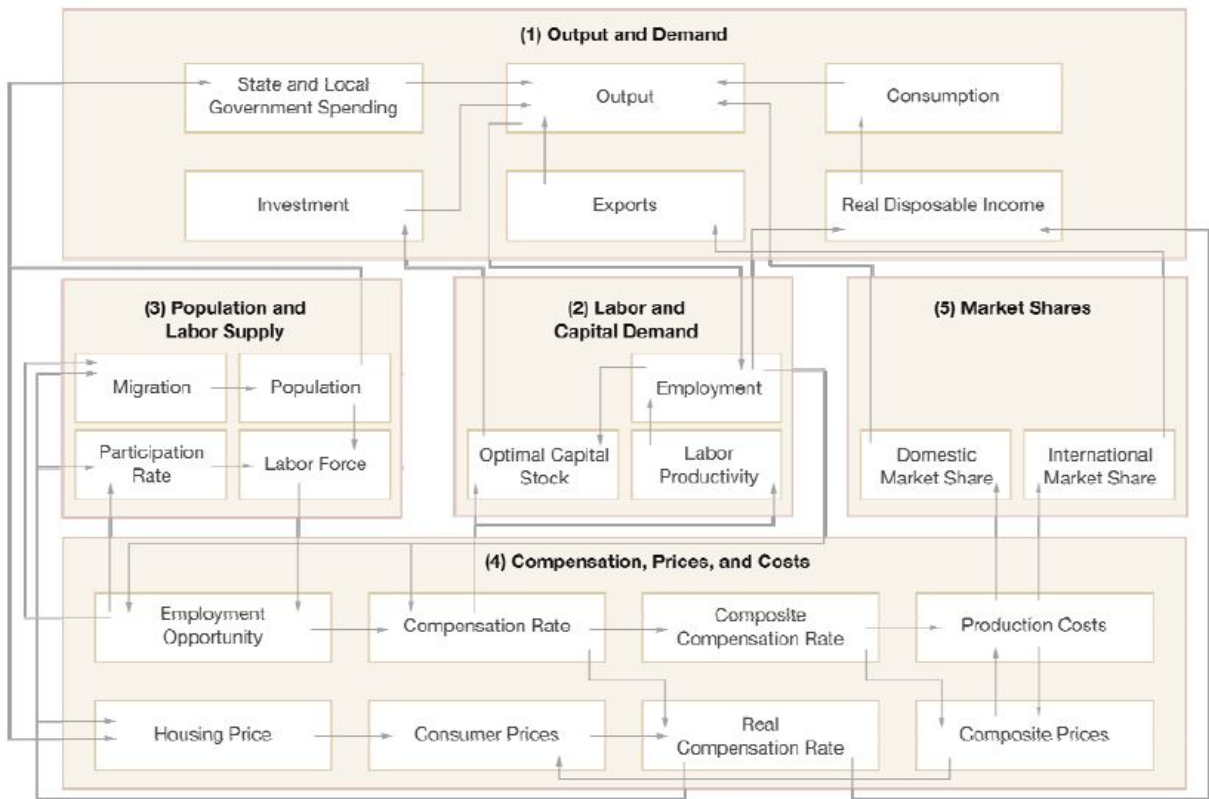
Source: Regional Economic Models, Inc.

The use of the model to derive the results of this study is illustrated graphically in Figure 6. First, a baseline projection for the economy is made using status quo assumptions that includes the mining industry. The model is then used a second time, with identical inputs – except that this alternative scenario excludes the production, employment, wages, vendor spending, and tax payments associated with the hard rock mining industry. These changes ultimately bring the economy to a new, lower level of activity, reflecting not only the direct impacts of mining, but how the households, businesses and governments react when no longer receiving this spending as income. The difference between the baseline and alternative scenarios of the economy represents the economic contribution of hard rock mining in Montana.

