Governor's Blue Ribbon Commission on Mining

❖ Final Report and Recommendations ❖

January 1991 ❖ Minnesota Department of Revenue

Governor's Blue Ribbon Commission on Mining

Report and Recommendations

❖

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Governor's Blue Ribbon Commission on Mining

Recommendations ❖ January 1991

Recommendations of the commission

Discussed on page

- The commission recommends that the legislature provide, at the minimum, funding of $6 million per year in accordance with the following allocation of funds proposed in the **Mineral Resource Diversification Plan:** — 13

Category	Percentage	Dollars
Existing iron ore industry	20%	$1.2 million
Non-ferrous minerals	55	3.3
Industrial minerals	15	.9
Basic research	10	.6

- The commission recommends that an additional $5 to $8 million per year beyond the minimal amounts in the Diversification Plan be committed to **basic and applied research** in the field of ferrous minerals. — 13

- The commission recommends that we invest in our future through **expansion of the University of Minnesota's academic and research programs** related to the wise development of Minnesota's mineral resources. — 14

- The commission recommends that the Department of Revenue explore methods for developing a more well defined and precise **process for determining the value of ores** for the occupation tax. *Implemented by the department in 1990.* — 49

- The commission recommends that the **production materials (liner) exemption** for the taconite industry in Minnesota Statutes Section 297A.25, subdivision 15, be restricted to qualifying materials with a useful life of less than 12 months and extended to such materials used in any agricultural or industrial production. — 52

- The commission recommends a law change to make clear that **shafts, supporting structures and excavations of an underground mine are personal property exempt from the local property tax.** The change would be in Minnesota Statutes Sections 272.03, Subdivisions 1(a) and 1(c)(i). — 52

- The commission recommends law changes to **eliminate the requirement that local property taxes be paid on newly discovered natural iron ore deposits for the prior six years,** and the requirement for tripling the value of iron ore deposits. — 53

- The commission recommended in its interim report that Minnesota Statutes Section 298.015 Subdivision 1 be amended to explicitly **exclude clay from the net proceeds tax.** *The legislature made this change during the 1990 session.* — 54

Discussed on page

54 ❖ The commission recommended in its interim report law changes to make clear that under the net proceeds tax:

- **reclamation costs** actually incurred in Minnesota and paid in a year of production, including the payment of bonds required by the provisions of an environmental permit issued by the State of Minnesota, **can be deducted** as an expense in determining the amount of the net proceeds tax, and that
- funds set aside during years of production to pay for **reclamation costs** after production ends **cannot be deducted** as an expense in determining the net proceeds tax.

55 ❖ The commission recommends that **taconite production be determined on a uniform dry weight basis**, with the Department of Revenue to develop standards for determining the dry weight of all ore. (The vote of the commission on this recommendation was not unanimous.) *Implemented by the department in 1990.*

57 ❖ The commission recommends that the Range Delegation consider providing for an **incentive rate** lower than the basic rate for production in excess of a specified level, either on an industry-wide or company-by-company basis.

59 ❖ The commission recommends that the Range Delegation study the possibility of changing the taconite production tax to provide for stabilization of distributions to local governments exclusively through a reserve fund and **base the tax itself on actual annual production** rather than a three-year average of production.

Recommendations of the chair

16 ❖ The chair recommends that policymakers ask themselves four questions regarding the **level of taxation** of the taconite industry:

1. Do you believe that Minnesota's competitive position is so precarious that we are at risk of a "fall off the cliff" in terms of production?
2. If the answer to the first question is yes, do you believe that tax reductions would make any practical difference, or are the economic forces involved so overwhelming that marginal changes in the tax rate would have no practical impact?
3. Do you believe that marginal changes in the tax rate would cause marginal increases in production to more than offset the rate reduction?
4. Do you believe that the tax burden on the industry is conducive to the kind of long-term investment in Minnesota by the industry and in research and development which will be necessary to sustain the viability of the taconite industry here?

39 ❖ The chair recommends that the existing institutional arrangements emphasizing the role of the **Range Delegation** in the taconite production tax be continued.

Governor's Blue Ribbon Commission on Mining

Report and Recommendations ❖ January 1991

Foreword

Mining in Minnesota means iron mining. For years, Minnesota produced vast quantities of iron ore to feed the United States steel industry—at mid-century, accounting for nearly 40 percent of annual world production. With the depletion of deposits of readily accessible high-grade "natural" ore (containing 50+ percent iron) industry emphasis has shifted to the mining and processing of taconite, which typically contains from 25 to 30 percent iron. Mining in Minnesota now is heavily dominated by taconite, and will continue to be so for the foreseeable future.

There may, however, be potential for the mining of base metals such as copper, nickel, lead and zinc, and perhaps precious metals such as gold, silver and platinum. Deposits of copper-nickel have been found, but the ore is of relatively poor quality and mining has not been economically feasible. Exploration has also been conducted for energy minerals such as coal, oil, gas, and uranium, but none has been found in significant amounts.

The charge of the commission. The charge of the Governor's Blue Ribbon Commission on Mining was to deal with tax laws and their impact on mining in Minnesota. The commission was a diverse group; members included representatives of the taconite and iron industry, labor, academic and other members of the research community, community members and local government officials, state representatives, and the two state agencies most involved with mining: the Departments of Natural Resources and Revenue.

The commission examined mining of taconite, natural iron ore, and nonferrous metals (the base and precious metals referred to above); both current conditions and future prospects. Its focus was on taxation, present and prospective, and it considered the sources and uses of mining tax revenues, and the potential impact of taxation on the mining industry. Also of concern were the current and prospective economic conditions for the steel industry, and the need for research and development for minerals in general, and for the uses of Minnesota's vast iron deposits in particular.

Recommendations. The commission focused most precisely on a number of tax issues and developed specific legislative recommendations. On some issues, it was unable to reach consensus, due either to divergent views or lack of time. However, the commission was able to make recommendations for further consideration of some matters by the Range Delegation of the Minnesota Legislature. Finally, on issues involving research, the commission chose not to address questions about the mechanisms for selecting and funding research proposals, in the belief that it had nothing unique to contribute to the discussion. However, since the economic future of Northeastern Minnesota is bound up with that of the mining industry, and since mining tax revenues can potentially be used both for current government services and for prudent preparation for the future, the commission did

consider the need for research and its funding. On the need, the commission reached a clear consensus; on funding, it identified options for consideration.

Mining taxation is a highly complex (and equally obscure) corner of the tax law. It involves only a handful of taxpayers. All of the significant operations are located in Northeastern Minnesota. The largest single tax, the taconite production tax, is levied in lieu of local property taxes; accordingly, its revenues are distributed for the benefit of the people living on the Iron Range. While it is technically a state tax, tradition places matters involving the taconite production tax and other taxes and laws affecting the mining industry within the purview of the Range Delegation in the Minnesota Legislature. As a result, unfortunately, taconite tax matters are viewed with ignorance and suspicion by many outside the Range, in both the executive and legislative branches.

This report is intended to provide background for those who are concerned about the taxation of mining in Minnesota and wish to be informed about it. The report proposes numerous specific changes in Minnesota's tax laws regarding mining, and is intended to provide the Range Delegation, and any other interested parties, with some valuable avenues to explore as they try to resolve the conflicts that remain between industry and community over the level of the taconite production tax. In addition to the commission's law change and policy recommendations, this report contains my own observations and recommendations, from the perspective I gained as Commissioner of Revenue.

Respectfully submitted,

John P. James

January, 1991

1. Mining in Minnesota: Past, Present, Future

History of Mining in Minnesota

Iron mining is an important part of Minnesota's heritage. Minnesota has been the principal source of iron for the United States steel industry throughout the 20th century. In a very real, physical sense, the steel from Minnesota iron ore built our industrial society.

In recent years, however, the market for Minnesota iron has shrunk dramatically. The United States steel industry's share of worldwide steel production has declined drastically, from 47 percent in 1950 to 12 percent in the mid-1980s. Minnesota ore also faces competition from foreign ore and from scrap iron for its share of the U.S. steel market. But even today, Minnesota continues to be the largest source of iron ore for this, the third-largest steel producing nation in the world.

Where the iron was, and is, found.
Iron ore was first discovered in Minnesota in the 1850s. The first commercial quality ore was extracted in 1875, although ore was not shipped from the state until 1884.

Where the iron was, and is, found.

Iron has been found in five areas in Minnesota.

Iron was first discovered on the **Vermillion Range** in the 1860s. The Vermillion Range, located in St. Louis County, runs southwest to northeast near Tower and Ely. Once, 11 mines operated on the Vermillion Range; the last ceased operations in 1964.

The most prominent iron producing area in Minnesota, historically and for the future, is the **Mesabi Range.** The Mesabi Range is located in Itasca and St. Louis Counties, principally the latter, and runs southwest to northeast from slightly southwest of Grand Rapids to Babbitt. Iron ore was discovered on the Mesabi range in 1890. At one time, 364 mines operated; in 1990, the eight remaining (seven taconite, one natural ore) were the only mining operations in the state.

The **Cuyuna Range** runs southwest to northeast from northeastern Morrison County, through Crow Wing County near Brainerd, and into Aitkin County. However, all of the mining on the Cuyuna Range took place in Crow Wing County. Iron ore was discovered on the Cuyuna Range in 1895. As many as 32 mines operated on the Cuyuna Range before its last shipment of ore, in 1984.

(These first three ranges are all in northeastern Minnesota, the part of the state most identified with mining. They make up the Iron Range.)

The fourth area is in the southeastern part of the state, in Fillmore, Olmsted and Mower Counties near Spring Valley. Iron ore was discovered here in the early 1900s, but no serious study of its prospects took place until the 1930s. A relatively small amount of ore was mined here from 1942 to 1968 (7 million tons total), and there are no serious future prospects.

Finally, there is the Gunflint Range. It also runs from southwest to northeast, beginning 32 km from the Canadian border, along the Gunflint Trail. No iron ore

has been mined from the Gunflint Range and there is no prospect for future mining because the ore is of poor quality.

The Iron Range. Traditionally, the Iron Range includes the following five counties: Cook, Crow Wing, Itasca, Lake, and St. Louis. Although Cook County contains deposits of iron ore and taconite, mining has only taken place in Crow Wing, Itasca, and St. Louis counties. Lake County's small deposits of iron ore and taconite have never been mined, but Lake has traditionally been included in the Iron Range area because it has been the site of much iron and taconite processing and shipping.

The taconite production tax was enacted in 1941, but not collected until the 1950s, because taconite production did not begin until then. It was originally distributed only to governmental units with mining or processing activities within their boundaries. Prior to 1964, all such units were in St. Louis and Lake Counties. Following the passage of the Taconite Amendment to the Minnesota Constitution in 1963, the industry expanded into Itasca County. Then, in 1969, the legislature decided that production tax revenues should go not only to these three counties, but also to Aitkin, Cook and Crow Wing counties, to help pay for increased demands on public services from mining.

Most of these revenues go to local governments in the counties where the mining actually takes place. In 1989, nearly $42 million went to local units of government as local aid, and another $9 million went to local units through the taconite homestead credit program. Of the $42 million, $30.9 million, or nearly 75 percent, went to local governments in St. Louis County, and $ 4.6 million –approximately 12 percent– to those in Itasca County. The distribution of these funds reflects the fact that 87 percent of the taconite produced on the Iron Range in 1989 was produced in St. Louis County, and the remaining 13 percent was produced in Itasca County.

Natural iron ore. For over a century, natural iron ore mining was a vital part of the economy of northern Minnesota, directly providing thousands of jobs and supporting at least as many more in related services.

Iron ore and the national and world economies

But the benefits of mining to the communities on the Iron Range pale beside the enormity of its contribution to the national and world economies. By the early 1900s, Minnesota had become the principal source of the nation's iron ore. In the years 1914-35, an average of 33 million tons of ore per year were extracted. In 1942, the first year of U.S. involvement in World War II, 75 million tons were extracted from Minnesota; and in 1953, iron mining reached an all-time high of 81 million tons. Since then, natural ore production has declined steadily, and in 1990 only one-half million tons were expected to be produced.

Taconite

High-grade ore reserves on the Mesabi range are practically exhausted. While considerable ore remains on the Vermillion, it is at present accessible only through deep underground mines that may never again be economically feasible.

Taconite. The iron ore closest to the surface is the cheapest to extract. While there were huge deposits of ore on the Range, by the 1940s, deposits of easily extractable ore were beginning to be exhausted. Mining experts saw that it would be cheaper to extract and process deposits of the lower-grade ore-bearing taconite, which were readily found at or near the surface. Turning taconite into high-quality iron pellets was a costly proposition, but essential to maintaining a long-term domestic supply of iron ore.

In 1941, the Minnesota Legislature, looking ahead to the eventual depletion of natural ore deposits, sought to encourage taconite production by replacing the property tax on deposits of taconite in the earth with a tax on each ton of taconite produced. Apart from an early, unsuccessful attempt in 1921, the first taconite was produced on the Range in 1949, when 886 tons were processed.

Taconite production, under way in earnest by the mid-1950s, had not grown sufficiently by the end of the decade to replace jobs lost due to the reduction in iron ore mining. Meanwhile, the mining industry, with support from many citizens and legislators, campaigned to secure enactment of the Taconite Amendment to the Minnesota Constitution. This amendment guaranteed that state taxes on the taconite industry would increase no more than state taxes on other businesses in Minnesota for 25 years. In the face of dwindling employment, the industry explained it would be able to create new jobs on the Range by converting to more taconite production, but that the expense would be so great it would need to be assured that their taxes would not increase more than those on other businesses.

The Taconite Amendment

In 1963, Minnesotans approved the Taconite Amendment. As a result, mining companies were encouraged to make the transition from natural iron ore to taconite production. When the amendment passed, two taconite plants were in operation; during the next decade, six more plants were built.

Taconite production on the Iron Range reached its peak in 1979, when more than 55 million tons were produced. A worldwide drop in the demand for taconite in the 1980s cut Minnesota's production by more than half, to 23 million tons in 1982. This was an economic disaster for the Range, one from which it may never fully recover. Since then, taconite production has risen slowly but steadily, and reached 42.5 million tons in 1990.

Nonferrous metals. Copper and nickel are the principal nonferrous metals in Minnesota. Their presence has been known for decades, but serious exploration and study did not begin until the 1960s. The deposits in Lake and St. Louis counties near Babbitt are vast, making up 25 percent of the total U.S. reserve of copper and 12 percent of the world's supply of nickel. However, the ore is generally low grade. Exploitation of this resource awaits higher world prices and more economical, environmentally sound, extraction methods.

Mining in Minnesota's Economy

Even at its height, mining's impact on Minnesota's overall economy was small. In 1940, 8,000 persons –only 1 percent of the total state workforce– were employed in mining. In 1950, that figure was just under 16,000, and represented 1.4 percent of the total workforce. That percent did not increase, even when mining employment reached its high point in 1970 with 18,000 jobs.

According to 1989 figures, 5,700 persons were employed in mining in the Iron Range area, and another 2,069 were employed in mining service activities. This means that only 0.3 percent of Minnesota's total workforce of 2.7 million is employed in mining and mining-related activities.

In terms of economic impact, mining ranks last of Minnesota's major industries.

The Gross State Product, an aggregate of the gross market value of goods and services attributable to labor and property in the state, measures the state's eco-

nomic growth and indicates economic trends. Of the 1970 GSP, 1.9 percent was attributable to mining and quarrying in the state. By 1986, only 0.5 percent of the total GSP was attributable to mining.

Mining in Northeastern Minnesota's Economy

Whatever its statewide impact, mining, in terms of the economy of the Iron Range counties alone, plays a much more significant role.

Currently, 8 percent of the Iron Range workforce is employed by the mining industry. An additional 3 percent is employed in related services.

Workers in mining and related services constitute only 11 percent of the Iron Range workforce, but they are among the best paid in the state. Each of them buys heat, groceries, fuel, and other goods and services from their neighbors, who, in turn, buy more goods and services. In a 1989 study for the University of Minnesota, Duluth, Jerrold M. Peterson estimated that each mining job supported five to six other jobs. Another study demonstrated the importance of mining to the area by examining the potential impact of a complete shutdown of the industry. This study estimated that if Minnesota lost all of its 8,000 mining jobs, a total of 20,000 jobs would be lost, including 8,000 jobs in retail trade and services. Further, the state's GSP would be reduced by over $1 billion annually.

Minnesota's Competitive Position in Mining

Iron Ore

Minnesota's iron, whether natural ore or taconite pellets, is useful only in the production of steel. Today, Minnesota's ore competes with ore from around the world, and with scrap iron and steel to supply the needs for raw steel production.

Economic disaster in the early 1980s

Prior to the 1980s, competition had rarely been a serious problem. Since the Great Depression, at least, the demands of the domestic steel industry had always been high enough to maintain a strong market for Minnesota ore. This formerly rosy picture changed suddenly and radically in the 1980s. Total Minnesota ore production dropped from 51 million tons in 1981 to 24 million tons in 1982. Production has since partially recovered, to a post-1982 high of 42.5 million tons in 1990. (The effective annual capacity of Minnesota's taconite industry has also dropped and is now only 45.6 million tons.)

This drop in production translated into an economic disaster for Northeastern Minnesota, as nearly half of the mining workforce of 16,000 was put out of work. The immediate and ripple effects of the loss of so many high-paying jobs cannot be overestimated. For example, as laid-off workers and their families left, schools in affected areas lost between one-fifth and one-quarter of their pupils, forcing teacher layoffs, which further hurt the communities.

Much effort by industry, labor and government went into helping Minnesota's taconite industry recover by improving its efficiency and cutting costs. Labor accepted lower wages and benefits and changes in work rules; power costs were cut, as were taxes; suppliers and contractors reduced their prices. These efforts succeeded because all affected parties shared in the sacrifice and worked toward a common goal.

The questions that arise are: What happened? Can it happen again? What can be

done to avoid, or minimize the risk of, such occurrences in the future? And what role do taxes play in all of this?

The commission received background information from industry and academic sources which may be helpful in answering these questions. The commission made no formal findings or recommendations with respect to these questions. However, the remainder of this section reflects the chair's understanding of the situation, based on the information presented to the commission, which formed the context within which its deliberations and discussions on specific tax issues took place.

Disaster in the Early 1980s

Minnesota's taconite industry was hit in 1982 with a brutal combination of a long-term decline in the relative demand for steel, decline in the position of the United States as a steel producer, and a worldwide recession. Because of its relatively high production costs, Minnesota was more vulnerable than other producers; world production of iron ore fell over 18 percent from 1979 to 1983, while Minnesota production was hit three times as hard, with a 56 percent drop.

The long-term trend in the demand for steel production in the United States is not good. The United States itself is an increasingly mature, postindustrial economy in the midst of a shift from manufacturing to services. Steel faces tough competition from plastics in automobile manufacturing and from aluminum and multi-layered plastics in the container industry. Automobile imports have risen, as have those of steel. And steel exports have dropped as newer, more efficient facilities have sprung up overseas.

Shrinkage in demand for steel in the United States obviously affected iron ore production. In addition, there was a massive liquidation of iron ore inventories from 1982 to August 1987. As a result of these changes, 13 of the 28 major iron ore mines in North America shut down, and 9 others reduced their capacity by 22–50 percent between 1980 and 1988. Imports of iron ore plummeted as well.

The change for Minnesota taconite production was much more abrupt than that for domestic raw steel. Raw steel production dropped 50 percent from 1973 to 1982, with about 20 percent of the drop occurring by 1981 and the remaining 30 percent in 1982. Minnesota's total iron ore production had been gradually declining for years, with some ups and downs but the downs exceeding the ups, but 1981 production was only about 10 percent below the 1970 level and was nearly equal that of 1975. Then came 1982, when the bottom fell out: a 52 percent drop in one year, leaving production at only 43 percent of the 1970 level.

By 1988, world production of iron ore had regained its 1979 levels, but Minnesota had made up only two-thirds of its lost production.

It would be pointless to speculate now on the exact reasons why the Minnesota decline was so precipitous, especially since much has been done since 1982 to improve Minnesota's competitive position. However, examination of Minnesota's competitive position today yields a picture that is consistent with a precipitous decline such as occurred in 1982, even if it does not fully explain it.

Cost Competitiveness of Minnesota Ore

Once processed, Minnesota taconite is a high quality product. However, it is costly to produce and to transport to steelmaking facilities.

The steelmaking process is somewhat flexible in the materials it uses. High quality iron such as Minnesota taconite pellets speeds up the process, as a result of which production throughput can be maximized. If demand is low and maximizing throughput is not a concern, lower quality, cheaper iron ore can be used, eventually yielding steel of quality equal to that produced from higher grade iron ore.

The principal market for Minnesota's iron ore is the steelmaking facilities of the Great Lakes region. Ores from Canada and Brazil represent potential competition. When worldwide demand is high, those ores tend to be shipped to Europe, but when it is low, they can become serious competitors with Minnesota ore.

These two factors mean that Minnesota ore competes well if the demand for steel is relatively high, but not if the demand for steel drops significantly. For example, world iron production in 1988 was at a record high level, and Minnesota production hit 40 million tons, its highest level since 1981 (but still short of present capacity).

Minnesota does have another important factor going for it: reliability. Minnesota's taconite industry is a reliable source of high quality product. Such reliability may offset cost disadvantages to a degree, but it is likely that a cost disadvantage would result in substantially less Minnesota production at the margin in the short run and have serious long-run consequences as well. Certainly it would be unwise not to be concerned about the cost of a more or less fungible material (iron) in a more or less fungible product (steel) in an increasingly competitive world.

Factors in Cost Competitiveness of Minnesota Iron Ore

Industry and academic members of the commission agreed that cost reduction, or at least minimization, is a key to long-term survival in the steel industry. Basic factors affecting the competitiveness of Minnesota iron ore are:

Factors in Cost Competitiveness

- Grade
- Accessibility
- Transportation
- Production costs
- Market dynamics
- Currency exchange rates
- Changes in desired inputs to steelmaking process

Grade. The grade of the ore refers to its percentage of iron. The higher the iron content, the less waste and the less processing required to ready the ore for use in steel production.

Minnesota taconite ore is the lowest grade of any from the major international iron ore producers. It averages 24 percent or less, while the next lowest, Michigan and Canada ores, are at 33-34 percent. Other producers range as high as 64-66 percent.

Accessibility. The iron formation in Minnesota dips 6 to 8 degrees. The most accessible ore has already been mined, and what remains will be harder and harder to get at, with ever more surface stripping and waste rock removal required.

Transportation. Transportation costs are the largest single cost component of the delivered cost of Minnesota iron ore to the consumer, and its freight cost per ton-mile is the highest in the industry. Fortunately, its major customers are not far away.

The high transportation costs are a function of location rather than distance. Minnesota relies on Great Lakes shipping and on rail transport. Rail freight rates are quite

high relative to shipping rates, and Great Lakes shipping rates, which were roughly comparable to ocean rates in the 1950s, are now about five times as high. (A Great Lakes carrier, which must negotiate the Soo Locks in the St. Lawrence Seaway, can transport only one-fifth the load of an oceangoing carrier.) Thus transportation cost is not solely a function of distance, and Minnesota is stuck with using the most costly modes of transport in the industry.

The major market for Minnesota iron is the Great Lakes region steel industry. When demand is high, Minnesota can find markets in Utah and Alabama. And some ore is exported as well, primarily to Canada.

But for a number of reasons, one of them transportation costs, Minnesota iron is heavily tied to its domestic markets. When demand for steel is high, Minnesota iron will also be in demand. When it is low, foreign competition can affect Minnesota. Thus, competitors are sometimes in a position to cut into our limited markets, while Minnesota iron is not likely ever to be exported on a large scale.

Production Costs. Production costs are determined by the grade and accessibility of the ore, and Minnesota's are almost bound to be high. The major components of the production costs for the taconite industry in Minnesota are, in descending order of magnitude:

- Labor
- Materials
- Electric power
- Taxes
- Fuel

The crisis in the early 80s prompted major efforts to improve the competitiveness of Minnesota's iron ore. Those efforts paid off, almost doubling productivity and reducing costs by about 20 percent. There may not therefore be much immediate potential for further cost savings, especially in labor and power costs.

The commission was not charged with exploring all avenues of minimizing production costs and therefore has no specific recommendations to make. However, Minnesota's seemingly inevitable status as a high-cost producer does yield two observations that are relevant to the commission's efforts:

High production costs: two observations by the chair

First, Minnesota's high production costs and consequent vulnerability to market swings strongly support the importance of spending on research and development to find ways to minimize those costs in the future.

Second, taxes bear watching as an element of cost, for they are the one element of production costs under complete control of the government. Taxes as an element of cost are discussed below, following analysis of the other major factors influencing the cost-competitiveness of Minnesota iron ore.

Market Dynamics. In a strong steel market, iron ore quality is the dominant factor, since ironmakers seek to maximize throughput. However, in weaker markets, throughput is not a constraint and price is the dominant factor.

Minnesota's iron products are of high quality, but they are also of high cost and therefore in danger of being shunned when demand is low.

This makes Minnesota vulnerable to the inevitable fluctuations in the demand for steel. The problem is exacerbated by two additional facts. First, international iron

ore prices are set by negotiation between Brazil and European steelmakers early each year, without input from United States, let alone Minnesota, producers. Second, in a weak market, Minnesota has less price flexibility than its competitors.

These market dynamics are totally outside the control of Minnesota taconite producers and governments.

Currency Exchange Rates. A strong U.S. dollar favors the importation of foreign iron and steel. A weak U.S. dollar favors domestic production.

In recent years, domestic steelmakers have been making a comeback from the very depressed levels of the early 80s, helped in part by a relatively weak U.S. dollar.

The trend seems to have been for imported steel to take an increasing share of the U.S. market. A similar trend is not in evidence for iron ore, where the percentage of imported ore used in the domestic steel industry hovers in the 25-30 percent range.

The relative strength of the U.S. dollar also is totally outside the control of Minnesota taconite producers and governments.

Changes in Desired Inputs to Steelmaking Process. The future prospects for Minnesota iron ore appear to be diminishing under current industry trends because the desired inputs to the steelmaking process are changing in ways that cannot be met by Minnesota ore. There are at least three unfavorable trends in progress.

Three unfavorable trends

First, an increasing percentage of steel is being made from scrap steel rather than from new iron ore. The electric arc process, which uses scrap, has increased its share of domestic production from 18.4 percent in 1976 to 37 percent in 1988, and this percentage is likely to continue to grow in the years ahead. This shift from the basic oxygen process will have a dampening effect on the demand for natural ore, including taconite pellets produced in Minnesota.

Second, the continuous casting process is being installed at a rapid rate in U.S. steelmaking facilities. The percent of steel produced by this process has increased from 16.9 percent in 1979 to 64.0 percent in 1989, and it will continue to increase. Continuous casting improves the yield, but reduces the amount of iron ore needed to produce a given amount of steel by 7.5-10 percent.

Third, international research on direct smelting processes, begun 30 years ago, seems likely to yield practical results within the next 10 years. The in-bath smelting process is being tested. The objective is to eliminate the expensive and environmentally unacceptable coke ovens and the blast furnaces from integrated steel operations by producing molten iron directly from iron ore concentrates or pellets.

This new technology is unfavorable for Minnesota ore, because it will require iron ore with silica content of 2 percent or less. Canada, Brazil, Sweden, Venezuela, and other foreign countries are already producing 2 percent silica iron ore, while Minnesota taconite pellets contain 4-5.5 percent silica. The economics and methods of producing ore with 2 percent silica content from Minnesota taconite are being studied, but those studies have not yet borne fruit. Whatever the results, the cost of producing a higher grade product is sure to be greater than current production costs.

The situation indicates a need for an aggressive approach to research and development in order to find out how to minimize production costs in the future, and for careful consideration of how to minimize production costs in the near term.

Nonferrous Minerals

No actual commercial mining of nonferrous minerals has ever taken place in Minnesota. However, current exploration by mining companies may lead to mining in the future. It seems likely that factors other than taxes will play the predominant role in whether such mining ever occurs in Minnesota. For example, as noted above, Minnesota's ample known copper and nickel reserves are relatively low grade, so development probably will require more economical and environmentally sound extraction methods, as well as higher prices for the ore.

Taxes as a factor in nonferrous mineral mining

Nevertheless, the structure of Minnesota's mining tax laws could play a role in a company's decision whether to pursue mining exploration and operations in Minnesota. If our tax structure is viewed as terribly onerous, it could discourage companies from engaging in serious exploration.

Businesses tend to view a jurisdiction's tax structure as onerous or tolerable by comparing it with those of others. Whitney & Whitney, an economics and management consulting firm to the industry, does the only comprehensive comparison of mining taxes in the nation. In addition to mining taxes, property, income, sales and use, and unemployment taxes are factors in the study's rankings.

A mining company is likely to consult the Whitney & Whitney study before pursuing exploration and/or operations in a particular state, and its results can play a role in the company's decision on where to pursue exploration and development.

The most recent studies were in 1985 and 1989. Whitney & Whitney's 1985 study covered open pit and underground mining of polymetallic mining operations, e.g., mining of base metal deposits containing copper, zinc, lead, silver and gold. This study showed Minnesota as having the highest base and precious metal mining taxes of the 15 states studied. By contrast, the 1989 study of 18 states showed Minnesota in the middle of the pack.

The dramatic improvement from 1985 to 1989 is the result of the tax reforms passed by the 1987 Minnesota Legislature; principally, the repeal of the property tax on base and precious metals and its replacement with a tax on net proceeds from such mining operations. Reduction of the occupation tax rate from 14.5 percent to 9.5 percent also played a role.

It now appears that Minnesota's tax structure should not significantly discourage the development of the mining of nonferrous metals in Minnesota.

What the Future May Hold

Minnesotans have long been concerned about the effects of the eventual depletion of ore and taconite deposits on the Iron Range. In fact, however, according to a study done for the U.S. Bureau of Mines in 1978, the Mesabi range has enough taconite deposits accessible with present technology to keep producing at the typical recent rate of 35 million tons per year for another 200 years. Thus, depletion of taconite deposits is not a threat to the economic future of the Iron Range.

Depletion of the *demand* for taconite, however, is a much more real threat to the area's economic future. And the responses by the public and private sectors to long-term threats from a changing marketplace are key to meeting those threats.

Creating a Better Future Through Research and Development

The Minnesota Mineral Diversification Plan

The Minnesota Minerals Coordinating Committee (MMCC) was organized in 1975 by the Legislative Commission on Minnesota Resources (LCMR) to coordinate proposals and set priorities for minerals-related LCMR funding requests. Proposed as part of Governor Rudy Perpich's bill creating the Greater Minnesota Corporation, it was formally established by state law in 1987, and directed to prepare a plan for diversification of Minnesota's minerals industry as part of the legislature's adoption of the Minnesota Mineral Diversification Plan.

The legislature declared it state policy to provide for the diversification of the state's mineral economy through long-term support of mineral exploration, development, production, and commercialization (M.S.Sec. 93.001).

The MMCC consists of the directors of the Minerals Division of the Department of Natural Resources, the Minnesota Geological Survey, the Mineral Resources Research Center, and the Natural Resources Research Institute.

In January 1988, the MMCC submitted the Minnesota Mineral Diversification Plan to the legislature. The plan set forth three broad objectives:

- To improve and extend Minnesota's iron industry.
- To encourage exploration and development of non-ferrous metallic minerals.
- To enhance Minnesota's industrial minerals industry.

The Diversification Plan includes a discussion of each objective, issues, program areas and strategies, and performance indicators.

The plan states that "the probability that mineral diversification will succeed in Minnesota is high," and that "every region of the state possesses potential for mineral development of some kind." These conclusions were important when they were made in 1988. Certainly, their importance can only increase, given the negative trends for the future of Minnesota's taconite industry, the passage of three years without significant new mineral developments, and the just-released results of the 1990 census showing a thriving Twin Cities metro area while several Minnesota counties lost population.

The Diversification Plan compared Minnesota with Ontario, noting that they have similar geology, and that they had equal mineral production values 30 years ago (though Ontario's was more diverse). The plan described Ontario's diversification efforts through the years and noted that several of the elements "exist to some degree in Minnesota, but they need further emphasis and development." The result: Ontario's total annual mineral product value is over $4 billion (more than three times Minnesota's), and its mining employment is over five times Minnesota's. Eleven different minerals each contribute more than $100 million per year to Ontario's economy. In contrast, taconite and iron ore contribute $1.1 billion per year to Minnesota's economy (90 percent of the total from mineral activity). The next largest mineral commodity in Minnesota is sand and gravel, contributing about $73 million per year to Minnesota's economy.

The unstated message is clear: Ontario invested in its future. Minnesota did not. Ontario is reaping the benefits of its investment, and we are not. The Mineral Diversification Plan is intended to result in investments and benefits in Minnesota.

The plan stated that "by comparison with provincial programs in Canada, an annual budget approaching $5 or $6 million would be quite modest for Minnesota." In fact, the plan budget, since its inception, has been at a level of less than one-third of those "modest" recommendations.

Recommendation of the commission

The commission recommends that the legislature provide, at the minimum, funding of $6 million per year in accordance with the following allocation of funds proposed in the Diversification Plan:

Category	Percentage	Dollars
Existing iron ore industry	20%	$1.2 million
Non-ferrous minerals	55	3.3
Industrial minerals	15	.9
Basic research	10	.6

The United States has been notorious in recent history for lack of savings and insufficient investment in its future. The problem besets us as individuals, as businesses, and even entire industries. Data on research spending presented to the commission suggested that the minerals industry is among the most afflicted. Spending on research and development in the minerals field nationwide is estimated at 0.5 percent of gross value, and it appears to be at a similar level in Minnesota's taconite industry with spending by industry ($4 to $5 million) and the state ($1 million) totaling only about $5 to $6 million against an annual gross state product from iron ore of about $1.1 billion. By comparison, the percentages for other natural resource industries are about 1.9 percent for agriculture, nationally and in Minnesota, and, for forest products, 7.6 percent nationally and 5 percent in Minnesota. The percentages are much higher in "high tech" industries.

The commission's estimates are consistent with the findings in the National Materials Advisory Board October 1990 report, "Competitiveness of the U.S. Minerals and Metals Industry." It found declining national research capability in the minerals sector, with the decline evident in industry, government and academic institutions, and was particularly concerned about the national decline in university education and research programs relating to the minerals sector.

Minnesota leads the nation in iron ore and taconite production. Nevertheless, our taconite industry faces an uncertain future, due largely to foreign competition in the iron and steel industry. As the early 80s and the competitive position of Minnesota ore demonstrate, the people of Northeastern Minnesota are at serious risk in the event of a downturn in the demand for steel. Commission members, both technical experts and representatives of Iron Range communities, clearly agreed that we need much more research. **The commission recommends that an additional $5 to $8 million per year beyond the minimal amounts in the Diversification Plan be committed to basic and applied research in the field of ferrous minerals.**

Recommendation of the commission

This recommendation does not imply that the minimal funding called for in the Diversification Plan for other purposes is adequate. Rather, comparison of Minnesota and Ontario and the U.S. Competitiveness Report indicates that it is not, as does the fact that total Minnesota minerals research is significantly below the levels in other natural resource areas. It is also substantially less than what an appropriate research investment would be, given the magnitude of the state's current mineral industry and the potential for future mineral resource development.

Minnesota is not only the nation's top iron-producer, it also regularly ranks in the top six in total non-fuel mineral production. In 1985, our industrial mineral rankings were 7 in peat, 10 in sand and gravel, 11 in industrial sand and dimension stone, and 18 in lime. Minnesota, in sum, has a broad array of mineral resources. The negative findings in the U.S. Competitiveness Report are, therefore, particularly pertinent. Even where we do not face foreign competition, lack of research and development effort surely means missed opportunities, as the comparisons of the Minnesota and Ontario experiences in the Diversification Plan indicate.

This concern is especially pointed with respect to university education and research. With all its mineral activity and potential, Minnesota should be at the forefront in academic attention to the minerals sector. As a leading mineral state, Minnesota has an ongoing need for undergraduate, graduate, and professional educational opportunities in minerals-related disciplines. We also have a critical need for innovative long-term academic and applied research to serve our interests in regional economic stability, iron ore industry survival, and new mineral resource development. Innovative academic research is ultimately the fundamental base for industrial viability and regional economic stability.

Recommendation of the commission

These are areas in which the University of Minnesota is expected to provide leadership and excellence. **The commission recommends that we invest in our future through expansion of the University of Minnesota's academic and research programs related to the wise development of Minnesota's mineral resources.**

The commission did not delve into the means for funding increased research and development, but a few observations from its discussions are appropriate.

There is some concern that public funds not be spent on what is clearly in the industry's self-interest, and on that which it would frequently do anyway. There obviously is a continuum (or two or three) of research activity from long- to short-term, from basic to applied, and from generic to site-specific. There are also potential applications that may be of greater benefit to the state (such as the development of added-value iron products to be produced in Minnesota) than to industry.

Presumably, state funding should concentrate on the longer-term basic, generic, and Minnesota specific, avoiding the uniquely site-specific. The existing Cooperative Industry Research Program seems well accepted and, with a more clearly defined applications orientation, could be considered as one mechanism for allocation of funds. This, however, is not a substitute for increased direct funding of university activities in relevant programmatic (rather than individual project) areas.

Potential funding sources include the general fund, the taconite production tax, the occupation tax, and mineral royalties received by the state. A tax credit, while a possibility, would make it difficult to restrict state funding to research of general, rather than site-specific benefit, and would increase the likelihood that public funding would go for research that the industry would have undertaken anyway.

Taxes as an Element of Cost

The "appropriate" level for taxes is an elusive concept. The commission discussed the level of the taconite production tax, the major tax on the taconite industry, but did not reach consensus as to an appropriate level. The commission did not discuss the overall level of taxation of the taconite industry.

The commission did agree to recommend consideration of certain new approaches to the taconite production tax. (Those are discussed in Part 3.) The following discussion covers the critical facts about the overall level of taxation of the taconite industry in Minnesota.

Significant tax reductions were made in the 1980s. Even so, Minnesota's taxes on the taconite industry remain quite high compared to taxes paid by competing producers. At well over $2 per ton of production, they are approximately twice the level of taxes on the iron ore industry in Michigan and Quebec.

Minnesota taxes on the taconite industry also are high in comparison to the taxes on other state industries.

Although the taconite industry is subject to the property tax on some of its property, the bulk of the property, including lands and structures actively used for taconite production, is exempt. The taconite production tax is levied in lieu of the property tax. The Department of Revenue estimates that subjecting the exempt property to the property tax would produce revenue of approximately $52.4 million per year. The production tax in fact brings in revenue well in excess of that level, ranging from $70 to $80 million in recent years.

Minnesota is in general a relatively high tax state. The high taxes correspond to a relatively high level of services. Minnesota has, in recent years, outperformed the national economy, and its labor force is known for its productivity. One factor in that may be our outstanding high school graduation rate, which is maintained in part through spending on schools financed by taxes. High labor productivity also characterizes the taconite industry. Thus, the taconite industry may benefit substantially from the Minnesota taxes it pays.

With nonrenewable natural resources, there is also an entrepreneurial element to taxation. A state with such a resource has the power to tax its removal, and thus is like the competitive business that simply charges what the traffic will bear.

A severance tax may also be justifiable on grounds of environmental protection, preparation for a future when the resource has been exhausted, and, in the case of taconite in Minnesota, insurance against extreme fluctuations in demand. Whatever level of taxation might be justified on such grounds, the question still comes back to what the traffic will bear.