The model utilizes historical data on production, prices, trade flows, migration, and technological change to calibrate the relationship between five basic blocks of the regional economy as depicted in Figure 7: output, labor and capital demand, population and labor force, wages and prices, and market shares. The changes in production, labor demand and intermediate demand caused by the jobs, wages, vendor spending, and production of hard rock mines cause these blocks of the economy to react and adjust to a new equilibrium. As described above, the difference between the baseline and the alternate scenario is the total impact of Montana’s hard rock mining industry.

The creation of the hypothetical, no-hard rock mining scenario required detailed data on spending and operations. With the assistance of the Montana Mining Association, data were obtained from seven of the state's operating mining operations and two proposed mines that have not yet begun production. This operating data forms the basis for the analysis. Thus, all data used in this study reflects actual, recorded spending. No projections or estimates were made to produce these results.

Figure 7 Schematic Model of REMI Linkages



Source: Regional Economic Models, Inc.

The Economic Contribution of Montana’s Hard Rock Mining Industry

The hard rock mining industry in Montana is a collection of businesses that employ workers, pay vendors for goods and services, and make tax payments to governments, all to produce and sell metals and other mining products to customers across the globe. Our objective in this study is to conceptualize and measure how that activity makes the Montana economy larger and more prosperous. As we have described, our approach is to consider the economic flows associated with mining production, and how the removal of those flows would ultimately impact the level of economic activity in the state.

This approach, as we describe in this section, demonstrates that the presence of mining in the state supports a significant amount of economic activity, both in terms of the jobs and spending of the industry itself, as well as the additional jobs across the economy that exist because of the other industries that receive the spending of mines as income.

Yet this approach does not consider the value of the products that Montana’s metal mines produce – the ores, metals and minerals that form the basis for the products and technologies that power the modern economy. It is a stretch to say that a Montana economy with no hard rock metal mines would have no copper, palladium, talc, cement or zinc, certainly. But a national economy that has less access to the secure resources of critical materials from Montana mines is one that is exposed to greater risk and higher costs.

Impacts Summary

Our basic finding in this report is that the presence of the hard rock mining industry in Montana leads to an economy that is significantly larger, more prosperous, and more populous. Because of hard rock mines in Montana, there are almost 18,500 more jobs, \$1.3 billion more in annual income received by Montana households, and \$7.3 billion more in gross revenue received by business and non-business organizations throughout the state. Because an economy with mining is larger, there is more tax and non-tax revenue received by state government, amounting to \$427.9 million per year. And the increased economic opportunity that exists in an economy that includes hard rock metal mines attracts and retains almost 26,000 additional people in our state.

Table 2 Impacts Summary

Category	Impact	
Total Employment	18,472	<i>Jobs</i>
Personal Income	1,360.0	<i>\$ Millions</i>
Disposable Personal Income	1,164.2	<i>\$ Millions</i>
Output	7,352.2	<i>\$ Millions</i>
State Tax and Non-tax Revenues	427.9	<i>\$ Millions</i>
Population	25,962	<i>People</i>

Source: BBER Analysis.

These impacts are well in excess of the jobs and spending of the industry itself. They come about as the substantial spending of the mines on wages, vendor payments, and taxes are received and re-spent in the economy.

It is useful to explore these aggregate impacts in greater detail, to gain further insight on how the operations of Montana’s metal mines produce such substantial benefits in other parts of the economy.

Employment Impacts

The 18,472 net new jobs that exist in the Montana economy today because of the operations of Montana’s hard rock metal mines are found in a wide spectrum of industries, as shown in Table 3. The size of the employment impacts in industries other than mining itself makes clear how important the connections are between the mining industry and the rest of the economy.

The largest employment impact is in the construction industry, owing both to the significant business connections between mining and construction, as well as the increase in building of structures and roads that comes about from the higher levels of income and population. Other industries, such as health care and retail trade, see higher job totals as they expand to accommodate the demand that is supported by the new spending. Government employment gains reflect the larger tax base in an economy that includes hard rock mining, as well as the increase in local government demand – especially for public schools – that comes about because of the increase in population.

Table 3 Employment Impacts by Industry

Industry	Jobs
Construction	3,169
Mining	3,033
Government	2,425
Retail trade	1,642
Accommodation and food services	1,389
Professional, scientific, and technical services	1,256
Health care and social assistance	1,092
Real estate	797
Other services, except public administration	731
Administrative and waste services	679
Other	2,260
Total	18,472

Source: BBER Analysis.

Figure 8 Employment Impacts by Region



Source: BBER Analysis.

With the bulk of mining production occurring in the south-west and south-central portions of the state, it is not surprising that most of the job impacts from hard rock mining are found in those regions as well. However, the substantial trade flows that occur within the state result in the creation of more than 700 jobs outside those two regions, as shown in Figure 8.

Personal Income Impacts

The larger economy that results from the operations of hard rock mining in our state shows up in the income received by Montana households, or personal income. Most of these income gains are due to employment. Since the jobs that exist in the state economy because of the presence of the hard rock mining industry are permanent, year-round jobs, the increased income due to mining is an annual, permanent increase in the flow of dollars to households.

Before accounting for taxes and other adjustments, the presence of mining in the state results in an increase in earnings of \$1.251 billion for each year of operations. This total is the sum of the increases in wages and salaries (\$940.6 million), the cash value of benefits (\$225.6 million) and owner/proprietor income (\$84.8 million). But it is also clear from the detail on personal income shown in Table 4 that the larger economy that comes about because of the presence of hard rock mining operations also produces modest increases in

property income as well. This is consistent with more wealth, population, and capital accumulation in the state because of mining.

Table 4 Personal Income Impacts, Millions of Dollars

Category	Impact
Total Earnings by Place of Work	1,251.1
Total Wages and Salaries	940.6
Supplements to Wages and Salaries	225.6
Employer contributions for employee pension and insurance funds	139.7
Employer contributions for government social insurance	85.9
Proprietors' income with inventory valuation and capital consumption adjustments	85.0
Less: Contributions for Government Social Insurance	178.3
Employee and Self-Employed Contributions for Government Social Insurance	92.4
Employer contributions for government social insurance	85.9
Plus: Adjustment for Residence	-8.5
Gross Inflow	11.7
Gross Outflow	20.3
Equals: Net Earnings by Place of Residence	1,064.3
Plus: Property Income	166.2
Personal Dividend Income	52.5
Personal Interest Income	83.6
Rental Income of Persons	30.0
Plus: Personal Current Transfer Receipts	129.5
Equals: Personal Income	1,360.0
Less: Personal current taxes	195.7
Equals: Disposable personal income	1,164.2

Source: BBER Analysis.

The income impacts also fuel higher spending and expansions in industries unrelated to mining. As shown in Table 4, the impact on disposable, after-tax income of hard rock metal mines in Montana amounts to more than \$1.1 billion per year.

The size of the income impacts are accentuated by the high-paying nature of mining jobs. The 18,472 additional jobs in the economy because of the mining industry includes those the mining jobs themselves, as well as a large number of jobs across the entire pay spectrum – from retail trade to professional services. Taken together, the average annual

earnings of these new jobs is \$67,730, considerably higher than the average annual earnings of \$51,332 for all jobs in the state economy.

Output Impacts

For purposes of this study, economic output is defined as gross receipts for all but two industries – retail and wholesale trade – where markup is used instead. Considering the impact of mining on economic output gives a different perspective on what the presence of the industry within the state means to the economy overall.

The distribution of output impacts by industry shown in Table 5 is much more tilted towards the mining industry itself than was the case with employment impacts. Of the nearly \$7.4 billion in annual gross revenue received by business and non-business organizations here because of mining, almost 70% is realized by mining companies themselves.

Nonetheless, the impacts on seemingly unrelated industries are substantial. Health care providers, for example, see more than \$156 million worth of sales of their goods and services each year because of hard rock metal mining. These impacts come about because of spending by mining employees as well as the spending of other individuals, businesses, and governments who receive income because of the industry’s presence.

Table 5 Output Impacts by Industry, Millions of Dollars

Industry	Output
Mining	5,091.3
Construction	431.8
Government	290.0
Real estate	249.9
Professional, scientific, and technical services	191.6
Wholesale trade	184.6
Retail trade	179.2
Health care and social assistance	156.4
Manufacturing	103.2
Accommodation and food services	101.0
Other	373.5
Total	7,352.2

Source: BBER Analysis.