The choice to provide a high level of services tends to justify the relatively high level of taxes. Charging what the traffic will bear, including additional justifications for a severance tax, tends to justify higher taxes for the taconite, or any other mineral, industry than those imposed on Minnesota businesses generally. But neither justification establishes a particular *level* of taxation as appropriate.

The industry believes that it is being taxed too heavily, and cites Minnesota's competitive risks and the much lower levels of tax imposed by competing sources of ore as evidence. Its primary complaint is with the taconite production tax. It contends that a level of about $65 million per year should suffice to provide the necessary support of local government operations. That would be about a 10 percent reduction from the current level of tax.

Community members of the commission were not convinced that the rate of tax is too high. They pointed to the fact that substantial production is occurring, so

Minnesota's ore is in fact competitive, and the taxes do not exceed what the traffic will bear.

Recommendation of the chair

The chair recommends that policymakers ask themselves four questions regarding the level of taxation of the taconite industry:

1. Do you believe that Minnesota's competitive position is so precarious that we are at risk of a "fall off the cliff" in terms of production?
2. If the answer to the first question is yes, do you believe that tax reductions would make any practical difference, or are the economic forces involved so overwhelming that marginal changes in the tax rate would have no practical impact?
3. Do you believe that marginal changes in the tax rate would cause marginal increases in production to more than offset the rate reduction?
4. Do you believe that the tax burden on the industry is conducive to the kind of long-term investment in Minnesota by the industry and in research and development which will be necessary to sustain the viability of the taconite industry here?

The implications of yes or no answers to the first three questions are obvious. The chair believes that Minnesota is at risk. The chair does not have an opinion on what the answers to questions two and three are. The commission certainly did not have the expertise or the time to answer them, and they may be unanswerable. Note, however, that the 1984 Minnesota Tax Study Commission concluded that "the net result of a tax cut would probably be a loss to the State Treasury since both short- and long-term decisions to operate or close taconite plants depend more on the demand for domestic steel than on tax considerations." (*Final Report of the Minnesota Tax Study Commission, St. Paul, 1984*)

The fourth question warrants further explanation. There seemed to be no disagreement on the commission that cost is a concern for future competitiveness, that Minnesota has a high-cost product, that the ore will gradually become more difficult to extract as the more deeply buried parts of the ore body must be mined, or that some of the probable long-term developments in the industry have disturbing implications for the demand for Minnesota ore. With recent production at about 4-5 percent of worldwide production, Minnesota ore is not the only game in town. It appears that there is serious need for increased research and development by the industry and the state. The relationship between industry and state needs to be, and be perceived as, mutually beneficial to encourage the kind of long-term effort needed to buck the trends that threaten to diminish the demand for Minnesota ore.

The tone of discussions in commission meetings suggests that the relationship is currently viewed as mutually beneficial. That does not necessarily endorse the current level of taxation. But it does suggest that policymakers ought to take care to encourage research and development and to be cautious about further increases in the tax burden on the taconite industry.❖

Note: the background and historical information in the early parts of this section is based in large part on material from *Minnesota's Geology,* by Richard W. Ojakangas and Charles L. Matsch, University of Minnesota Press, 1982. Additional, detailed data on iron ore and taconite production can be found in the *Minnesota Mining Tax Guide,* an annual report published by the Minnesota Department of Revenue.

2. Mining Taxation in Minnesota

Five General Principles for Evaluation of a Revenue System

The mission of the Minnesota Department of Revenue is to serve Minnesotans by making our state and local revenue system work well, in structure and in operation. This includes taking the lead in shaping a sound revenue system. The department seeks to make our state/local revenue system, fair, efficient, reliable, competitive and understandable, and is working on a model revenue system for Minnesota, using these five criteria as a guide.

An explanation of what these five criteria generally entail was made to the commission, and all of the deliberations of the commission were conducted in the context of them. While space does not permit a detailed discussion of them and their application in the context of mining taxation, here is a brief outline of the criteria, as presented to the commission.

1. **The model revenue system is fair.**
   Vertical equity. Consistent treatment of unequals.
      Those with greater ability to pay should pay more.
      Those who receive greater benefit from government services should pay more.
      Progressivity maintained.
      Shelter for low income taxpayers.
      Relief designed to achieve greatest impact for dollar costs.
   Horizontal equity. Consistent treatment of equals.
      Those with similar ability to pay or benefits received should pay similar amounts of taxes.
      Broad bases and low rates.
      Minimal deductions, exclusions, exemptions.
      Few if any differences in rates or bases on essentially similar activities, sources of income, types of wealth or forms of business.
      Consistency in enforcement.
   Benefits received principle requires:
      Some payment even with little ability to pay.
      Taxation of removal of nonrenewable resources.
   Intergenerational equity.
   Interregional equity.
   Retroactive change avoided, but retroactive refunds when tax wrongly collected.
   Same interest rates for refunds and deficiencies.

2. **The model revenue system is efficient.**
   Economic efficiency, or neutrality.
      Does not affect choices of activities.
      Does not affect organizational choices.
      Minimizes the number of narrow, mineral industry-specific taxes.
      Avoids significant effective tax rate differences across firms and industries.
      Requires payment when benefits are received to avoid subsidy of inefficient businesses.

2. *The model revenue system is efficient, continued*

Maximizes the benefit derived from existing stock of resources.
Does not affect rate or extent of mineral extraction.

Administrative efficiency.
Minimizes government's administrative costs.
Minimizes taxpayers' administrative costs.

Tax base efficiency.
All facets of the economy taxed so that none need be taxed unduly heavily.
Broad bases and low rates.
Avoids business tax incentives.
Maximizes tax revenues from extraction of nonrenewable resources.

Tax system operating efficiency.
Harmonizes Federal and state tax systems.
Maintains clear relationship between state and local governments.
Emphasizes local tax accountability for local spending at the margin.
Aid for poorer local governments to deliver needed services (equalization).

The model revenue system: fair, efficient, reliable, competitive, understandable

3. **The model revenue system is reliable.**
Produces sufficient revenue at all stages of business cycle.
Grows with growth of economy over time.
Stability in relation to value of tax base.
Minimizes changes in structure and rates to facilitate taxpayer planning and to minimize administrative costs.
Broad bases and low rates.
Avoids retroactive law changes.

4. **The model revenue system is competitive.**
Rates as low as practicable to minimize unfavorable comparisons with other jurisdictions.
Broad bases and low rates.
Does not use special subsidies that encourage interstate tax competition.
Structured to push ***out-of-state businesses and individuals to pay their full share.***
Changes in structure and rates minimized to avoid taxpayer fear, frustration.
Maximizes tax revenues from extraction of nonrenewable resources.

5. **The model revenue system is understandable.**
Major taxes broad enough to apply to as much economic activity as practicable.
Minimizes the number of separate taxes on the same activity.
Minimizes the number of narrow, industry specific taxes.
Minimizes deductions, exclusions, exemptions.
Defines tax bases in clearly measurable terms.
Reduces complexity when practicable.
Minimizes changes in structure and rates.
Clarifies fiscal relationships between state and local governments.

These general principles are presented here in the hope that they will prove useful to policy makers as they consider the commission's recommendations and any other changes in Minnesota's taxation of mining activity. Readers are encouraged to contact the Department of Revenue for more detailed explanation of these principles and for the latest edition of the department's model revenue system for Minnesota.

Minnesota's State/Local Revenue System; its Application to Mining

Minnesota's state/local revenue system emphasizes three major taxes: income, sales and property. The first two are state taxes; the property tax is a local tax. Our state/local fiscal system also features a massive transfer payment system from the state to the local level, since most of our tax revenue comes from state taxes (though the local property tax may now be the largest single tax), while most public spending occurs at the local level.

The revenue system includes many other taxes in addition to the big three. Some of those taxes are tailored to specific conditions affecting specific industries, mining among them.

This section of the report deals with Minnesota's taxation of mining by dividing the subject into four main categories: income tax, sales tax, general property tax, and special taxes, property or other, on or with respect to the mineral itself.

All of the revenue system evaluative criteria set forth above encourage us to move toward more uniform treatment of different industries under the major taxes. There are some special variations on those basic taxes in the case of mining, and one of the efforts of recent years, supported by the commission, is to limit these variations to only the minimum required by the unusual nature of the activity.

Two arguments for special taxation of mining

Mining has one distinguishing characteristic that calls for specific attention in taxation: it involves the removal from the ground, and usually from the state, of a nonrenewable mineral resource. This characteristic provides two arguments for special taxation of mining.

First, the aesthetic and environmental costs associated with the process of removal. Taxation is not the only way to deal with those. Indeed, appropriate environmental regulation is probably much more important. Nevertheless, taxation is one of the ways in which these costs are assessed on mining companies and, ultimately, on those who consume their products. It may be particularly useful for financing repair of environmental degradation that occurred prior to our current ecological sensitivity. Indeed, one of the statutorily prescribed uses for moneys from the Taconite Area Environmental Protection Fund is the "reclamation, restoration, or reforestation of minelands not otherwise provided for by state law." M.S. Sec. 298.23.

Second, minerals are, to one degree or another, valuable, nonrenewable assets. Once they are removed from the state, they cannot be replaced and will no longer have the potential to benefit residents of the state. Minerals are usually not technically owned by the state, but property rights are never absolute, and a state's sovereign power of taxation extends to taxing the removal of resources. The nonrenewable nature of the resource gives the state a fiduciary responsibility to act in the best interests of the future of its citizens. The value of the resource gives the state what amounts to an entrepreneurial opportunity to charge what the traffic will bear. The state, in economic terms, should maximize the long-term return to its citizens by maximizing the present value of that return. That sounds good, but nobody knows what will produce the desired result.

One could argue that all of the concerns could be reduced to the marketplace question of what the buyer is willing to pay, but no one who has spent much time in Northeastern Minnesota is likely to agree with that. There can be a price for

aesthetic, and even environmental degradation, to a point, but when that point is reached, the activity must stop. The concerns overlap, but they really flow from separate views of reality; one expressing the market, the other the fundamental truth that some things really are, or should be, priceless. Of course, there are no clear, right answers to questions of what the traffic will bear, what should be charged for aesthetic or environmental reasons, or at what point the charges and the activity both stop. All of these concerns get thrown into the legislative pot, where they are stirred feverishly and ultimately yield, among other things, a method and rate of taxing mining activity.

Under Minnesota law, there are three different major approaches to this special aspect of mining taxation: the property tax on natural iron ore; the production tax on taconite; and the net proceeds tax on nonferrous minerals.

Space does not permit a detailed discussion of the pros and cons of each. Suffice it to say here that the property tax approach is anachronistic and definitely should not be extended beyond natural iron ore. Indeed, if it ever appears that prospects may again arise for substantial natural iron ore mining activity, either a production tax or a net proceeds tax would be preferable. The production tax works well for taconite, and the net proceeds tax seems likely to work for nonferrous metals. The key differences in these two approaches as applied in Minnesota are set forth below.

Taxation of Mining

All mining companies pay various forms of state income tax, sales tax, and property tax, and a special tax on or with respect to the mineral itself.

For mining companies, state income tax is collected through the occupation tax, which is similar to the state corporate income tax. In addition, mining royalties are taxable as income to the recipient and withholding of income tax on royalty payments is required.

All mining companies pay state sales tax on purchases of taxable items, but taconite production companies are exempt from paying sales tax on certain carefully defined items used in the production of taconite. These exemptions are not accorded to purchases of similar items by other types of mining operations.

Property tax paid on property other than the mineral varies depending on the type of mining. Companies which mine natural iron ore pay property tax on their land and buildings. So will companies which mine nonferrous minerals, if such mining ever develops. Companies which produce taconite do not pay property tax on land and buildings actively involved in the production of taconite. However, they do pay property tax on auxiliary, inactive, and reserve lands.

The special taxation of minerals also varies with the mineral: Owners or lessees of natural iron ore pay property tax on the value of the unmined ore. Taconite producers pay a severance tax, the taconite production tax, on each ton of taconite produced, in lieu of the property tax on both the taconite minerals and the related land and buildings. Owners also pay property tax on the value of unmined taconite on inactive and reserve lands. Companies that mine base and precious metals such as copper, nickel, lead, zinc, gold and silver would pay a tax on the net proceeds from the sale of these minerals, but no property tax on the ore reserves. Finally, there is a modest property tax on severed mineral interests of all types.

Income Tax: Occupation Tax and Royalty Tax

Occupation Tax History

Mining companies have been required to pay an occupation tax since 1921, pursuant to an amendment to the Minnesota Constitution (Article X, Section 3). It thus predates the income tax, which was enacted in 1933. The occupation tax is a tax on the value of the ore removed from the ground. However, it now conforms closely, but with important differences, to the corporate franchise (income) tax. Mining companies pay the occupation tax in lieu of the corporate income tax and in addition to all other taxes.

The Taconite Amendment

In 1963, Minnesota voters approved an amendment to the Minnesota constitution (the Taconite Amendment) that limited the state taxes taconite mining companies had to pay in each of the next twenty-five years. The Taconite Amendment expired in 1989.

Taconite Amendment

The Taconite Amendment required three tentative state tax amounts to be determined annually for each mining company, with calculations under the:

1. occupation tax and royalty tax laws in effect in 1963;
2. current corporate franchise tax and sales tax laws in effect for all other businesses; and
3. current occupation tax, royalty tax, and sales tax laws for mining.

The company's taxes for the year were the lower of (a) the third amount and (b) the higher of the first two amounts. If (a) was lower than (b), the reduction was to be taken in the occupation tax. As a practical matter, it was not at all unusual for the third amount to be limited by the second, but the first rarely if ever had any practical impact because it was virtually always less than the second.

Calculation of Occupation Tax (1927-1989)

1 The Department of Revenue estimated the annual value of a business's ore mined in Minnesota prior to processing. This was, and is, a difficult, subjective process because only about 10 percent of the ore produced is sold (with the rest being used by the mining companies in vertically integrated steelmaking operations). Because a price for the ore at the mine did not exist and that is the valuation point specified in the Minnesota constitution, each year the department had to determine a price to be used for occupation tax purposes.

Historically, the only value used for the purposes of buying and selling ore was the value at the steel mills on Lake Erie. The value has always been called the Lake Erie value. Various values have been published for acid pellets, flux pellets and different grades of natural iron ore. The Lake Erie value differed for various producers. These different prices were averaged to arrive at one price to use for occupation tax purposes. The exact price established is a matter of intense interest to the industry, and historically was negotiated annually between the department and the industry.

Since 1987, the department has been using the mine value, not the Lake Erie value, as the starting point for occupation tax determination. The mine value is the value of the taconite or iron ore f.o.b. mine. The mine value eliminates transportation costs from the calculation process.

Occupation tax calculation, continued

2 From the price determined in step 1, the department subtracted two types of deductions: administrative and statutory. The administrative deductions were estimated expenses a mining company would incur in processing (including labor, supplies and depreciation), stockpiling, loading, and an allowance for transporting the ore to a Lake Erie steel mill. Deducting these expenses from the Lake Erie price yielded the value of the ore at the mouth of the mine, the constitutionally dictated starting point for calculation of the tax. The 1987 change from the Lake Erie value to the mine value as the starting point eliminated the need for the transportation portion of the administrative deductions. The statutory deductions were the costs of labor and supplies to bring the ore to surface, mine development expense, depreciation of mining plant and equipment, interest, royalties paid on the ore mined and local property and production taxes.

3 The result in step 2 –the taxable value of the ore– was multiplied by the tax rate for the occupation tax. The tax rate began at 6 percent in 1921 and was gradually increased to 15 percent in the 1960s. The rate stayed there until 1986, when it was cut to 14.5 percent. From 1987 through 1989, the rate was 14 percent.

4 From the amount of tax in step 3, various credits were allowed as subtractions. The largest and most important was the labor credit. If a mining company qualified for the maximum labor credit, its net effective occupation tax rate could be reduced by more than half, from 14 percent to 5.75 percent.

In 1987, the legislature passed a law to more closely conform the occupation tax to the corporation franchise tax beginning in 1990– the first year after expiration of the Taconite Tax Amendment.

Occupation Tax current law

Current Law on Occupation Tax. The Minnesota constitution still requires businesses engaged in mining activities to pay an occupation tax. The tax is the same as the state's corporate franchise, or income, tax that other businesses are required to pay, with two important exceptions:

- the starting point for determining the occupation tax is the value of the ore at the mouth of the mine, rather than sales of the business.
- the occupation tax only applies to a business's Minnesota mining operations rather than to a share of the nationwide earnings of the business apportioned to Minnesota based on the degree of contact the business has with Minnesota.

Under the state corporate franchise tax, a business must pay tax on that percentage of its taxable income equal to the sum of 70 percent of the percentage of its total sales that are Minnesota sales, 15 percent of the percentage of its total property that is Minnesota property, and 15 percent of the percentage of its total payroll that is Minnesota payroll. Apportionment of income by this formula is used because of the belief, reflected in statute, that it is impossible to determine exactly where a multistate business earns its income, and that this formula is a reasonable basis on which to apportion income according to the relative significance of the business's contacts here as measured by the locations of its sales, property and payroll. Sales generally are deemed located where the customer is located.

For the occupation tax, because of the applicable constitutional provision, the total earnings of the business are ignored in favor of a calculation of Minnesota earnings that begins with the computed value of the ore at the mouth of the mine and sub-

tracts therefrom deductions allowable under the corporate franchise tax which are incurred in connection with the Minnesota mining operations. The tax base is 30 percent of those Minnesota earnings. This is the same percentage of income that is taxable in Minnesota under the corporate franchise tax for a company with all of its property and payroll in Minnesota, but all of its sales to customers in other states. In other words, the shipments of ore to out of state steelmaking plants are not considered Minnesota sales. The tax base is multiplied by the current corporate franchise tax rate, 9.8 percent in 1990, to determine the amount of tax.

In addition to the regular occupation tax, a mining company must pay the Minnesota alternative minimum tax if the alternative minimum tax is greater than the regular occupation tax. The alternative minimum tax is comparable to that applicable to corporations generally, with the same exceptions noted above for the regular tax. The alternative minimum tax base is broader than the regular base, generally because of less generous deductions, and the rate is 5.8 percent.

If the business has income from sources other than mining, and has Minnesota sales, property, or payroll not associated with mining, it must also file a corporate franchise tax return under the usual rules applicable to corporations, except that all mining operations would be disregarded. Most, if not all, of the companies with taconite operations in Minnesota regularly file state corporate franchise tax returns.

The occupation tax now conforms substantially to the corporate franchise tax, which should improve the administrative efficiency of the tax and the ability to compare tax burdens between mining and other business activities. Perhaps the key question now is how workable a new format for determination of the mine value of the ore, just completed in December 1990, will prove to be. This new format will permit determination of the mine value of the ore without annual negotiations between the department and the mining industry. It was developed by the Minerals Tax Section of the Department of Revenue's Local Government Services Division in consultation with the mining industry.

Royalty Tax: History and Current Law

Royalty Tax

In 1923, the Minnesota Legislature passed a royalty tax law providing for a 6 percent tax on any royalties received. The law assessed the tax against the royalty recipient, but because of the terms of the mining leases, the courts ruled that the lessee was responsible for payment of the tax. This position was affirmed by both the Minnesota and United States Supreme Courts in a series of rulings beginning in 1926. Although the 1923 legislature had intended that this tax be paid by the royalty recipients, it in effect became an additional tax on the mining industry.

For natural ore and taconite, the royalty tax rate paralleled the occupation tax rate. For other minerals, a special royalty tax rate of 1 percent was set in order to encourage exploration.

The royalty tax, as paid by the mining industry, was repealed by the 1987 legislature, effective for royalty paid after December 31, 1989.

In recent years at least, royalties have also been subject to the Minnesota income tax in the hands of their recipients. (The income tax was first enacted in 1933 and it has been amended repeatedly since. No attempt was made in connection with the commission's work to pin down exactly when royalty income first became taxable under Minnesota's income tax.)