State Revenue Impacts

The increased size of a Montana economy that includes the hard rock mining industry also produces a larger base for government revenue of all kinds. This is especially so because of the special tax treatment of the mining industry.

Compared to an economy where the activities of the hard rock mining industry are not present, we estimate that annual tax and non-tax revenues to state government are higher by \$427.9 million because of mining. As can be seen from the detailed breakdown of this total revenue impact shown in Table 6, many of these revenues are earmarked for specific uses. Many are not tax revenues but represent, for example, revenue from the federal government, or contributions to dedicated trust funds for servicing retirement obligations and other commitments.

Table 6 State Revenue Impacts, Millions of Dollars

Category	Impact
Intergovernmental Revenue	93.4
Selective Sales Tax	43.9
License Taxes	10.7
Individual Income Tax	54.9
Corporate Income Tax	21.2
Other Taxes	14.3
Current Charges	19.5
Miscellaneous General Revenue	16.4
Utility Revenue	1.6
Liquor Store Revenue	3.8
Insurance Trust Revenue	148.3
TOTAL	427.9

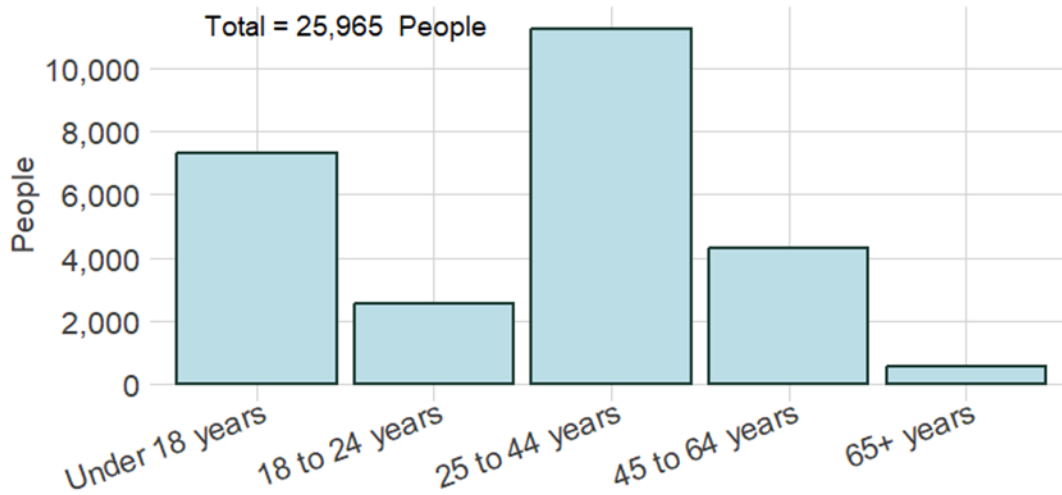
Source: BBER Analysis.

While we do not provide an estimate of impacts on Montana general fund revenues in this report, we note that some of the revenue categories shown in Table 6 are directed in their entirety for this purpose – e.g., the \$54.9 million in additional individual income tax collections and the \$21.2 million in additional corporate income tax collections that come about because of the presence of the mining industry in our state.

Population Impacts

An economy that contains the hard rock metal mining industry is an economy with more economic opportunity. This, in turn, enables the state to attract workers from elsewhere, as well as retain Montana residents who would otherwise leave to seek better opportunities.

Figure 9 Population Impacts by Age



Source: BBER Analysis.

The nearly 26,000 additional people who live in Montana because of the hard rock mining industry are dominated by working-aged people and their children, as shown in Figure 9. These additional people build homes, attend churches and schools, and use public services. The location of many mines in nonurban areas makes this addition to local school-aged populations of special importance, especially for areas that have struggled to retain workers and families.

Summary

This analysis has presented a picture of the difference between two economies: the actual economy, which includes the hard rock mining industry, and a second, hypothetical economy where the income, production, jobs, and spending associated with the industry are removed. The difference between these two represents the economic contribution of the hard rock mining industry in Montana.