While royalty income clearly is subject to the income tax, not all recipients have been paying Minnesota income tax. Many of the recipients are individuals or trusts located out of state and it proved difficult to collect income tax on the royalty payments to them. Some claimed that Minnesota had no jurisdiction to tax the income because it arose from an intangible, a beneficial interest in a trust traded on the New York Stock Exchange. This issue has yet to be resolved in court.

As a result of these difficulties in collecting the income tax on royalty income, the legislature acted to require withholding of income tax on royalty payments for use of Minnesota land made after December 31, 1989. Thus, the original intent of the 1923 legislation has finally been fully achieved–if the withholding provisions are followed and upheld in the event of a court challenge. Careful monitoring of compliance with the withholding provisions would appear to be in order.

Sales Tax

History

Sales Tax

The Minnesota sales tax was first imposed in 1967, at a rate of 3 percent. The rate was increased to 4 percent in 1971, 5 percent in 1981 and 6 percent in 1983.

The sales tax at first applied to purchases of all items except food, clothing, drugs, construction materials, and items purchased by manufacturers that are consumed in the production of a product to be sold at retail. This exemption covers fuels, lubricants, electricity, gas, steam, chemicals used in production process, and explosives. Mining companies typically use considerable quantities of these items in mining operations from extraction to shipment.

In 1971, the legislature exempted purchases of mill liners, grinding rods and grinding balls, and related items used in producing taconite pellets. Purchases of these items for any other use, including the mining of any other resource, remained taxable.

In 1974, the legislature extended the exemption to separate and detachable tools with a useful life of less than one year that were used in making a retail product. Thus, many of the items used in taconite production that were specifically exempted from the sales tax by the 1971 provision became exempt under this general provision of the law as well. However, some of the items covered by the 1971 exemption are outside the 1974 exemption.

In 1984, the legislature reduced the sales tax rate for purchases of capital equipment made by a business for use in establishing a new manufacturing operation or expanding an existing facility from 6 to 4 percent. However, this reduction specifically did not apply to machinery or equipment used to extract, receive, or store raw materials; which meant that mining companies could not take advantage of the lower rate.

In 1989, the legislature eliminated the sales tax on capital equipment purchases formerly subject to the 4 percent rate, but again left mining out. In 1990, the legislature extended this benefit to capital equipment purchased by mining companies to build or expand a mining, peat or quarrying facility, effective July 1, 1990.

Current law

Like all businesses, mining companies pay no sales tax on purchases of items that are consumed in producing a product to be sold at retail.

Purchases of capital equipment for use in establishing a new manufacturing operation or expanding an existing facility continue to be eligible for a full refund of the sales tax, and this benefit now applies to the mining industry as well as to manufacturing.

Purchases of mill liners, grinding rods and grinding balls for use in producing taconite pellets continue to be exempt. Specifically, this law exempts these items:

- grinding rods and grinding balls
- rod and ball mill liners, autogenous mill liners, crusher bowl liners (concaves), and mantle liners
- mill liner bolts for rod and ball and autogenous mills only
- Nordbak kits used to repair crusher bowl liners, mantle liners and mill liners
- feed, discharge, and chute liners
- conveyor skirt board rubber liners
- crusher spider caps, rims, liners, shell liners, lower hub liners, feed opening liners, wear rings, torch rings and other crusher-related liners
- classifier wear plates and classifier shoes
- cyclone classifier and collector wear plates
- dump pocket wall liners, wear bars
- linatex materials used in pipes, pumps, chutes, and hoppers
- refractory brick in rotary kiln only
- rubber or similar materials used as liners in pumps
- steel wear plate or alloys used to line hoppers, bins, chutes pockets or launders
- urethane materials used to line filter sectors, separator covers, fan blades, vertical classifier internal surfaces, cyclone classifier and collector internal surfaces, pipe fittings, pipe liners, chutes, bins, launders and sumps
- Nordbak kits used to repair liners exempt from the sales tax
- welding rods used to repair liners or wear plates exempt from the sales tax

The provision exempting purchases of separate and detachable tools with a useful life of less than one year used in producing a product to be sold at retail applies to the following items used in mining operations:

- shovel dipper teeth
- shovel lip and lower wing shrouds
- bulldozer and grader blade cutting edges
- drill bits and reamers

In addition, the following items, already covered by the special exemption for taconite production, are also exempt as separate and detachable tools with a useful life of less than one year that are used in producing a product to be sold at retail:

- grinding rods and grinding balls
- rod and ball mill liners, autogenous mill liners, crusher bowl liners (concaves), and mantle liners
- mill liner bolts for rod and ball and autogenous mills only
- Nordbak kits used to repair crusher bowl liners, mantle liners and mill liners

Property Tax

History and Current Law

The general rule in Minnesota is, and long has been, that real property (land and buildings) is subject to the property tax, but that personal property is not. This general rule applies (with one important exception), to mining related property, as well.

Companies that mine natural iron ore pay property tax on their land and buildings. So will companies that mine nonferrous minerals, if such mining ever develops. With the exception of some recent confusion over the dividing line between real and personal property in prospective nonferrous mineral mines (see Part 3, p. 52), there appear not to be any serious issues at present with respect to property taxation of the mining industry on property other than the minerals.

The exception to the general rule brings with it some complication. That is, of course, taconite. Companies that produce taconite do not pay property tax on land and buildings actively involved in the production of taconite. However, they do pay property tax on auxiliary, inactive, and reserve lands.

Lands and structures actively used for taconite production are exempt from the property tax, and are subject to the production tax in lieu of property tax. These actively used lands include the plant site, mining pit, stockpiles, tailings pond, and water reservoirs. Also included are lands stripped and ready for mining, but not lands merely cleared of trees. Exemptions are granted by parcel basis to the nearest five acres. Lands adjacent to these facilities, commonly referred to as auxiliary mining lands, are subject to assessment of property tax administered by the county.

The county assessor is responsible for estimating the market value of auxiliary mining lands and classifying them into one of several property classifications established by Minnesota statutes. The two most common property classifications used on auxillary mining lands are industrial and timber. In general, lands in close proximity to active taconite operations are assigned the industrial classification while those further away are classified as timber.

Iron Formation Land	Value ($/acre)	Classification
A. Land within 1/4 mile of active pit or planned 15-year pit limit without 1/4 mile buffer, whichever limit is greater.	$350	Industrial
B. Excess land (more than 1/4 mile from mining activity or outside 15-year limit).		
1. Undisturbed	same as other private land	Timber or current use
2. Disturbed		
a. Stockpiles	75% of other private land	Timber or current use
b. Abandoned Pits	50% of other private land	Timber or current use

Off-Formation Land	Value ($/acre)	Classification
A. Land within 1/4 mile of mining activity	$250	Industrial
B. Excess land (more than 1/4 mile from mining activity)		
1. Stockpiles	75 % of other private land	Timber or current use
2. Tailings Ponds	30 % of other private land	Timber or current use

For the industrial classification, the assessor's estimated market value (EMV) is multiplied by a class rate of 4.95 percent (5.06 in 1990) to obtain tax capacity, which is then multiplied by the local tax rate to calculate tax payable. The rate for the timber classification, on the other hand, is 1.6 percent (1.7 in 1990) of the EMV, or about one-third the industrial class rate. Local tax rates are determined by county, local government, and school district spending. For 1990, they range from a low of approximately 0.9 to a high of approximately 1.6 in St. Louis County.

The above schedule provides for adjustments in both the valuation and classification of off-formation lands, as well as further refinements based on the proximity of these lands to active mining operations. It also outlines valuation adjustments to be made on excess lands (those located more than one-quarter mile from mining activity) that have been disturbed by natural ore mining activity. This schedule was implemented in St. Louis County over the past two years and is subject to change as market conditions and/or Minnesota statutes dictate.

Special Taxes on Minerals

Property Tax on Natural Ore Mines

Property tax on natural ore mines

History. Mining businesses have been required to pay property taxes on the value of natural iron ore deposits since 1909. In 1936, the Minnesota Supreme Court ruled that the values of natural iron ore deposits were to be based on the present worth of future profits earned from the sale of the deposits.

Prior to 1972, taxable value was 66 percent of the assessor's estimates of market value of properties–except iron ore deposits.

A 1972 law change eliminated the 66 percent reduction. However, since the value of iron ore deposits had not been reduced originally, the relative tax burden on iron ore would have been reduced to one-third of its former level, unless an adjustment was made. To maintain the same relationship that had existed in the past between natural iron ore and other property, the law was changed to require the assessed value of iron ore to be multiplied by three.

Current law. All owners of natural iron ore deposits are required to pay local property taxes on the value of their ore reserves. The Department of Revenue estimates the quantities and market value of the natural iron ore deposits, and furnishes the values to county auditors to use in determining local property taxes.

State law requires the department to value natural iron ore deposits by estimating the present worth of future profits from the sale of the ore reserves. The department uses a formula –the Hoskold formula– to estimate the value of the natural ore deposits.

Under the Hoskold formula, the department determines both the average ore price and the average annual mining expense over the most recent five-year period and deducts the average expense from the average price. The department then applies a factor to discount the result to achieve the present value of the income which is to be received over a period of years. The discount factor is established by the estimated life span of the mine and the investment rates of return established by the Department of Revenue.

(If the formula determines that the iron ore deposits have no value, the department establishes a set of minimum values per ton for natural iron ore deposits, on the theory that the deposits do have value but they cannot be economically mined. For open pit mines the values range from 4 to 1 cent per ton, depending on the grade of the ore. For underground mines, the values range from 0.8 to 0.3 cents per ton, depending on the iron content or grade of the ore.)

In determining the property tax, state law requires that the value of the ore (that is, the present worth of future profits from the sale of the ore) be tripled. Then the value is multiplied by the the property class rate set by state law for commercial and industrial property (5.25 percent in 1989; 5.06 percent in 1990 and 4.95 percent in 1991). However, since in 1988 state law eliminated the concept of assessed value, rather than tripling the value of the deposits, property tax officials triple the tax rate. Mathematically, tripling the tax rate produces the same result as tripling the value of the deposits. Effectively, then, the property class rate for iron ore deposits now is 14.85 percent.

If new deposits of natural iron ore are discovered, state law requires the owner of the deposits to pay local property taxes on the value of the reserves for the six years immediately prior to the discovery of the ore deposits.

Property tax on unmined taconite

Property Tax on Unmined Taconite

There is also a property tax on unmined taconite under Minnesota Statutes Section 298.26. The statute exempts from the tax taconite on any 40-acre tract or governmental lot from which at least 1,000 tons of iron ore concentrates are produced in that year. Thus, the tax only applies to what are generally referred to as inactive and reserve lands. While a substantial portion (perhaps close to half) of Minnesota's taconite reserves are on such lands, the amount of tax is relatively insignificant because of its low rate. The tax is to be determined at the usual rates for commercial and industrial property, but cannot exceed $10 per acre.

The Department of Revenue divides all the iron formation lands on the Mesabi Range into two categories–good taconite and no good taconite– by evaluating exploration drill hole data submitted by the mining companies. Those meeting certain technical criteria set by the department are classified as good taconite; those that come up short are classified as bad taconite. The good taconite is then arbitrarily valued at $500 per acre, the bad at $25 per acre. Since the effective commercial industrial property tax rate hovers around 5 percent, the good taconite is taxed at the $10 per acre limit and the bad taconite at about $1.25 per acre.

The property tax on unmined taconite has brought in between $350,000 and $400,000 per year in St. Louis County in recent years. It brought in $35,000 per year in Itasca County, which has not collected it since 1986, presumably because county officials determined that it was not worth the combined bother to the county and the industry.

This tax may have been intended to encourage taconite production. However, at $10 per acre maximum (the equivalent of about a $200 per acre value), it seems unlikely that this tax would be the deciding factor between producing or not producing taconite, or that it will ever produce substantial revenue.

The tax may, however, encourage private owners of ore bearing land to lease the land for taconite production. The requirement to pay some tax even if there is no mining activity would tend to be a spur for owners to negotiate leases with reasonble royalty provisions so as to cover, or even eliminate, the tax.

The commission did not focus directly on the property tax on unmined taconite, because neither Department of Revenue staff nor the industry considered it worth the bother. With computerization of county records, it is thought not to be an undue administrative burden.

Future negotiations between the state and the industry could reasonably take the property tax on unmined taconite in either of two new directions. In view of the small amount of revenue involved, outright repeal might be considered in the interest of administrative efficiency; or, the take could be increased modestly by increasing or removing the $10 per acre limit, which, if the $500 value for good taconite lands is meaningful, has unmined taconite taxed at about 40 percent of the rate generally applied to commercial and industrial real estate.

Property Tax on Severed Mineral Interests

Property tax on severed mineral interests

Severed mineral interests are mineral interests owned separately from the title to the surface interest in land. In 1973, the legislature enacted a tax on severed mineral interests as part of an act requiring their owners to register them with the county recorder or forfeit them to the state. The purpose of the law was to "identify and clarify the obscure and divided ownership conditions of severed mineral interests in this state." (M.S. 93.52)

The initial forfeiture provisions were held unconstitutional for lack of sufficient notice and opportunity for a hearing. The statute was amended in 1979, and forfeitures under the new law have been upheld. The tax and registration provisions facilitate clarification of the ownership of mineral rights, which is of no small importance, given the potential for development of Minnesota's minerals industry.

The tax on severed mineral interests is $0.25 per acre per year times the fractional interest owned, with a minimum of $2 per tract. The tax is a property tax levied by local taxing authorities in the same manner as other property taxes.

Proceeds are distributed 80 percent to the local taxing districts in proportion to their respective tax rates and 20 percent to the Indian Business Loan Account in the state treasury to fund business loans to Indians by the Indian Affairs Council under Minnesota Statutes Section 116J.64. Total collections are in the $400,000 to $500,000 per year range.

Taconite Production Tax

History

In 1941, the legislature replaced the property tax on deposits of taconite in the earth with a new tax called the taconite production tax, a tax on each ton of taconite produced.

By replacing the property tax with a tonnage tax, lawmakers hoped to maintain employment on the Iron Range by providing an incentive for mining companies to convert from natural iron ore mining to the mining and production of taconite. Under the tonnage, or production, tax, mining companies would pay no tax until they actually began producing taconite. Most important, they would pay no tax for the several years it often took to obtain costly taconite production equipment and construct the expensive buildings necessary to house it.

While encouraging mining companies to convert to the production of taconite was an important goal of the new tax, its main purpose was to distribute revenues to a wider area of the Iron Range. As long as the property tax on taconite was in effect, tax revenues could be distributed only to local governments within whose boundaries taconite deposits were actually located. By shifting to a tonnage tax, the legislature could provide for distribution of the revenues to other local governments, including those providing services to their citzens who were mining company employees. (The history of the distribution of the production tax revenues is covered on page 40, under Taconite Production Tax Revenue Distribution.)

Determining the tax rate

In 1941 the taconite production tax was set at $0.05 per ton, where it remained until 1969, when the legislature increased the rate to $0.12, and made major changes in the pattern of distribution of the production tax revenue.

It is probably no accident that the major changes of 1969 occurred as the emphasis of Minnesota iron mining shifted from natural ore to taconite: in 1965, total production was 63.8 percent natural ore and 36.2 percent taconite; in 1970, it was 37.5 percent natural ore and 62.5 percent taconite. By 1975, the split was 20-80; by 1980 it was 5-95. Now it is about 1.5-98.5. By contrast, it was 98-2 in 1955 and 77-23 in 1960. Thus, the long period without major change in the taconite production tax and its distribution from 1941 to 1969 may have occurred because the revenues were neither significant nor much needed until the 1960s. The timing of the change no doubt is also bound up with the fact that property tax rates on the Iron Range had reached very high levels by the late 1960s. (This problem statewide led to enactment of the sales tax in 1967.)

The legislature has employed three different economic indices to increase the production tax rate for inflation since 1969. Also, a series of legislatively enacted increases took effect in 1969, 1971, 1972, 1973, and 1975. In 1976 the total production tax rate was 76.5 cents. The wholesale price index was in effect for this period and was responsible for 15.5 cents of the total.

In 1977, a major revision of the taconite production tax was enacted, which still serves as the basis for most of today's production tax law. The Economic Protection Fund and Environmental Protection Fund were first established by the 1977 law. Other main features included an increase in the base rate to $1.25 per ton and replacement of the wholesale price index with the steel mill products index. Another

feature, which was felt by the industry to be unfair, was the definition of taxable tonnage as the greater of the current year or a three-year average.

Due to the high inflation of 1977-81, the average rate reached a peak of $2.11 per ton in 1984. There were no increases in the $1.25 per ton base rate during that period. The iron content index was responsible for six cents of this $2.11 total, with the SMPI responsible for the remainder.

In 1984, the industry and the Iron Range Delegation agreed to an out-of-court settlement of a series of court cases over the production tax. As part of this settlement, the iron escalator, approximately six cents per ton, was phased out over two years. However, the major agreement was to drop the "greater of" definition of taxable tonnage and apply just the three-year average.

In an effort to further help the industry recover following the difficult period of the mid-1980s, the legislature established a base rate of $1.90 in 1986, and converted from the steel mill products index to the gross national product implicit price deflator (GNPIPD). This new base rate resulted in a reduction of about 15 cents per ton. The legislature froze the rate at $1.90 per ton for 1987 and 1988. The rate was allowed to rise to $1.975 per ton for 1989, but frozen there for 1990.

Since 1986, the GNPIPD has increased considerably more rapidly than the SMPI and the industry has expressed great concern over the effects of this index.

Determining the amount of production

In 1977, with the switch from the Wholesale Price Index to the Steel Mill Products Index, the legislature also moved to stabilize production tax revenues. As a tax on the number of tons of taconite produced, the amount of revenue produced by the tax was subject to the vicissitudes of the economy. A high production year followed by a low production year meant tax revenues received by Iron Range local governments would fall drastically, potentially resulting in major upsets in the services provided by the governments. In 1977, the legislature sought to smooth out some of the more precipitous drops in revenues by basing the tax not on the present year's production, but on the greater of the present year's production, or the average of production in the present and the previous two years.

This standard was in effect from 1977 through 1983, but was opposed by the mining industry, which sought to overturn it in the courts on the basis that it would result in the companies paying tax on taconite they had not produced. In an out-of-court settlement between the state and the mining companies, the standard of production for 1984 was agreed to be the actual tonnage for 1984, the standard for 1985 was the average of 1984 and 1985 production, and the standard for 1986 and beyond was the three-year average of the current year's production and the two previous years.

Current Law

The rate of the taconite production tax is determined by applying the GNPIPD. The present rate of tax is $1.975 per ton.

The amount of production used to calculate the tax — the number of tons of taconite produced — is the average of the production in the current and two previous years.

Special Taxes on Other Mineral Resources: Property Tax to Net Proceeds Tax

History

Until 1987, businesses mining base and precious metals– except for copper and nickel– were required to pay property taxes on the value of their mineral reserves, as well as on the land and buildings they owned. In 1987, the legislature passed a law to replace the local property tax on the value of base and precious metal reserves with a tax on the net proceeds from the sale of such metals. Thus, the mineral reserves of a business mining base and precious metals such as copper, nickel, lead, zinc, gold, silver and platinum, or energy resources such as coal, oil, gas and uranium, are now exempt from the property tax.

Current law

Businesses that mine base and precious metals and energy minerals are required by state law to pay a tax of 2 percent on their net proceeds from the sale of the metals or minerals. Some of the metals or minerals included in each of the three categories are:

Base metals	Precious metals	Energy minerals
Copper, Nickel, Lead and Zinc	Gold, Silver and the Platinum group	Coal, Oil, Gas and Uranium

The net proceeds tax does not apply to the mining or production of sand, silica sand, gravel, building stone, crushed rock, limestone, granite, dimension stone, horticultural peat, clay, soil, iron ore and taconite resources.

The statutory language (M.S. Sec. 298.015) applies the tax to all minerals and energy resources except those listed above as exempt. As a practical matter, for Minnesota that means the three groups–base metals, precious metals, and energy minerals– described above. For purposes of communication with the mining industry, the Department of Revenue refers to these three groupings as being taxable rather than the tax applying to everything but the list of exemptions.

How the tax is determined

To determine the amount of net proceeds tax, the business must:

1 add the total receipts for the year received from the sale of metals and minerals.

2 add the following expenses:
- the cost of labor including wages, salaries, fringe benefits, unemployment insurance and workers' compensation insurance.
- the cost of operating equipment and supplies, including the amount of sales tax paid on the purchase of such equipment and supplies.
- depreciation expenses for capital equipment, machinery and supplies.
- the cost of transporting the metals and minerals if the expense is included in the sales price of the metal or mineral.
- administrative costs incurred and paid in the state of Minnesota.
- exploration, research and development expenses incurred and paid during the year in the state of Minnesota.
- exploration and development expenses incurred in Minnesota before the start of production. (This cost must be capitalized and then deducted evenly over the first five years of production.)

3 Subtract the expenses in step 2 from the total receipts in step 1.

4 Multiply the result in step 3 by .02 (2 percent). The result is the amount of tax.

State and Local Involvement in Mining Taxation

General Overview

Minnesota has a complex state/local revenue system. For mining taxes, the relationship between the state and local governments is particularly tangled; moreover, it appears to be poorly understood and a cause of suspicion for people who are concerned with the revenue system but not directly involved with mining tax administration. This section is intended to clarify the respective roles of the state and local governments in mining taxation.

The "big three" taxes in Minnesota are the income, sales, and property taxes. Generally, income and sales taxes are administered and collected by the state. (There are a few local sales taxes.) All property tax revenue is collected and used at the local level. Property tax administration is primarily at the local level, but the state Department of Revenue exercises some supervisory responsibility. The sequence is completed with a massive transfer payment system from the state to the local levels, for most of Minnesota's state/local revenue is collected at the state level, while most of Minnesota's state/local public spending is at the local level.

Turning to mining taxes, those on income are uniformly administered by and paid to the state. Similarly, the sales tax generally applies to the mining industry as it does to other businesses, and it is administered by and paid to the state.

Net proceeds tax

One other state tax potentially applicable to the mining industry would be administered and collected solely by the state: the **net proceeds tax** on base and precious metals and energy minerals. (It is only potentially applicable because there is not yet any mining of such minerals in Minnesota.)

The net proceeds tax is similar to the taconite production tax in that it, too, is a toll charge on the removal of nonrenewable minerals. However, they are strikingly different in their place in the state/local fiscal system, for the taconite production tax is in lieu of property taxes on the mineral and on the land and buildings used in its mining and processing, while the net proceeds tax is not formally in lieu of any property tax. (The land and buildings would be fully subject to property tax, but the minerals themselves are not.)

To the extent that the general property tax applies to real property (land and buildings) owned by the mining industry, it is administered by the counties (subject to Department of Revenue supervision), as is property owned by any other taxpayer, with these two exceptions:

Taconite railroads: beginning with taxes payable in 1990, taconite railroads are treated just like other railroads, which means that the Minnesota Department of Revenue determines the amount of railroad value assignable to every taxing district in which the railroad has property. Once this determination unique to railroads is made, the property tax administrative process is back in the hands of local governments.

Second, the property tax applies to certain mineral interests, including unmined natural iron ore, unmined taconite, and severed mineral interests. Such mineral interests obviously are special cases. The auxiliary mining lands for taconite operations are another special case: they are close to the taconite operation, but not so close as to fall within the property tax exemption for taconite operations. They are valued and classified in accordance with specific rules which differ somewhat from

those applicable to land generally. These special provisions of the property tax all involve the Minerals Tax Section of the Department of Revenue's Local Government Services Division, and are unique to mining. They are not, however, very significant revenue sources: combined, they yield revenue of about $2.5 million yearly.

The Unique Place of the Taconite Production Tax in Minnesota's State/Local Revenue System

Finally, we come to the taconite production tax: by far the most significant tax on mining in Minnesota (nearly $73 million in 1990), the reason for this section of this report, and the principal reason for creation of the commission.

Taconite Production Tax: its unique place

Levied in lieu of the local property tax on a major industry, the taconite production tax is unique in Minnesota's state/local revenue system.

Its level is set by the legislature, but it is collected by the counties and distributed to local governments. The Revenue Department's Minerals Tax Section administers the taconite production tax aids in a similar manner to other local government aids administered by the department. However, the unique aspect of this tax is that the payment of the tax is made by the mining companies directly to the county auditors. The aids are calculated in accordance with statutes (which get more complex each year) and the department sends a certified statement of the amount of tax due each county from each company to both the company and the county auditor. The Minerals Tax Section sends each county auditor a detailed list specifying the amount of aid to be paid to each recipient within the county. (The heavy county involvement was a result of an effort to diminish the apparent magnitude of state general fund spending-games legislatures play, not administrative efficiency. The tax probably could be administered more efficiently, especially from industry's point of view, by the Department of Revenue.)

Its distribution among local governments is not determined by the local government districts where property is located or activity conducted, but by statutory formula, which is changed regularly.

A portion of the tax revenues is distributed, not directly to local governments, but to the Iron Range Resources and Rehabilitation Board (IRRRB), and funds administered by it, all of which exist to benefit the Iron Range and its residents. The IRRRB is not unlike the Greater Minnesota Corporation, which was created in order to promote economic development in Greater Minnesota (that part of the state outside the seven-county Twin Cities Metro Area).

The Iron Range Delegation

All of the legislative decisions are, by tradition, effectively made by the Range Delegation and ratified by the legislature as a whole. This is similar to what happens in the committee process, but the Range Delegation is not part of the formal committee structure. The Range delegation consists of Senators Douglas Johnson (Dist. 5) and Ron Dicklich (Dist. 6) and Representatives Loren Solberg (3B), Tom Rukavina (5A), Jerry Janezich (5B), David Battaglia (6A), and Joe Begich (6B).

While the taconite production tax is levied in lieu of the property tax, its revenue considerably exceeds what would be produced by the property tax levied on the taconite industry property.

These characteristics add up to the taconite production tax being unique in Minnesota's state/local fiscal system, and to it being viewed with suspicion by some.

What those who are suspicious may not appreciate is that the conditions under which the taconite production tax operates are also unique in Minnesota, and they fully justify the uniqueness of the tax.

The first thing to realize is that the tax is in lieu of property taxes on the ore itself *and* on the real property used in connection with the mining and processing of it (M.S. Sec. 298.25). The basic business property tax rate in Minnesota currently is 4.95 percent of market value (actual rates vary up and down, depending on the local tax rate). The typical Minnesota taxes on business real estate are among the highest in the country. The taconite industry has an enormous amount of property on the Iron Range (estimated at $1 billion in value by the Department of Revenue) and is the principal industry on the Range. In no other part of the state are communities denied the ability to collect substantial taxes from their most significant industry. Thus, local distribution of the production tax is clearly justified.

Second, the taconite industry facilities come in huge chunks in particular locations, but affect other communities throughout the Range. Thus, the conventional property tax would result in some communities being extremely wealthy and others extremely poor. This economic fact of life supports both the production tax as an alternative to the property tax and the role of the Range Delegation as a kind of community council for the entire Iron Range in determining how the proceeds will be distributed among the communities.

1989 per-capita taxable tax capacities

Third, aside from the exempt taconite property, the Iron Range is relatively poor in property wealth compared to the rest of the state. The taconite tax relief area includes part or all of the five Iron Range counties, Aitkin County and Koochiching County. The 1989 taxable tax capacities per capita for the taconite areas in those counties, the metro area, the nonmetro area, and statewide were:

Cook	$1,244	Area as a whole	631
Crow Wing	961	Four counties with substantial	
Aitkin	880	taconite property as a whole	
Itasca	864	(Cook, Itasca, Lake, St. Louis)	594
Lake	465	Nonmetro	653
St. Louis	455	Statewide	794
Koochiching	390	Metro	927

The figures shown reflect the exemption from the property tax of taconite property. The Department of Revenue estimates the tax capacity of all exempt taconite property (land, buildings, ore) in the four main counties as $50.5 million. Adding that in would give those counties an overall tax capacity per capita of $995.

The vast majority of the taconite production tax is distributed within St. Louis County, which also contains $48.8 million of the additional tax capacity from exempt taconite property. Adding that to the tax capacity of the St. Louis County area of the Range would get it up to $982 per capita.

Thus, without taking taconite property into account, the areas of three of the counties receiving production tax dollars, including St. Louis County, which receives by far the most, are poor in property wealth compared to the nonmetro, statewide and metro averages. Adding in the taconite property at its tax capacity gets the whole area up to slightly over the metro average. (And the production tax is actually bringing in about $20 million more than would the property tax on the

exempt property, so the advantage with the production tax is actually higher.)

Of the 53 cities in the taconite relief area, only five have per capita tax capacities (excluding the exempt taconite property) above the nonmetro average, and many are much lower. The per-capita tax capacities for these cities is shown below:

Table 1
Taxable Tax Capacity Per Capita for Cities in Taconite Relief Area, Taxes Payable 1989

County	City	Taxable Tax Capacity	1988 Population	Per Capita Taxable Tax Capacity
Crow Wing	Crosslake	$3,233,324	1,020	$3,170
St. Louis	Franklin	30,591	21	1,457
Crow Wing	Emily	721,621	618	1,168
Crow Wing	Riverton	100,157	123	814
Itasca	Grand Rapids	5,733,269	8,194	700
Itasca	Warba	76,629	118	649
St. Louis	Hoyt Lakes	1,537,585	2,383	645
Itasca	La Prairie	283,129	471	601
Itasca	Zemple	29,323	55	533
Crow Wing	Deerwood	308,795	597	517
Cook	Grand Marais	761,547	1,500	508
Aitkin	Aitkin	924,731	1,883	491
St. Louis	Orr	108,013	241	448
Crow Wing	Cuyuna	77,681	174	446
St. Louis	Mountain Iron	1,611,947	3,751	430
St. Louis	Virginia	3,727,673	9,562	390
Lake	Beaver Bay	83,298	218	382
St. Louis	Hibbing	7,120,828	18,723	380
Crow Wing	Trommald	31,593	84	376
Itasca	Effie	39,104	104	376
Crow Wing	Crosby	777,478	2,093	371
St. Louis	Leonidas	29,966	81	370
Itasca	Coleraine	372,998	1,073	348
Itasca	Taconite	111,303	329	338
St. Louis	Iron Junction	36,428	112	325
Crow Wing	Ironton	188,738	596	317
Lake	Two Harbors	1,166,634	3,719	314
St. Louis	Eveleth	1,390,785	4,544	306
St. Louis	Chisholm	1,577,232	5,219	302
Itasca	Deer River	260,899	864	302
St. Louis	Ely	1,066,949	3,662	291
St. Louis	Kinney	69,551	250	278
Lake	Silver Bay	584,681	2,179	268
St. Louis	Cook	206,615	776	266
Aitkin	Palisade	38,323	144	266
St. Louis	Brookston	29,485	111	266
St. Louis	Tower	134,930	514	263
Itasca	Bigfork	137,524	538	256
St. Louis	Gilbert	536,583	2,105	255
St. Louis	Winton	43,160	174	248
St. Louis	Meadowlands	22,843	93	246
St. Louis	Aurora	523,152	2,176	240
St. Louis	Babbitt	468,512	1,978	237
St. Louis	Floodwood	135,941	628	216
Itasca	Calumet	83,828	404	207
St. Louis	Buhl	198,178	988	201
St. Louis	McKinley	30,451	155	196
St. Louis	Biwabik	245,299	1,249	196
Itasca	Squaw Lake	27,924	146	191
Itasca	Bovey	136,478	751	182
Itasca	Marble	130,820	734	178
Itasca	Nashwauk	216,301	1,345	161
Itasca	Keewatin	214,370	1,366	157

Fourth, the property tax, which most local governments rely upon heavily, is extremely stable. The taconite production tax, by contrast, could be unstable, as production fluctuates considerably. Further, as discussed in Section 3 (p. 58), one device currently relied upon to promote stability –using a three-year average of production– may actually increase the risk of a precipitous drop in production. Clearly, some mechanism like the funds maintained by the IRRRB is a highly desirable means of ensuring local governments of reasonably stable revenue flows from the inherently unstable taconite industry.

Fifth, while there is as yet no accepted measure of local need, some of the characteristics of the Iron Range suggest that government may tend to be more expensive there than in most of Greater Minnesota. Those characteristics include rugged terrain, long, harsh winters, sparse population, and remote location.

Sixth, the risk of sudden drops and gradual long-term economic decline of the taconite industry fall heavily, and disproportionately, on Northeastern Minnesota. The comparatively high level of taxes is one of the elements in the risk equation. The risk for the region is high, and it is therefore appropriately managed collectively by the legislators of the region, the Range Delegation, who are intimately familiar with the situation and have to live with the results of their decisions, rather than by the legislature as a whole.

Seventh, the Range Delegation has a history of dealing with the taconite industry and is probably better positioned to pay close attention to the issues affecting it than any other group would be. To the extent that there is an entrepreneurial aspect to the taxation of mineral resources, the Range Delegation should be able to maximize the benefits to Minnesota from the taxation of Minnesota taconite.

Eighth, the long-term decline of employment in the iron mining industry (from over 14,000 in 1979 to approximately 5,400 today) is a very difficult problem for Northeastern Minnesota. Coping with it seems an appropriate use of taconite production tax revenues.

Ninth, the taconite industry and the taconite production tax are relatively small parts of the statewide economy and tax revenues, but large parts of the economy and tax revenues for Northeastern Minnesota. This is one more reason why the current arrangement makes good sense.

In sum, the taconite production tax occupies a unique place in Minnesota's state/local revenue system. The unique way in which it is administered and distributed does tend to arouse suspicion in some quarters, but upon examination there is good reason for the existing arrangement.

Other Alternatives

If this arrangement makes sense for taxing the taconite industry, what about natural iron ore and other minerals?

Natural Iron Ore. As of now, the issue does not even arise for natural iron ore because Minnesota still relies on the local property tax for taxation of natural iron ore operations. Under the current economics of iron mining, the commercially exploitable natural iron ore in Minnesota will be completely exhausted in a very few years. If the economics change so that there is potential for mining the large amount of less accessible ore, the legislature may want to revisit its approach to taxation of natural iron ore. If the legislature decides in the future to change from

the local property tax to either a production tax or a net proceeds tax for taxing natural iron ore, it might also want to consider folding the distribution into the taconite production tax distribution process.

Other Minerals. The situation for other minerals is quite different. There has never been any local property tax from such minerals, and the minerals themselves are now exempt. Moreover, the land and buildings would not be exempt from the property tax as they are in taconite mining. Finally, the taconite production tax alone provides the Iron Range with considerably more revenue than would be produced by the property tax alone, so there is no compelling economic reason to distribute the net proceeds tax revenues in the same fashion as taconite production tax revenues.

These differences aside, the current distribution scheme for net proceeds tax revenues follows the same approach as that used for taconite production tax revenues for "minerals and energy resources mined or extracted within the taconite tax relief area," with percentage distributions to various local governments spelled out in Minnesota Statutes Section 298.018. Net proceeds tax revenues from mining or extraction outside the taconite tax relief area are to be deposited in the general fund.

There currently is no net proceeds tax revenue because no mining activity is taking place. However, some speculation about the future may be useful. First, unless and until taconite production drops significantly for a sustained period of time, the Range Delegation already is controlling on behalf of residents of the Iron Range more revenue from the taconite production tax than would be produced for local governments by a property tax on the taconite industry. Moreover, inclusion of the taconite tax base makes those local governments somewhat rich in tax base relative to local governments in the rest of the state. One of the dangers identified by the commission is that taconite production may well drop significantly in the future, and if that happens, there would be ample justification for supplementing the taconite production tax revenues with net proceeds tax revenues. At present production levels, however, it is difficult to see why still another tax should be dedicated for local use.

Second, if the future does bring major development in the types of mining subject to the net proceeds tax, it may include very large facilities in a few local jurisdictions. Even if the scale is not comparable to that of the massive taconite operations, the question of tax base sharing may arise. That is accomplished with respect to taconite by exempting all of the land and buildings from the propety tax and using distribution of the production tax by the Range Delegation to make up for it. Under current law, the local jurisdictions would still collect property tax on the land and buildings associated with other mining. If such problems of concentrated tax base arise in the future, there may be pressure to exempt such property from the property tax just like is done now with taconite.

Such problems of extreme tax base concentration might be solved before they arise through general reform of Minnesota's property tax system, a subject which is beyond the scope of this report. In the meantime, however, the fact that local governments would get property tax revenues from the land and buildings associated with the kinds of mining which would produce net proceeds tax revenues, would seem to be another reason not to distribute such revenues locally.

What About Taconite? It would be possible to construct a method of taxing the taconite industry and financing local governments in the taconite tax relief area that

did not involve the present unique combined approach to those functions. Such a change would need to include one or both of the following approaches.

First, the taconite production tax could be reduced (or replaced by a net proceeds tax) and the property tax made applicable to the land and buildings, but not the ore itself. The problems with this approach are that it would make some communities (those where the facilities are located) extremely rich in tax base, and it would require assessment of special purpose property which is inherently difficult to value, probably making the tax administration process less efficient and more contentious. These two problems already exist with respect to business property in Minnesota generally; there would seem to be little point in adding to them. Moreover, Minnesota already relies very heavily on the business property tax as a revenue source, and a strong argument can be made that we should be moving away from it toward other taxes on business activity, of which production and net proceeds taxes may be good examples. Thus, increased reliance on the property tax for the taconite industry does not appear desirable.

Second, with or without increased reliance on the property tax, massive doses of state aid would be required to make up for the "undesignation" of the current production tax. One could imagine a statewide formula that would distribute substantial amounts of aid so as to (partially) equalize property tax bases among communities. Indeed, education aid already is distributed explicitly in such fashion. Perhaps the existing approach to education aid would protect Iron Range school districts, but the counties, cities, and towns would be left with minimal property tax bases, facing a situation in which there are no effective, comprehensive, need-based state aid formulas. Special formulas could be created, but that would differ little conceptually from the present situation.

The natural fear on the Iron Range would be that they would fare less well at the hands of the legislature as a whole than they now do at the hands of the Range Delegation. And that may be true, at least until the next crash (if there is one) in the steel industry.

Perhaps the best reason for retaining the present approach to the taconite production tax is that we should not fix what is not broken. The circumstances in which it occurs clearly make the existing process for administration of the taconite production tax reasonable. The changes required in any major restructuring have serious problems. And the Range Delegation is managing to extract taxes from the taconite industry at more than double the rate that competing sources for iron ore are collecting. Perhaps the best course of action is to encourage them to invest more of this tax revenue in the future of the Iron Range and the state by supporting increased research and development in the minerals field.

The commission did not focus on the respective roles of the state and local governments in mining taxation. However, the chair recommends:

Recommendations of the chair

That the existing institutional arrangements emphasizing the role of the Range Delegation in the taconite production tax be continued;

That any future change in the taxation of natural iron ore from reliance on the property tax to either a production tax or a net proceeds tax be accompanied by consideration of whether the distribution of that tax should be folded into the existing production tax process; and

Recommendation of the chair

That Minnesota Statutes Section 298.018 be amended so that the net proceeds tax, if any ever arises, will be treated as other state taxes through deposit in the general fund without any designated or dedicated use of its revenues.

Taconite Production Tax Distribution

General Overview

The taconite production tax revenues are collected and distributed in the year following production (e.g., taxes payable on 1989 production are paid and distributed in 1990) pursuant to complex statutory formulas which have evolved since the tax was first enacted in 1941. The formulas are changed by the legislature from time to time on the recommendation of the Range Delegation.

The commission chose not to make a detailed examination of the distribution of the production tax revenues. Accordingly, this report is neither an endorsement nor a criticism of the details of the distribution of taconite production tax revenues.