The results demonstrate the significant footprint of the industry in the Montana economy. Based on actual operating data obtained from companies in the industry, we find that almost 18,500 jobs, \$1.4 million in personal income, and \$7.3 billion in economic output exists in the economy today because of the operations of Montana's hard rock mines.

Summary and Conclusions

The hard rock mining industry in Montana remains a potent economic driver in communities across the state. Our analysis reveals its significant economic importance by comparing the actual economy to how a hypothetical, no-mining, economy would perform. Based on the economic flows stemming from mining jobs, production, wages, vendor purchases and tax payments, we conclude that hard rock metal mining in Montana is ultimately responsible for:

- 18,472 permanent, year-round jobs across a wide spectrum of industries and occupations;
- almost \$1.4 billion in annual income received by Montana households, of which about \$1.2 billion is after-tax income, available for spending;
- more than \$7.3 billion in annual gross receipts received by Montana business and non-business organizations;
- \$427.9 million in additional tax and non-tax revenues received by state government each year, and
- nearly 26,000 additional people in Montana, including a substantial number of school-aged children.

The analysis did not take into account the value of the products that hard rock mining makes feasible, which range from high-tech products that utilize copper and palladium, to ubiquitous goods like drywall and concrete. While more difficult to quantify, it is clear that the economic contributions of mining extend beyond those included in this report.

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Appendix: Montana Taxes and Fees Assessed on the Mining Industry

The State of Montana assesses a variety of taxes and fees on mining companies doing business in Montana. Although most of the revenue is remitted to state government to provide a variety of services, a portion of some taxes assessed are remitted to local governments – public schools, cities and towns, and counties.

Figure A1 is a summarization of all tax and fee revenue received over the fiscal years 2014-2022 by tax and fee type. It should be noted that other property tax data (excluding net and gross proceeds) for fiscal 2014 through fiscal 2016 are unavailable. Also, because of statutory requirements of confidentiality, corporation income tax receipts cannot be disclosed by the Department of Revenue. Figure A1 shows the corporate income tax category to designate that companies may also pay it.

Figure A1

Summary of Taxes and Fees Paid by Mining Industry									
By Tax Type and Fiscal Year									
Tax Type	Fiscal 2014	Fiscal 2015	Fiscal 2016	Fiscal 2017	Fiscal 2018	Fiscal 2019	Fiscal 2020	Fiscal 2021	Fiscal 2022
Metal Mines Taxes	12,697,854	15,418,746	6,728,015	11,533,258	13,235,127	15,403,889	19,035,928	27,258,404	26,433,752
Resource Indemnity & Ground Water Taxes **	476,069	1,409,962	541,855	1,038,073	628,387	649,748	207,490	388,732	412,437
Bentonite Production Taxes	530,368	1,142,243	1,411,997	1,313,949	1,257,426	872,756	937,504	417,365	908,876
Cement & Gypsum Taxes	138,174	152,463	142,452	136,339	209,451	144,057	134,493	154,070	145,300
State Lands Fees	18,852	83,347	27,076	18,598	22,145	7,309	16,407	25,547	25,737
State Lands Royalties	948,323	504,555	251,163	291,048	553,265	382,965	375,333	294,786	427,864
Property Tax - Net Proceeds	1,397,619	1,570,642	1,624,098	1,673,314	1,663,481	1,927,908	2,170,218	1,723,118	1,394,789
Property Tax - Gross Proceeds	16,813,903	14,451,824	14,686,751	10,704,462	10,540,788	13,047,340	15,241,166	17,577,780	21,386,283
Property Tax - Other	Unavailable	Unavailable	Unavailable	15,704,277	16,676,867	9,154,696	9,868,726	10,619,323	10,102,564
Corporation Income Tax	Confidential	Confidential	Confidential	Confidential	Confidential	Confidential	Confidential	Confidential	Confidential
Total All Tax Types	\$33,021,162	\$34,733,781	\$25,413,407	\$42,413,317	\$44,786,937	\$41,590,667	\$47,987,265	\$58,459,125	\$61,237,602