Community representatives on the commission either had no particular problems with the existing distribution of proceeds or deemed the commission an inappropriate forum for raising such problems. Industry representatives believe that the production tax should be no higher than necessary to provide about $65 million per year for the benefit of local governments because they believe that that amount suffices to discharge the industry's obligation to provide support for local governments on the Iron Range. The industry clearly believes that the level of the tax should be reduced, and by implication, that some changes in the distribution are in order.

Nevertheless, for at least three reasons, this report would not be complete without some observations on the distribution of the taconite production tax revenue. First, a rudimentary understanding of where the production tax revenue goes is necessary background for intelligent consideration of mining taxation in Minnesota. Second, some of the recommendations of the commission do, in the chair's opinion, have important bearing on the production tax revenue distribution. Third, the state's fiscal situation raises the possibility of general property tax reform, which in the chair's opinion also has a bearing on the production tax revenue distribution.

History

Mining of iron ore and taconite on the Iron Range has been conducted only in Crow Wing, Itasca, and St. Louis counties. In 1941, when the production tax was enacted, the legislature provided for the distribution of taconite production tax revenue in fixed percentages to the city or town, school district and county where the taconite was mined and processed, with a small percentage also allotted to the state general fund. As a result, the local governments receiving such distributions were located only in Itasca, Lake and St. Louis counties (with Lake included because, while it had no mining, it did have processing facilities).

This pattern of distribution continued until 1969, when the legislature established the taconite homestead credit (described below) and expanded the area that would receive distributions from the taconite production tax revenues (commonly called taconite aids) by defining the taconite tax relief area according to the geographic boundaries of school districts (so that other local governments included in whole or in part within those boundaries could receive aid, even though mining or processing did not occur within their own boundaries) and to include reference to natural ore as well as taconite production.

In 1969, the legislature decided that revenue from the taconite production tax should be distributed not only to local governments in which taconite mining or processing actually took place (all of which were located in Itasca, St. Louis, and Lake counties), but also to local governments in Aitkin, Cook, and Crow Wing counties. These were added either because natural ore occurred or had been mined there (Aitkin and Crow Wing) or due to the location of a power plant generating facility for a taconite plant (Cook County).

Aitkin County is included, even though no mining ever occurred there, because in the early 1940s the natural ore in a few townships there was valued high enough to constitute the requisite percentage of the tax base under the 1969 definition of the taconite tax relief area. Crow Wing County, where mining of natural ore actually did occur, qualified on the same basis. A miniscule amount of taconite production tax money (now about $3,000 per year) could go to local governments in Koochiching County by reason of a few homes and farms in the southern part of the county qualifying for the taconite homestead credit because they are within School District 710, which covers a large rural area north and south of the Iron Range as well as part of the Range itself. While small amounts of taconite aid go to local governments in Aitkin, Crow Wing, and Koochiching Counties, they do not receive aid under the main county aid formulas.

The legislature decided to distribute production tax revenues to a larger area essentially to help pay for increased demands for public services due to the presence of mining company employees who were living–although not working–in the area. The old natural ore areas were included because large numbers of taconite company employees lived there, the area was traditionally dependent on mining, and local governments were otherwise bound to suffer greatly from the decline of natural ore mining.

Two small programs for distribution of state general fund aid to Region 3 of the state also bear mention here. At one point, the legislature extended the distribution of taconite production tax revenue to the Deer River and Floodwood school districts. However, this was eliminated in the settlement of disputes with the mining industry over the level of the tax and its distribution, and replaced with an equivalent amount of aid from the state general fund. And there is another small aid program for certain rural areas that goes back to a governor's executive order. Each program involves distributing an amount of aid from the general fund that is related to the level of taconite production. Their existence helps illustrate the complexity of the aid distribution program in connection with the taconite production tax which has grown up over the past 50 years.

Current Law

The taconite tax relief area is the geographic area within a school district where taconite is mined or processed, or where natural ore was formerly mined (M.S. 273.134). Thus, the tax relief area is coterminous with the boundaries of the school districts within which the named activities occur or occurred. Cities and towns wholly or partly located within such school districts are included. So is each of the seven counties within which such districts are located.

School district, not county, boundaries define the the limits of the taconite relief area to which taconite aids are distributed. Large areas of St. Louis County (including Duluth) are not included because they do not contain taconite mining or processing facilities and did not formerly rely on natural ore.

A general idea of the distribution of the production tax can be gleaned by a look at the distribution in 1990 of the $72,981,829 paid with respect to 1989 production. The following table summarize the distribution.

1990 Distribution of 1989 Production Tax

	Amount	Percent
Direct local government benefit	$51,311,524	70.3
IRRRB	21,513,775	29.5
Range Assoc. of Municipalities and Schools	101,530	0.2
Department of Revenue	55,000	
Total	$72,981,829	100.0
School districts	$19,654,345	
School bonds	862,122	
Counties	13,013,809	
Cities and Towns	8,243,812	
Taconite property tax relief	9,537,436	
Total distributed for direct local government benefit	**$51,311,524**	

The distribution is shown in more detail by the 1990 Taconite Production Tax Distribution Flow Chart in the Appendix, reprinted from the *1990 Minnesota Mining Tax Guide.*

The amount shown for taconite property tax relief is distributed to school districts, counties, cities and towns. The taconite property tax relief money results from the taconite homestead credit, which is described below. These amounts are distributed to local governments after the property tax rates are set, and they reduce the taxes otherwise payable by homeowners and farmers. In general, the other amounts distributed for direct local government benefit serve to take pressure off property taxes across the board. Of course, it is impossible to determine the extent to which these aids replace property taxes and support spending at levels beyond what local governments would otherwise be willing to levy in property taxes. (The Department of Revenue currently estimates that the pay-1991 average property tax rates will be 106.4 percent for the Iron Range and 105.9 percent statewide.)

The IRRRB IRRRB means the Iron Range Resources and Rehabilitation Board, which was formed in 1941 when the taconite production tax was first enacted. The IRRRB was funded by occupation tax revenues until the mid-1970s, when the taconite production tax became its primary funding source. The IRRRB has a broad legislative charter to take actions to combat actual or potential future "distress and unemployment" arising "by reason of the removal of natural resources or a possibly limited use thereof in the future." (M.S. Sec. 298.22 et seq.)

The total shown for the IRRRB includes, among other items, payments to the Taconite Environmental Protection Fund and the Northeast Minnesota Economic Protection Fund, which were created by legislation in 1977 and are administered by the IRRRB. The Environmental Protection Fund was "created for the purpose of reclaiming, restoring and enhancing those areas of northeast Minnesota located within [the taconite tax relief area] that are adversely affected by the environmentally damaging operations involved in mining taconite and iron ore and producing iron ore concentrate and for the purpose of promoting the economic development of northeast

Minnesota." (M.S. Sec. 298.223) The Economic Protection Fund was "created to be devoted to economic rehabilitation and diversification of industrial enterprises where ... severe economic dislocations and widespread unemployment" arise as a result of "a drastic reduction in activity" within the taconite tax relief area by "a single industry on which [the] area is largely dependent." (M.S. Sec. 298.292).

These two funds get a lot of money in good years. They get much less in bad years. And in *really* bad years, money is taken from them and distributed to other recipients pursuant to guaranteed distribution levels of a percentage of the amount distributed in 1984 based on 1983 production. This helps to provide stability in local government revenues in the face of instability in taconite production, and production tax, levels.

This is a very high-level summary of the complex provisions for distribution of the taconite production tax revenues. For example, the allocation of taconite property tax relief dollars among the types of local government is not shown because a major research effort would be required to determine what it was.

That is the background on distribution of the production tax. Now for its relevance to specific issues.

Simplification of production tax distribution formulas

Gradually increasing complexity over time is probably a fact of life for aid formulas, as incremental changes are made to reflect changing conditions (and political power) but there is great hesitation to take a fresh look at the whole thing for fear that it would be a political hornet's nest (or would cause major change in some important people's comfortable status quo). Whatever the reason, the taconite production tax revenue distribution provisions have reached a most impressive level of complexity.

Ideally, one would hope that the Range Delegation might some day throw the whole thing out and start over. Failing that, as one would expect, Department of Revenue staff have identified two pieces of the distribution puzzle that are particularly in need of simplification: the school bond formulas, where the different formulas (for no apparent reason) for each situation lead to frequent, lengthy explanations to local officials; and the municipal aid formula, which is so complex that Revenue is unable to give reasonably accurate forecasts to city officials, to the constant frustration of all concerned.

Recommendation of the chair

The chair recommends that the Range Delegation at least simplify the school bond formula and the municipal aid formula used in distribution of taconite production tax revenue.

Stability in local revenues

If the distributions of taconite production tax revenues were based solely on the annual production, local governments could have serious problems with revenue instability because production is itself unstable. However, the potential instability of the production tax distributions is moderated by two factors: (1) The tax is paid on a three-year average of production; and (2) the aid guarantee formula contained in M.S. 298.225 provides for the withdrawal of monies from the two IRRRB administered funds when actual tax revenues fall.

As discussed below, it would be beneficial to industry to base the tax on the actual production each year. Local communities would not be hurt so long as enough of

a fund could be accumulated in good years to support supplemental payments to them in bad years. The fact that these funds have been allowed to accumulate to substantial levels (December 31, 1990, balances of $36.7 million in the Northeast Minnesota Economic Protection Fund and $2.5 million in the Taconite Environmental Protection Fund) strongly suggests that the legislature is indeed capable of allowing the fund to accumulate so that a change to basing the tax on actual production could be made without harming the communities.

Homestead and Homestead Farm Taxes. In Minnesota, the basic tax rate on the first $68,000 in value of owner-occupied homes is 1 percent; for the first $110,000 in homestead farm land value, 0.45 percent. Actual rates vary depending on the local tax rate. If it is 100 percent, the actual rate is as stated; if it is less than 100 percent, the actual rate is lower; and if it is higher than 100 percent, the actual rate is higher.

Average local tax rates are as follows:	
Statewide	105.9%
Metro	106.0
Nonmetro	105.7
Iron Range	106.4

These low rates on the first increments of value for owner-occupied homes and farms in a state which provides a higher level of services than most are among the biggest tax bargains in the country.

At values above the stated levels, the rates rise. From $68,000 to $110,000 in home value, the base rate is 2 percent; above $110,000 it is 3 percent. For farm homesteads, the house, garage, and one-acre portion has the same rates as residential homesteads; the remaining land market value, up to a total value of $110,000, has a base rate of 0.45 percent. Any remaining farm land value in excess of $110,000 has a base rate of 1.3 percent up to a total of 320 acres of land. And any land value beyond the 320 acre and $110,000 levels has a base rate of 1.6 percent. (All of these rates vary in practice with the local tax rate as explained above.) Thus, as the home and farm values rise, the taxes rise much more than proportionately. This results in painfully high percentage property tax increases as values rise, and makes property taxes much less of a bargain on higher valued properties.

To illustrate the extent of Minnesota's bargain on home property taxes, it is useful to compare the average effective property tax rates on single family homes with FHA-insured mortgages, as compiled by the Advisory Commission on Intergovernmental Relations. For 1987, the rates for Minnesota and our neighbors were:

Minnesota	1.00%
North Dakota	1.38
Iowa	1.96
Wisconsin	2.03
South Dakota	2.17

The bargains described so far are those that apply generally to modest amounts of value for Minnesota homes and farms. The bargain is even better in the taconite tax relief area, for here the low basic rates are coupled with the taconite homestead credit.

The taconite homestead credit

The taconite homestead credit reduces by two-thirds (66 percent) the property tax to a maximum credit of $259.90 for owner-occupied homes and farms in cities and towns that formerly had natural ore mining or currently have taconite mining or facilities; or by 57 percent to a maximum credit of $234.60 for qualifying property

outside the community that contains (or formerly contained) the mine or plant. Thus, the 66 percent credit has an impact on the first $394 of tax otherwise payable, and the 57 percent credit on the first $412 of tax otherwise payable. At those levels, absent the complications described below, the property owner would pay $134 instead of $394, or $177 instead of $412.

If the local tax rate is 100 percent, the tax otherwise payable on a $40,000 home would be $400 and the tax otherwise payable on farm land worth $88,889 would be $400. Thus, again absent the complications described below, the benefit of the taconite homestead credit is limited to approximately the first $40,000 of home value and the first $89,000 of farm land value, with the benefit extending to somewhat higher values if the local tax rate is less than 100 percent and being restricted to somewhat lower values if the local tax rate exceeds 100 percent.

The foregoing description suffices to illustrate the concept of the taconite homestead credit. Its actual operation is not quite that simple. The complexity arises from the elimination of the general homestead credit statewide and its replacement in 1989 by an aid program (Homestead and Agricultural Credit Aid, known as HACA), a lower base rate (1 percent instead of 2.17 percent) on the first $68,000 of value; and the addition of a new state aid program–Disparity Reduction Aid. In other words, the taxes on the first $68,000 were kept low, but the technical mechanism for producing this result changed.

This change in the general approach to homestead property taxes required some change in the taconite homestead credit as well. Prior to 1990, taconite homestead credit was calculated by subtracting the general homestead credit from the gross tax on a home and then calculating the taconite homestead credit on the remaining tax. To adjust the taconite homestead credit to the new system of taxing homes, the law was changed to limit the taconite homestead credit on a home to the level that will yield a tax equal to 95 percent of the effective tax rate of a similarly valued home for taxes payable in 1988.

This change tends to freeze the home taxes actually payable on the Iron Range at about 95 percent of what they were on the same amount of value in 1988, all else being equal. Many homes otherwise eligible for relatively large amounts of taconite homestead credit do not receive as much benefit as would otherwise be indicated because the program is not allowed to take taxes below 95 percent of the 1988 level on the same amount of value in that community. However, if local tax rates increase over 1988 levels in the future, the taconite credit will tend to expand on a dollar-for-dollar basis until the full benefit as described above is received, so the net tax payable by the homeowner will not increase until local rates increase to such an extent that the full benefit of the taconite homestead credit is utilized.

The table on the following page compares property taxes on $30,000 and $50,000 homes in selected Minnesota cities. Three –Eveleth, Hibbing and Virginia– are in the taconite tax relief area. The seeming oddity among the three Range cities, with Hibbing having a higher tax rate but lower taxes than Eveleth and Virginia, results from the complication described above. Duluth looks outrageously high by comparison to the rest of the cities, but a 1.41 percent rate would have tied it with Texas for 13th highest in the nation (using 1987 numbers which have probably risen since then). This picture is not too bad for a state that ranks in the top half dozen or so states in taxes and spending by state and local government as a percentage of personal income.

Table 2. Property Taxes on $30,000 and $50,000 Homes In Selected Cities, Pay 1990

	Local Tax Rate	$30,000 Market Value	$50,000 Market Value
Eveleth	107.852	231	537
Virginia	107.950	271	490
Hibbing	120.373	189	462
Eagan	86.939	261	435
Bloomington	95.066	285	475
Minneapolis	101.651	305	508
Mankato	102.478	307	512
St. Cloud	106.330	319	532
Moorhead	107.241	322	536
St. Paul	109.125	327	546
Rochester	109.517	329	548
Brooklyn Park	110.652	332	553
Duluth	141.121	423	706

As this report is written, policymakers are beginning to consider how to deal with a serious budget shortfall for the fiscal years 1992–1993. Among the options to be considered may be increasing property taxes on the lowest increments of value on owner-occupied homes (first $68,000) and farms (first $110,000). Fairness suggests that any such change affect the taconite tax relief area as well. Indeed, fairness would seem to require that homeowners be subject to the same tax rules, regardless of where in the state they live. The taconite homestead credit could be ended and still leave homeowners in the taconite tax relief area with property taxes that are a bargain compared with those in our neighboring states.

If homestead tax rates are to be made to rise, the increases could be made gradual through expansion of the special property tax refund targeting program, under which the state refunds all or a portion of annual increases over certain specified amounts or percentages. Any such property tax increase should be accompanied by provisions to protect low income homeowners against property taxes that would otherwise claim an undesirably high share of that limited income.

If the taconite homestead credit were ended, the approximately $10 million per year involved could well be used in either of two ways: general aid to the taconite tax relief area communities, which would tend to reduce the taxes on all types of property; or increased funding of research and development efforts.

The table on the next page compares 1990 property taxes on $100,000 and $1,000,000 business properties in selected Minnesota cities. Hibbing is among the highest; Eveleth and Virginia are in the middle of the pack. All could benefit from the rate reductions for all property that an end to the taconite homestead credit could provide, if the funds were distributed as general aid to the communities.

Another possible use for the taconite homestead credit moneys would be to increase our level of spending on research and development in mineral resource areas. An investment in the future is more likely to pay dividends than one in bargain basement property tax rates.

Table 3. Property Taxes on $100,000 and $1,000,000 Businesses In Selected Cities, Pay 1990

	$100,000 Market Value	$1,000,000 Market Value
Eveleth	3,559	52,675
Virginia	3,562	52,723
Hibbing	3,972	58,790
Eagan	3,042	45,015
Bloomington	3,235	47,874
Minneapolis	3,378	49,983
Mankato	3,382	50,050
St. Cloud	3,509	51,932
Moorhead	3,539	52,377
St. Paul	3,571	52,864
Brooklyn Park	3,583	53,025
Rochester	3,614	53,488
Duluth	4,657	68,923

Recommendation of the chair

The chair recommends that any general property tax reform that includes tax increases for the first $68,000 in home value and first $110,000 in homestead farmland value be accompanied by repeal of the taconite homestead credit, with appropriate targeting funded by the general fund to ease the transition, and with the freed up production tax revenues used for either general property tax relief in the taconite tax relief area or increased investment in research and development in the mineral resource field.

Research and Development Spending

The commission recommended that research and development spending in the mining field be substantially increased (See pp. 13-14). However, the commission did not attempt to specify any sources for such additional funding. The chair is less reticent.

The chair sees no particular problems with funding additional research and development in mining out of any or all of the sources mentioned in Section 1, p. 14, except for a poorly designed tax credit. **The chair recommends that the Range Delegation find a substantial amount of production tax revenue to invest in research and development in the mining and mineral resources field.**

Recommendation of the chair

The lack of spending on research and development cannot be laid just on the Range Delegation. It is a national failure that involves the Federal and state governments, industry and academic institutions. But it is now time to act, and it is appropriate for Minnesota as a leading nonfuel mineral producing state to take a leadership role in this initiative.

The dollars are there. We are getting two or more times the tax per ton that is generated by competing sources of iron ore. We are spending substantial sums of money in attempts to benefit the Iron Range economically. We are also maintaining a program of ridiculously low property taxes for the first $68,000 of owner occupied home value and the first $110,000 of homestead farm land value.

The long-term interest requires investment in research

There is precedent for the Minnesota Legislature to act in the long-term interest of the Iron Range and all of Minnesota in the area of mining taxation. The taconite production tax was enacted to replace the property tax on taconite production in 1941, when natural ore mining was still in full swing and taconite production was still just a gleam in a few people's eyes. It took 10 years for revenue even to begin flowing from the production tax and 28 years for the balance between natural iron ore and taconite production to shift so that major retooling of the production tax and its distribution became necessary. The handwriting was on the wall in 1941, but it was still fairly faint. Nevertheless, the legislature acted.

The handwriting is on the wall again in 1991. Minnesota's taconite industry is caught in some undesirable long-term trends that could well result in major reductions in production if we do not make significant technological advances. Such advances are also required to make Minnesota's potential for the mining of other minerals a reality. It certainly would be nice if the 1991 legislature took a cue from its predecessor of 50 years ago and began a serious, long-term commitment to funding mining related research and development, so that Minnesotans have a chance of looking back 28 years from now and seeing the development of new technology, and new jobs in the mining industry, that are now only a gleam in a few people's eyes.