** Estimated based on using two data sources

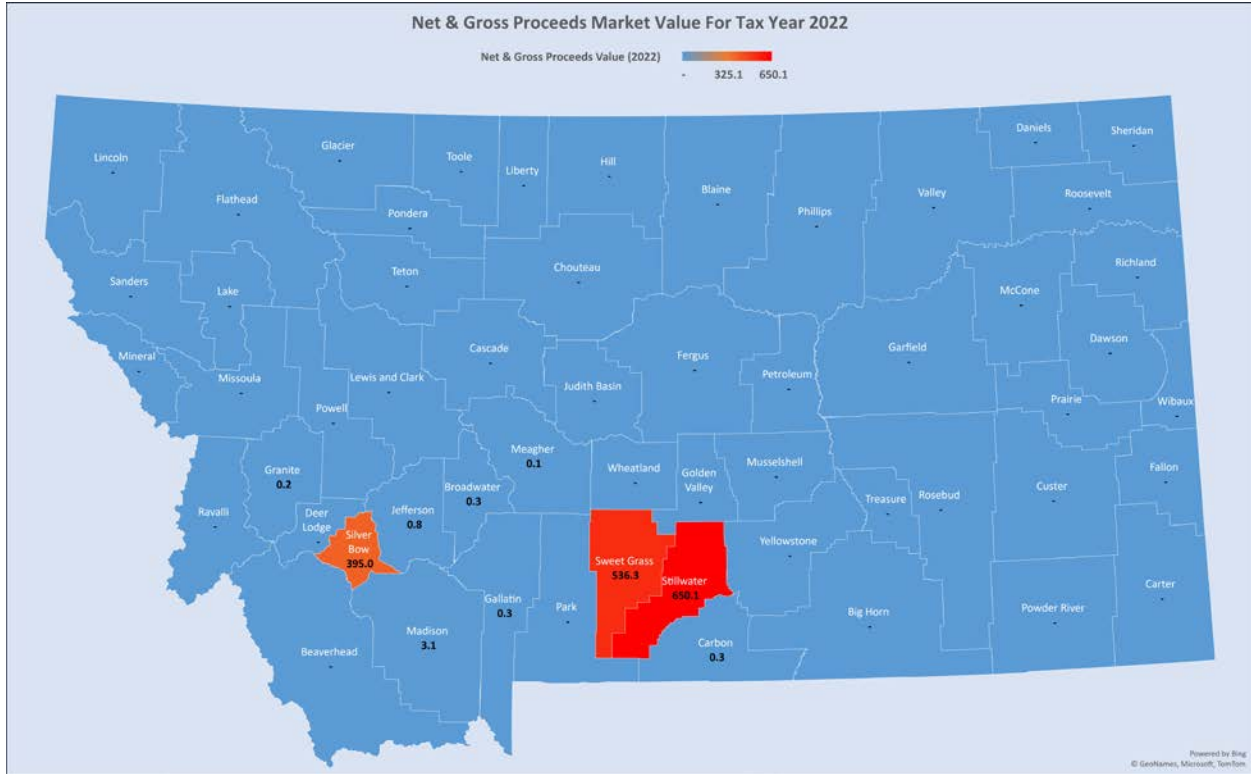
Sources: Montana Department of Revenue; Statewide Accounting, Budgeting, & Human Resource System (SABHRS)

State tax policy on the mining industry is somewhat inconsistent. While some taxes are based on the value and volume of the commodity extracted, other taxes and fees are based only on the volume produced. Property taxes are the most complicated of all the taxes assessed. This is because net and gross proceeds property taxes are assessed on the value and volume of the commodity extracted with each taxing jurisdiction (state, public schools, cities and towns, and counties) assessing different mill levies to the taxable value of the commodities to determine the tax owed. In addition to these property taxes, there are other property taxes assessed on property owned by the mining business. Usually these types of properties include land holdings, commercial property, pollution control equipment, and business equipment. All of these are subject to property taxes based on the values as determined by the Department of Revenue with the mill levies applied by the taxing jurisdictions to determine taxes due.