In the chair's opinion, for us to continue on a path of minimal research and development funding and maximum home and farm property tax relief after what this commission has learned and recommended, and in light of the conclusions of the National Materials Advisory Board in its October 1990 report on Competitiveness of the U.S. Minerals and Metals Industry, would be penny wise and pound foolish public policy that is inconsistent with the interests of the current residents of the Iron Range, all Minnesotans, and their children and grandchildren.❖

3. Recommendations for Tax Law Changes

The commission made an interim report to Governor Rudy Perpich in March 1990. Its legislative recommendations were submitted to the 1990 legislature, its administrative recommendations to the Department of Revenue. Those recommendations are included in this report. Those that were acted upon are so noted.

Income Taxes: Occupation Tax on Taconite, Semi-Taconite and Iron Ore

Pursuant to 1987 law changes that took effect in 1990, the occupation tax on mining companies has been closely conformed to the corporation franchise tax that applies generally to business corporations in Minnesota. This change toward consistency in the taxation of different types of business is strongly supported by the fairness, efficiency and understandability criteria used by the Department of Revenue to evaluate Minnesota's tax system.

However, the most dramatic remaining difference between the corporate franchise tax and the occupation tax has been a continuing source of difficulty in administration of the occupation tax. Under the corporate franchise tax, the process of reaching the taxable income on which tax is calculated invariably begins with the company's sales. This basic starting point is unavailable under the occupation tax for taconite because the product is never sold at the mouth of the mine, and the starting point for determining the occupation tax is the value of the ore at the mouth of the mine. Indeed, much of the taconite is not sold at all, but rather simply utilized in the vertically integrated steelmaking operations conducted by the taconite producers themselves.

Determining the value of the ore

To cope with this problem, the Department of Revenue annually determines a value for the ore. Historically, the value, known as the Lake Erie value, was based on a price at Lake Erie steelmaking facilities, with value at the mouth of the mine then determined by subtracting estimated expenses involved in getting the ore from the mine to the Lake Erie facilities. Since 1987, the department has been using the mine value, not the Lake Erie value, as the starting point for occupation tax determination. Each approach has effectively meant that the value must be negotiated between the department and the industry annually. Such annual negotiations do not make for efficient tax administration.

The department brought this situation to the commission's attention and indicated its intention to try to improve upon its method for determining the value of ore for the occupation tax, with the work to be conducted in close cooperation with other state institutions engaged in mining activities, representatives of the mining industry, the U.S. Bureau of Mines, and staffs of legislative tax committees. The commission responded with the following recommendation in its interim report:

Recommendation of the commission

The commission recommends that the Department of Revenue explore methods for developing a more well defined and precise process for determining the value of ores for the occupation tax.

The department followed through on this recommendation. In 1990, it developed in consultation with the mining industry a new format for determination of the mine value of the ore. This format is intended to avoid the need for annual negotiations with the industry over this crucial determination.

Only time will tell how effective this new approach is, both as an indicator of value of the ore and in avoiding unnecessary friction between the industry and the department. Unfortunately, it is by no means clear that those two goals are mutually compatible. There will remain subjective elements in the value determination, and the higher the value determined, the less likely industry is to be comfortable with it.

The department did not raise, and so the commission did not consider, the possibility that something more dramatic could be done to cope with this rather substantial problem in the administration of the occupation tax. The most dramatic action would be to eliminate the occupation tax altogether, subject mining to the corporate franchise tax like every other business conducted in corporate form, and rely on taxes such as the taconite production tax and the net proceeds tax to reap whatever benefit the legislature deems appropriate from the minerals themselves.

Aside from whether such a change would be a good idea, which is by no means clear for the reasons set out below, it cannot presently be made because Article X, Section 3 of the Minnesota Constitution requires an occupation tax based upon the value of the ore mined or produced.

Generally speaking, the chair believes that it is a bad idea to have specific tax provisions embedded in the constitution. Businesses and the ways in which they are conducted change over time. So do the bases, techniques and procedures of taxation. The interests of the citizenry generally should be best served by providing the legislature with maximum latitude in how business activities will be taxed.

The first step in making a dramatic change in the occupation tax would be a constitutional amendment to eliminate all reference to how mining should be taxed from the Minnesota Constitution. Even if elimination of the occupation tax were clearly desirable, which is not the case, the effort to pass such an amendment on its own would overwhelm any serious consideration of it. However, it might be practicable as part of a package of amendments intended to streamline Minnesota government.

Recommendation of the chair

The chair recommends that repeal of all specific references to the taxation of mining now contained in the Minnesota Constitution be considered if and when multiple constitutional amendments are next considered.

If the constitutional requirement were eliminated, there would still remain the question of whether the occupation tax should be modified, eliminated in favor of the corporate income tax, or continued exactly as is. In the abstract, the fairness, efficiency and understandability criteria for evaluation of Minnesota's revenue system might support elimination of the occupation tax in favor of straight application of the corporate income tax to mining.

However, there may be more powerful reasons to retain the occupation tax. Elimination could adversely affect revenues in at least two ways. First, due to the capital-intensive nature of the business, a marginal taconite operation might be shut down by its owner if the effect of a switch to the corporate income tax were to make a lot more of the company's income subject to tax. Second, if a taconite operation is

owned by a company which is not profitable overall, a switch to the corporate income tax could cause the company to reduce its Minnesota tax burden by the amount of occupation tax it now pays, for that begins from the value of the ore at the mine, and its deductions always leave something to be taxed, whereas a corporation without net income pays no corporate income tax.

For now, a wait-and-see attitude seems to be most prudent, focusing on how well the new approach to determining value is working, and seeing if an opportunity for a constitutional amendment arises. Only after such an amendment would full evaluation of the pros and cons of such a change in the taxation of mining companies be pertinent. That may be a subject for the next commission on mining.

Sales Tax

The sales tax law has become inordinately complex over the years, as exemptions and partial exemptions from its coverage have been passed and modified. The Department of Revenue is developing a sales tax reform package which would simplify the sales tax law and make it more consistent between industries. Such improvements in the sales tax would help make Minnesota's state/local revenue system more fair, efficient, reliable, competitive and understandable, in structure and operation, which is the aim of the department's tax reform efforts.

The Department of Revenue's model revenue system for Minnesota recommends exempting from the sales tax materials consumed in production, materials which are major expenses in the provision of taxable services, and manufacturing capital equipment, both for new facilities and for replacement of existing equipment. At present, there are exemptions for the first category and for manufacturing capital equipment for new or expanded facilities, but not for the rest of the recommended exemptions. In the 1990 session, the legislature extended the capital equipment exemption to mining companies that expand or build a mining, peat or quarrying facility, a change in accord with the model revenue system.

The exemptions for materials consumed in production currently are inconsistent between the taconite industry and other businesses. There is a general exemption for materials consumed in production, and for separate detachable tools and the like that are used in producing a direct effect upon the product and have a useful life of less than 12 months (M.S. 297A.25 Subd. 9), and a specific exemption for mill liners, grinding rods and grinding balls that are substantially consumed in the production of taconite (the production materials, i.e., liner exemption) (M.S. 297A.25 Subd. 15). Many, but not all, of the items covered in the specific exemption would otherwise be exempt under the general exemption. Those that would not are exempt only for taconite operations, not for any other business.

Consistency under the Sales Tax: Three Options

The commission considered three options to make the sales tax treatment of such items more consistent between the taconite industry and other businesses. One would repeal the specific taconite industry exemption, at a cost of $1.2 million per year in additional tax on the taconite industry.

A second would leave the definition unchanged but extend it to all mining operations. This would have no present cost to the state because there is not presently any comparable use of such items in the mining of iron ore, which is the only other mining now conducted in Minnesota. However, it would still leave mining and other industries being treated inconsistently.

The third option would modify the definition of exempt items by restricting it to those with a useful life of less than 12 months and extending it to items that are substantially consumed in any agricultural or industrial production. This change would cost the taconite industry some additional taxes due to the useful life limitation. The Department of Revenue estimated that the cost to the mining industry would be less than $100,000 per year. The department also estimated that extending the exemption to other industries probably would not cost the state any more than that because only in the taconite industry are such items likely to be replaced frequently, because taconite is much more abrasive than other materials.

Recommendation of the commission

The commission recommends that the production materials (liner) exemption for the taconite industry in Minnesota Statutes Section 297A.25, subdivision 15, be restricted to qualifying materials with a useful life of less than 12 months and extended to such materials used in any agricultural or industrial production.

This ~~recommendation~~ would change M.S. 297A.25, subd 15, as follows:

> Production material exemption: The gross receipts from the sale of and the storage, use, or other consumption ~~by persons taxed under the in lieu provisions of chapter 298,~~ of mill liners, grinding rods and grinding balls which are substantially ~~consumed~~ in ~~the production of taconite the material of which primarily is added to and becomes a part of the material being processed are exempt~~ agricultural or industrial production and have an ordinary useful life of less than 12 months are exempt.

As a result of this change, the following items used in the taconite industry which have heretofore been exempt would become taxable:

- conveyor skirt board rubber liners
- linatex materials used in pipes, chutes, and hoppers
- refractory brick in rotary kilns
- urethane materials used to line separator covers, fan blades, vertical classifier internal surfaces, cyclone classifier and collector internal surfaces, pipe fittings, pipe liners, chutes, bins, launders and sumps

Property Tax

No mining of base and precious metals currently occurs in Minnesota. Were any companies doing so, they would be treated like other businesses with respect to the property tax: the tax applies to land and buildings, but machinery, equipment and other personal property are exempt.

However, the 1989 Whitney & Whitney comparison of mining taxes *(see discussion, p. 11)* pointed out an uncertainty in the potential application of the property tax to base and precious metals mining operations. Whitney & Whitney interpreted Minnesota's law to mean that shafts, supporting structures and excavations of an underground mine should be taxed as real property. In fact, the Department of Revenue has always interpreted the law to exempt such items as being personal property. There are no administrative or judicial decisions on the point.

Recommendation of the commission

The commission recommends a law change to make clear that shafts, supporting structures and excavations of an underground mine are personal property exempt from the local property tax. The change would be in Minnesota Statutes Sections 272.03, Subdivisions 1(a) and 1(c)(i).

If this change is made, Minnesota's ranking relative to other states with actual or potential mining activity should improve in future Whitney & Whitney studies.

Special Taxes on Minerals

Property Tax on Natural Ore Mines

Businesses that own natural iron ore deposits pay property tax on the value of their ore reserves at a rate three times that which generally applies to business property. The basic rate for business property (among the highest in the country) is 4.95 percent of market value; the basic rate for iron ore is 14.85 percent of market value. The actual rates can vary up or down from the basic rate, depending upon the actual local tax rates.

Newly discovered ore does not just come onto the tax rolls in the year discovery is acknowledged. In addition to the tax due for that year, the owner must pay property tax for the six preceding years.

The high tax rate and six year lookback could be disincentives for companies to continue to own or lease lands with ore deposits; could contribute to the marginal infeasibility of mining iron ore; and may discourage exploration and discovery. There are presently no serious prospects for future mining of natural iron ore. While the economics behind that may not change, these tax provisions seem to discourage efforts to experiment with new approaches to the use of natural ore.

Recommendations of the commission

The commission recommends law changes to:

- **eliminate the requirement that local property taxes be paid on newly discovered natural iron ore deposits for the prior six years, and to**
- **eliminate the requirement for tripling the value of iron ore deposits.**

Great concern was expressed in the commission about the impact of ending the trebling of the tax rate on the town of White, in St. Louis County, site of the Donora mine, the only natural ore mine now operating. The Department of Revenue determined, after careful study, that the interaction between state aid formulas is such that White will be better off if this change is made immediately than if nothing is done and the ore is simply mined out, as is expected to occur within a very few years.

Net Proceeds Tax on Base and Precious Metals and Energy Minerals

Prior to the 1990 legislative session, the net proceeds tax by its terms applied to "all mineral and energy resources mined or extracted within the state of Minnesota except for sand, silica sand, gravel, building stone, crushed rock, limestone, granite, dimension granite, dimension stone, horticultural peat, soil, iron ore, and taconite concentrates." (M.S. 298.015 Subd. 1.) Two questions regarding its potential application came to the commission's attention.

First is the question whether clay, including kaolin clay, is or should be subject to the net proceeds tax. Considerable mining of clay is taking place in southern Minnesota, and it was not clear whether the net proceeds tax was intended to apply to clay. The commission concluded that clays, including kaolin, are closely related to sand, gravel, stone, rock and soil materials and, as a result, businesses extracting clays should be excluded from the net proceeds tax.

Recommendation of the commission

The commission recommended in its interim report that Minnesota Statutes Section 298.015 Subdivision 1 be amended to explicitly exclude clay from the net proceeds tax.

The legislature agreed and made the change in the 1990 session, inserting "clay" just before "soil" in the statutory list of exempt minerals (1990 Laws, Chapter 604, Article 10, Section 15).

Second, the question arose whether a mining company could take as a deduction in the calculation of its net proceeds amounts which it pays during its years of production to pay for the cost of reclamation of the land. The commission was concerned about encouraging the funding of land reclamation. However, reclamation costs actually incurred and paid appear to be on a different footing from those projected for the future and reserved against in the present.

Only certain specified deductions are allowed in calculating the net proceeds tax. The limitations on deductions help to keep the rate as low as 2 percent. Concern was expressed that allowing deductions for amounts voluntarily set aside would be an invitation to companies to minimize their tax liability by setting aside excessive amounts. They would have a flexibility comparable to that generally involved in the creation of reserves, which generally are not allowable as deductions for Federal or state income tax purposes. The commission concluded that Minnesota should retain the current broad base and low tax rate of the net proceeds tax.

Recommendation of the commission

The commission recommended in its interim report law changes to make clear that under the net proceeds tax:

- **reclamation costs actually incurred in Minnesota and paid in a year of production, including the payment of bonds required by the provisions of an environmental permit issued by the State of Minnesota, can be deducted as an expense in determining the amount of the net proceeds tax, and that**
- **funds set aside during years of production to pay for reclamation costs after production ends cannot be deducted as an expense in determining the net proceeds tax.**

The legislature agreed and made the change in the 1990 session, amending Minnesota Statutes Section 298.015 Subd. 1 and 298.017 Subd. 1 and 2 to so provide (1990 Laws, Chapter 604, Article 10, Section 15-16).

Taconite Production Tax

Weight of ore in determining production tonnage. Minnesota has historically used the natural weight of iron ore as measured by standard scales in determining the tonnage of ore produced. The weight of the ore includes the weight of the moisture added to the ore for dust control.

However, two companies now have processes in place which result in weighing the ore dry. Since the greater the weight of the ore, the higher the tax, companies whose ore includes moisture are paying a higher production tax on the same amount of usable ore. To be able to reduce their production tax to that paid by the companies using the dry weighing process, these companies would have to make a substantial investment in redesigning their plants and production processes.

This inequity has recently been compounded by new standards imposed by the Minnesota Pollution Control Agency to limit dust in order to protect the health of

workers. The new standards result in even more moisture being added during the production and shipping processes, and even more tax on the same amount of usable ore.

This lack of uniformity undermines the fairness of the production tax. Moreover, it is ironic that companies are effectively penalized for reducing a threat to their workers' health.

Recommendation of the commission

The commission recommends that taconite production be determined on a uniform dry weight basis, with the Department of Revenue to develop standards for determining the dry weight of all ore.

(The vote of the commission on this recommendation was not unanimous.)

The department has begun to implement this recommendation. Beginning with the 1990 Occupation Tax and Production Tax reports, the department administratively allowed the production tonnage to be reported on a dry basis. The reported weights and analysis must correspond, i.e., the weighing and sampling must take place at or near the same location. No moisture addition or drying should occur between the points of sampling and weighing. Throughout 1991, the department will review with each company its weighing and sampling procedures.

Production Tax Rate Issues. The level of the taconite production tax was the most controversial issue the commission had to consider. Industry representatives maintained that it is too high already; community representatives were not convinced and, indeed, were not willing to recommend permanent changes in the rate escalator provision, which currently provides for substantial automatic annual increases and guarantees annual negotiations between the industry and the Range Delegation over the level of the tax.

Not surprisingly, the commission was unable to reach a consensus on the appropriate rate for the taconite production tax, or how to approach the question of changes in the rate. With the commission not having reached a consensus, the decision will be quite properly entirely up to the Range Delegation, with no party having committed itself to a position in advance.

However, the commission did reach a consensus that two new approaches to the production tax rate are worthy of consideration by the Range Delegation. And the chair also has some recommendations for their consideration which arise from experiencing the commission's deliberations.

Indexing the Production Tax Rate. Under current law, unless the legislature acts, the production tax rate will change annually at the same rate as the Gross National Product Implicit Price Deflator (GNPIPD) beginning with 1991 production payable in 1992. It is reasonable to expect the GNPIPD to increase by at least 5 percent per year. The change to the GNPIPD originally was made at the industry's behest in 1986. Now the industry is not satisfied with the GNPIPD, which in recent years has increased much more rapidly than the Steel Mill Products Index (SMPI), the index formerly used.

The commission made a major effort to review and reconsider the production tax rate index. Numerous alternatives were considered in an effort to find an index closely related to the iron industry. This effort was under way at the time the commission submitted its interim report in March 1990. That report included the

following with respect to the production tax index:

> The commission finds that the Gross National Product Implicit Price Deflator is not an adequate measure of changes in the price of taconite pellets and steel products. The Gross National Product Implicit Price Deflator measures changes in the prices of fuel, housing, clothing, food and other related items, and the changes in the prices of these items have little or no relationship to changes in the prices of taconite pellets and steel products.
>
> The commission unanimously urges the legislature to suspend the current index of changes in the price of taconite pellets and steel products–the Gross National Product Implicit Price Deflator–for 1990 production taxes payable in 1991.
>
> The commission recommends using an index which more accurately measures changes in the price of taconite pellets or steel products. The commission will recommend such an index in time for consideration by the 1991 session of the legislature.

The Legislature did suspend the indexation for 1990 production taxes payable in 1991, as recommended by the commission.

Despite considerable effort, the commission was unable to reach a consensus on changing the production tax index. Some members favored a change to the steel mill products index, but others preferred to simply retain the existing index and let the issue of the tax level be resolved annually by the Range Delegation. It was noted by some that the current actual level of the tax is lower than it would have been had we been using and actually applying the SMPI since 1986. This is a result of the legislature having suspended indexing in 1987, 1988 and 1990, so that the rate has not in fact increased as fast as the GNPIPD.

On this issue, the chair respectfully disagrees with those who favor continuation of a practice that virtually guarantees an annual battle over the production tax rate. There may be an annual battle in any event, but it would be preferable to set the system so that the battle is optional rather than automatic.

The principal purpose of a rate escalator on a flat rate commodity tax like the taconite production tax is to have the tax rate be adjusted automatically to take account of inflation, so that as the product becomes more (or less) valuable and the dollar less (or more) valuable, the tax rate adjusts automatically without need for constant review. That's a fine theory, but it encounters at least three problems in practice on Minnesota's taconite production tax. First, the competitive pressures on Minnesota's taconite industry seem to indicate that the value of its product is not increasing generally with inflation. Second, there is no index that really accurately reflects changes in the demand for and value of iron ore. Third, there appears to be little or no risk that the Range Delegation will fail to reexamine the taconite production tax regularly, with or without an index, especially given the industry's belief that the tax is simply too high aside from indexing.

It seems apparent that the GNPIPD bears no relationship to the value of Minnesota taconite. It includes changes in prices throughout the entire economy, including such items as medical costs, housing and oil prices, which have no bearing on the value of Minnesota taconite. The commission searched diligently

for an index that would be closely related to the products of the taconite industry and could not find one. The best approximation generally appeared to be the SMPI, which tracks market prices for steel products.

One of the criteria by which the Department of Revenue judges our tax system is its reliability, one facet of which is stability in expectations from year to year. Minnesota's taconite industry is at some competitive risk, and the concerns have been great enough to move the Range Delegation not to use indexing in three of the past five years. The constant uncertainty, however, and the threat of increases in a high tax unless something is done mark the taconite production tax as particularly unstable and unreliable.