As shown in Figure A1, total revenues collected in fiscal 2021 and 2022 were \$58.5 million and \$61.2 million, respectively. These revenue collections can fluctuate from year to year because the underlying value of the commodities are dependent on both national and world economic conditions.

Figure A2 shows the concentration of the mining industry in Montana. This map shows the total net and gross proceeds market values by county. As shown in the map, the mining industry operates in the southwest portion of the state.

Figure A2



The remainder of this appendix summarizes each tax and fee type assessed on mining businesses. Statutory reference is provided plus a brief description of each tax and fee type, applicable rates, due dates, distribution of the revenue, and the amounts received in fiscal 2022.

Montana Department of Revenue

1. Metalliferous Mines License Tax
2. Micaceous Mines Tax
3. Resource Indemnity and Ground Water Assessment Tax
4. Bentonite Production Tax
5. Cement and Gypsum Tax
6. Property Tax
 - a. Micaceous Mines Net Proceeds Tax – Class 1
 - b. Metal Mines Gross Proceeds Tax – Class 2
 - c. Other Property Tax – Excludes Class 1 & 2
7. Corporation Income Tax

Montana Department of Natural Resources & Conversation

8. Fee
 - a. Metalliferous Lease Fee
 - b. Mineral Land Use License Fes
 - c. Gravel Permit Fes
 - d. Saltwater Disposal Fees
9. Royalty
 - a. Sand & Gravel Royalty
 - b. Metalliferous Royalty

Metalliferous Mines License Tax

Statute: Title 15, Chapter 15, Part 1

Reference

Montana assesses a metal mines tax on each person or business engaged in operating any mining property where gold, silver, copper, lead, or any other metal is extracted or produced. The tax rate is based on the gross value of the commodity. The first \$250,000 in value is exempt from taxation each year. Concentrate is taxed at 1.81 % of gross value and dore, bullion, or matte shipped to a refinery is taxed at 1.60 %. Shipping, refinery costs, and numerous other productions costs are allowable deductions before the tax rate is applied. Value is determined by the monetary payment the mining company receives from the metal trader, smelter, roaster, or refinery.

Tax payments are due twice a year – March 31st and August 15th. Tax proceeds are deposited to the state general fund as well as other state funds. A portion of the tax is remitted to counties where the production activity occurred. Total revenues received in fiscal 2022 was \$26.4 million.

Micaceous Mines License Tax

Statute: Title 15, Chapter 15, Part 2

Reference

Montana assesses a micaceous or non-hard rock mines tax on each person or business engaged in operating any mining property that produces vermiculite, perlite, kernite, maconite, or any other micaceous mineral. The tax rate is \$0.05 per ton of concentrate extracted or produced. Tax payments are due quarterly and are deposited to the general fund. There has been no micaceous mines tax collected since fiscal 1990.

Resource Indemnity and Ground Water Assessment Tax

Statute: Title 15, Chapter 38, Part 1

Reference

Montana assesses a resource indemnity and ground water assessment tax. Hard rock mining production is exempt from the tax but micaceous minerals including talc and garnets are subject to the tax. The tax rate varies by product produced but is based on the value of the commodity with varying amounts exempt from taxation. Taxes are due annually and are distributed to a number of state funds. None of the tax is deposited in the state general fund. Total revenues received in fiscal 2022 was \$0.4 million.

Bentonite Production Tax

Statute: Title 15, Chapter 39, Part 1

Reference

Montana assesses a bentonite production tax. Prior to tax year 2005, bentonite was taxed under the property net proceeds tax. The tax rate is based on tons produced with rates based on five increments of production. Higher production amounts are taxed at a lesser rate. The rates are also adjusted annually for inflation. In addition to the production tax, a 15 % royalty tax is assessed on all royalties paid to the royalty owner. Revenues are deposited to the general fund, higher education, and counties where the production occurred. Total revenues received in fiscal 2022 was \$0.9 million.

Cement and Gypsum Tax

Statute: Title 15, Chapter 59, Part 1

Reference

Montana assesses a cement and gypsum license tax on producers and importers of cement and cement products. The tax rate is \$0.22 per ton. Gypsum and gypsum products produced or imported are taxed at \$0.05 per ton. Prior to 1997, retailers were required to pay these taxes also. The 1997 legislature repealed the tax on retailers. The taxes are due quarterly and distributed to the state general fund. Total revenues received in fiscal 2022 was \$0.2 million.

Property Tax – Micaceous Mines Net Proceeds Tax

Statute: Title 15, Chapter 23, Part 5

Reference

Montana assesses a net proceeds property tax on mines except for bentonite and hard rock producers. The amount to be taxed is based on tons produced times a statutory value of the commodity adjusted for an annual inflation factor. The gross value can be adjusted for allowable deductions for the cost of mining. To determine the tax due, the adjusted value is multiplied by the property tax rate of 30% times the applicable mill levy in the taxing jurisdiction where the production occurred. The statewide mills are levied against the taxable value and are remitted to the state for distribution to the general fund and the university system fund. Total revenues received in fiscal 2022 were \$1.4 million.

Property Tax – Metal Mines Gross Proceeds Tax

Statute: Title 15, Chapter 23, Part 8

Reference

Montana assesses a gross proceeds property tax on hard rock mining producers. The amount to be taxed is based on gross value of the commodities less allowable deductions. To determine the tax due, the adjusted value is multiplied by the property tax rate of 3.0% times the applicable mill levy in the taxing jurisdiction where the production occurred. The statewide mills are levied against the taxable value and are remitted to the state for distribution to the general fund and the university system fund. Total revenues received in fiscal 2022 was \$21.4 million.

Property Tax – Other Property Classes Excluding Class 1 & 2

Statute: Title 15, Chapter 6, Part 1 through 3

Reference

In addition to net and gross proceeds discussed previously, Montana assesses property taxes on other types of property owned by the business entity. Depending on the mining company, other types of property can include land holdings, commercial property, pollution control equipment, and business equipment. The amount to be taxed is based on the value of the property as determined by the Department of Revenue. To determine the tax due, the assessed value is multiplied by the taxable value rate times the applicable mill levy in the taxing jurisdiction where the property is located. The statewide mills are levied

against the taxable value and are remitted to the state for distribution to the general fund and the university system fund. Total revenues received in fiscal 2022 were \$10.1 million.

Corporation Income Tax

Statute: Title 15, Chapter 31, Part 1 through 9

Reference

Montana assesses corporation income tax on businesses based on income earned in the tax year. Only C corporations pay the corporate income tax. Corporations that elect to file as a subchapter S corporation are required to file as a subchapter S corporation. The owners or shareholders of the S corporation are subject to individual income tax on income received through the S corporation. Both the corporation and individual income taxes are due annually with statutory provisions to pay estimated taxes on a quarterly basis. All corporation and individual income taxes are remitted to the state and are deposited in the general fund. Tax return information for both corporations and individuals are statutorily defined as confidential and therefore data is unavailable to quantify the taxes paid.

State-Owned Land Fees

Statute: Title 15, Chapter 77, Part 1 through 11

Reference

Under the Federal Enabling Act Section 10, certain lands in Montana were designated as state lands and are owned by the State of Montana. If a mining business desires to mine on state owned property, the mining business is required to pay annual license fees. These fee revenues are remitted to the state and are deposited in the Common School Trust Fund. Interest earnings from the investment of the trust monies are used for public education funding. Total license fees were \$0.03 million in fiscal 2022.

State Owned Land Royalty

Statute: Title 15, Chapter 77, Part 1 through 11

Reference

Under the Federal Enabling Act Section 10, certain lands in Montana were designated as state lands and are owned by the State of Montana. If a mining business desires to mine on state owned property, the mining business is required to pay an annual royalty on the value of the mineral extracted. These revenues are remitted to the state and are deposited in the Common School Trust Fund. Interest earnings from the investment of the trust monies are used for public education funding. Total royalty payments were \$0.4 million in fiscal 2022.