Tensions might be eased somewhat if indexing were simply eliminated, so that the industry did not feel compelled to make a case every year that its taxes are too high, or if the index were changed to one more related to the steel industry, and scheduled to be applied every other year or every third year instead of annually. Retaining an index but applying it less often would retain the psychological advantage for legislators of seeing the tax increase regularly unless they acted, but permit the industry to enjoy a bit more stability in tax burden than it does now.

Recommendation of the chair

The chair recommends that the Range Delegation change the taconite production tax index to base it on the Steel Mill Products Index and apply it every third year.

Incentive Rate for High Production.

Recommendation of the commission

The commission recommends that the Range Delegation consider providing for an incentive rate lower than the basic rate for production in excess of a specified level, either on an industry-wide or company-by-company basis.

Such a provision would hold out the hope of a lower average tax rate and is therefore of interest to the industry. It would encourage industry to keep production, and employment, high, and is therefore of interest to the community.

The commission was not presented with any evidence that such an incentive rate would in fact influence industry decisions on the production level. While such an approach could in theory lead to boom and bust production planning from one year to the next, the cost of maintaining inventories is high enough that the Department of Revenue concluded that such an approach on a dramatic scale would not be feasible. One of the questions for the Range Delegation to consider, then, is whether such an incentive rate really would cause production increases at the margin. Another question is whether an incentive rate would be worth the nominal tax cost as a result of increased industry good will.

The Department of Revenue calculates that industry production of 34 million tons per year at the current rate of $1.975 per ton would be sufficient to provide local governments with the level of distribution they have been receiving recently. This is approximately 75 percent of production capacity.

The advantages to a company-by-company rate are that each company can plan with certainty that it will be rewarded and companies that do not produce near their capacity will not be rewarded. The obvious unknown is the possibility of a prolonged shutdown at a particular facility, due to a strike or any other reason. The advantages to an industrywide rate are that there is no incentive unless overall

production, and revenues, are on the high side, and that there is less for the Department of Revenue and individual companies to fight about. However, the former advantage is not terribly important so long as there are funding reserves available to handle low production years, and the latter is eliminated if the agreement between industry and the Range Delegation includes agreement on what constitutes full capacity for each plant.

Recommendation of the chair

The chair recommends that, if a company-by company-incentive rate for the taconite production tax is enacted, the agreement with industry include agreement on the production level for each plant at which the incentive rate will apply. The Department of Revenue should be consulted as to what the capacity level of each plant is and the agreement with industry could be formal or informal. However, simply leaving the final determination up to the Department of Revenue would unnecessarily invite controversy between the department and industry over the production capacity of each plant.

Recommendation of the chair

The chair recommends that any taconite production tax reductions conditioned on desired behavior by the industry be in the form of lower incentive rates for high levels of production. The community's bottom line concern appears to be the level, and wage level, of employment, which should be well correlated in the short run with the level of production. Even if the incentive does not cause the desired behavior, it will only be activated when conditions are appropriate from the community's point of view. Other forms of incentive, such as tax credits for investment or the amount of rock removed, are possible but seem even less likely actually to influence behavior. However, determining qualification is likely to be difficult and a source of controversy. Moreover, tax credits for activities in which a business clearly will engage anyway in its own self-interest are bad tax policy on their own merits and because they encourage the proliferation of such provisions.

Change Base from Three-Year Average to Actual Annual Production.

The taconite production tax currently is calculated by using a three-year average (the current and two previous years) of production. This provision is intended to help provide stability in the flow of revenues to local governments.

Averaging of production in the tax base was enacted in 1977. However, the tax then was determined by the higher of the actual annual production or the three-year average of production. The industry contested this method of determining the tax in court, arguing that it would result in them being taxed on production which never took place. The litigation was settled out of court by eliminating the "higher of" approach and simply basing the tax on the three-year average of production. This method of determining the production tax has been in effect since 1984.

Using a three-year average certainly does smooth out the revenue flow from the tax. However, there is no conceptual reason why local communities cannot be protected exclusively through the maintenance of a reserve that is built up in high production years and depleted in low production years. The current procedure also employs this device. The principal objection to the reserve approach probably is that it is difficult for the legislature to discipline itself to allow reserves to build up. However, the balances currently in the Taconite Environmental Protection Fund ($2.5 million) and the Northeast Minnesota Economic Protection Fund

($36.7 million) certainly are testimony to the discipline of the legislature, as is the buildup of the general fund budget reserve to $550 million over the past few years.

The three-year average has a very serious disadvantage to the industry. It hits the industry hard when it can least afford it– in low production years, which are almost certainly low because of low demand for steel and hence reduced revenues. And it lets the industry off easy when it can most afford to pay: in the high production years when demand for steel and hence industry revenues are high. If, as appears to be possible from the information presented to the commission on the competitive position of Minnesota ore, we really are at risk of precipitous drops in production due to high cost, it makes no sense whatsoever to be smoothing out the revenue flow through higher than production level taxes in the low years. Such a situation could contribute at the margin to decisions to reduce production even further.

One member of the Commission, Kenneth J. Reid, Director of the University of Minnesota Mineral Resources Research Center, prepared a specific illustration of how revenue stabilization could be enjoyed through a reserve fund, with the tax paid by industry tied to actual annual production. The illustration is set forth in the Appendix. If the communities' legitimate concern with revenue stability can be fully met through a reserve fund approach, then there would seem to be no reason not to change to such an approach, for basing the tax on actual annual production clearly would be advantageous to industry.

Recommendation of the commission

The commission recommends that the Range Delegation study the possibility of changing the taconite production tax to provide for stabilization of distributions to local governments exclusively through a reserve fund and base the tax itself on actual annual production rather than a three-year average of production.

In Conclusion

The commission plowed through a mountain of information on mining and its taxation in considering the issues and formulating its recommendations in this complex but obscure corner of Minnesota's law and economy. This report is an attempt to preserve the essence of that information and the conceptual framework on which it is organized for use by policy makers concerned with the future of mining in Minnesota. The reader who began at the beginning and has persevered to this point should be far better informed about mining and its taxation in Minnesota than all but a handful of experts. If one conclusion stood out above all others from the commission's work, it is that we should prepare now for the future by vastly increasing our commitment to research and development in the field of mining and minerals.❖

Appendix

Members of the Governor's Blue Ribbon Commission on Mining

Map of Northeastern Minnesota

1990 Taconite Production Tax Distribution Flow Chart

Notes on Stabilization of Taconite Production Tax Distribution
Kenneth J. Reid

Members of Blue Ribbon Commission on Mining

John James, commissioner (Chair)
Department of Revenue

Joseph Alexander, commissioner
Department of Natural Resources

Representative Joe Begich
Eveleth

Joe Burich
Coleraine

George Cicmil, Business Manager
Independent School District #701
Hibbing

Jack DeLuca, commissioner
IRRRB
Eveleth

Al France, President
Lake Superior Industrial Bureau
Duluth

Al Hodnick, Mayor
City of Aurora

Lloyd Houle
Lake County Commissioner
Two Harbors

Dr. Thys Johnson, Director
Center for Applied Research and Technology Development, NRRI
U of Minn., Duluth

Mac Karpen, Executive Director
Range Assn. of Municipalities and Schools
Chisholm

Eldon Kirsch, District 33
United Steelworkers of America
Duluth

Dr. Michael Lalich, Director
Natural Resources Research Inst.
U of Minn., Duluth

Robert Loscheider
Itasca County Commissioner
Grand Rapids

Representative Mary Murphy
Hermantown

Cliff Niemi, Technical Director
USX Corporation
Pittsburgh, PA

Elizabeth Prebich
St. Louis County Commissioner
Virginia

Dr. Ken Reid, Director
Mineral Resources Research Ctr.
U of Minn., Minneapolis

Bill Shimmin
Virginia

Dr. Lewis Wade, Research Director
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Robert Zuehlke
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Coleraine

Department of Revenue support personnel:

Dennis J. Erno, Asst. Commissioner
St. Paul

Tom Schmucker, Adm. Engineer
Minerals Tax Division
Eveleth

Don Walsh, Director
Minerals Tax Division
Eveleth

Department of Natural Resources support personnel:

Bill Brice, Director of Mineral Resources, Department of Natural Resources
St. Paul

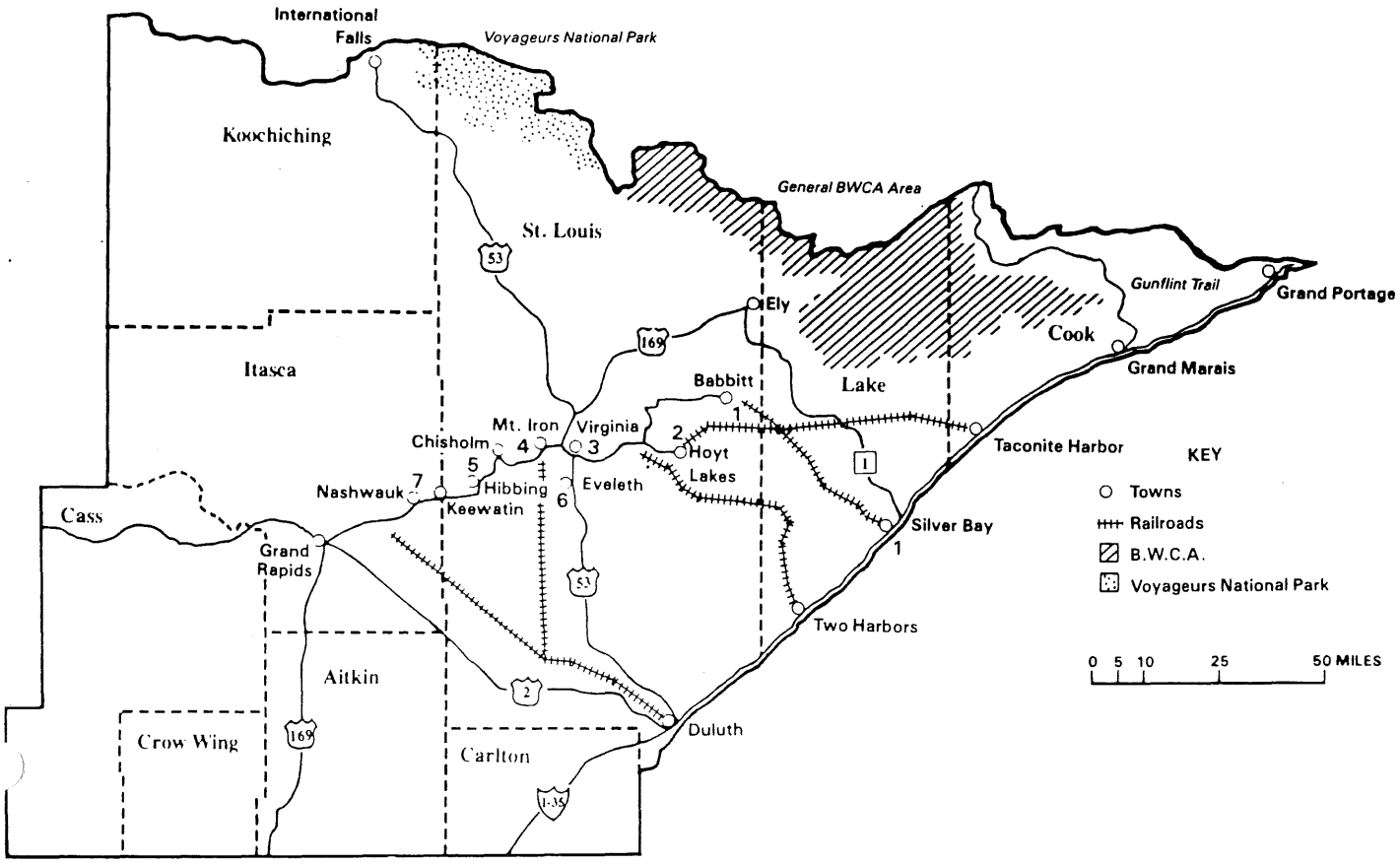
United Steelworkers support personnel:

Mark Davis
Eveleth

Bob Rootes
Chisholm

MAP OF NORTHEASTERN MINNESOTA

TACONITE COMPANY LOCATIONS, OWNERSHIP AND GENERAL INFORMATION

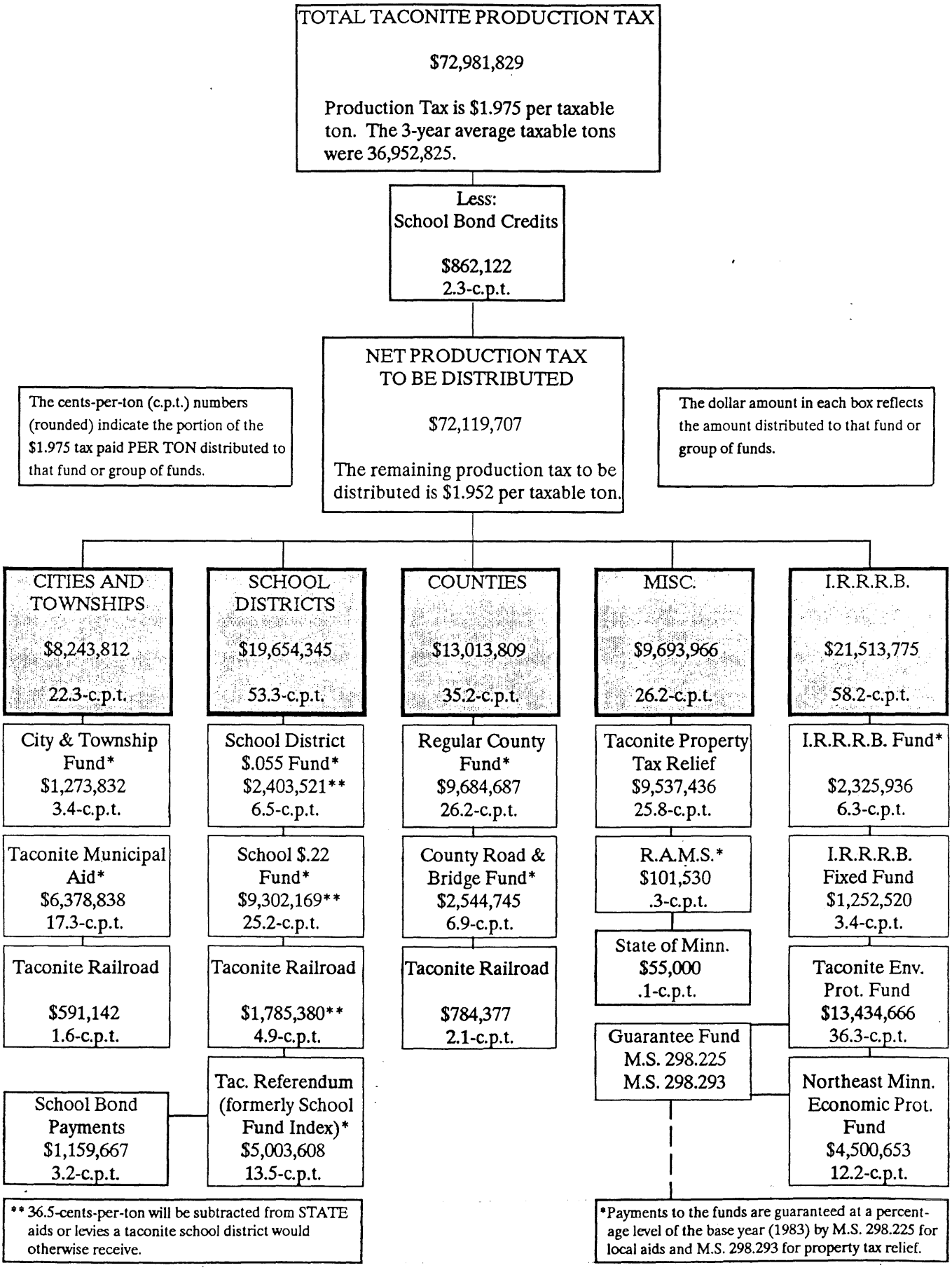


	Effective Capacity (million tons)
1) CYPRUS NORTHSHORE MINING CORP. Owner: Cyprus Mineral Company (100%)	4.0
2) LTV STEEL MINING COMPANY[a] Pickands Mather Services, Inc., Managing Agent Owner: LTV Steel (100%)	8.0
3) MINORCA PLANT Owner: Inland Steel Mining Co. (100%)	2.5
4) MINNTAC PLANT Owner: USX Corporation (100%)	12.5
5) HIBBING TACONITE COMPANY Pickands Mather Services, Inc., Managing Agent Owners: Bethlehem Steel Co. (70.3%) Pickands Mather & Co. (15%) The Steel Company of Canada, Ltd. (14.7%)	8.1
6) EVELETH MINES* Oglebay Norton Co., Managing Agent Owners: Eveleth Taconite Company Rouge Steel Co. (85%) (31.7%) Oglebay Norton Co. (15%) (18.4%) Owners: Eveleth Expansion Company Virginia Horn Tac. (Armco) (56%) (35.1%) Ontario Eveleth Co. (Stelco) (23.5%) (14.8%) ONCO Eveleth Company (Oglebay Norton Company) (20.5%) (see above)	5.8
7) NATIONAL STEEL PELLET COMPANY Owner: National Steel Corp. (100%) National Steel Ownership: National Intergroup (30%) Nippon Kokan KK (70%)	4.7
TOTAL EFFECTIVE:	45.6

[a] LTV is continuing to operate LTV Steel Mining Company under Chapter 11 of the bankruptcy laws.

* The second percentage denotes the percentage of ownership of the total company.

1990 TACONITE PRODUCTION TAX DISTRIBUTION FLOW CHART



MINERAL RESOURCES RESEARCH CENTER
University of Minnesota

NOTES ON STABILIZATION OF TACONITE PRODUCTION TAX DISTRIBUTION

November 1990

BACKGROUND

The 3 year average for iron ore taxation was introduced in order to reduce the variability of local community revenues. The consequence of this strategy is to place a burden on the industry in years when the production falls significantly as for instance in 1981-82 (-52.5%) and 1985-86 (-23.3%).

The current procedures for collection and distribution of the taconite production tax have evolved over time and are quite complex. Apart from the 3 year averaging the current procedures include the following important components:

1. Distributions to the various beneficiaries responds to the changes in the three year average but are protected by a minimum related to a historical base.

2. The balance after distributions is split with two-thirds going to the Environmental Protection Fund and one-third going to the Economic Protection Fund. There is, however, a complicating factor in that School Bond payments are drawn from these funds in a non-standardized manner so that the final credit to the two funds may be quite different from the proposed ratio.

3. The objective of the Economic Development Fund is to provide a long term buffer fund as a cushion against the eventual decline of the industry.

4. The Environmental Protection Fund is available for expenditure annually and provides an important funding source for regional projects.

APPROACH

A possible approach for improved stabilization would be to separate the public need for averaging from the industry tax liability. This can be accomplished by using the Economic Development Fund as a more explicit buffer as follows:

- Collect taxes on an actual annual base and deposit to Economic Development Fund

- For distribution purposes calculate 10 year production average and theoretical tax revenue using the 10 year average.

Distribution of the 10 year average theoretical tax would be as follows:

- Allocate $9 million for School Bond Repayments and Environmental Protection Fund. After School Bond repayments balance goes to Environmental Protection Fund.

- Distribute 80% of balance using current procedures.

- Depending on the actual taxes collected the Economic Protection Fund would either accumulate the residue or fund the deficit.

This formula, illustrated in the attached flow chart, has been applied to three scenarios for the period 1990-1999 with high, medium and low ten year averages of 38.0, 33.3 and 29.6 million tons respectively, and also to the actual data for 1980-89.

The results are shown in Figure 1 and include the actual distributions for 1980 to 1989. The growth of the Economic Protection Fund for the three cases is shown in Figure 2.

The growth of the fund depends on the actual tonnages produced and the amount selected for distribution. The 80% figure was selected for this test case since even under the low production scenario a modest growth in the Economic Protection Fund is achieved thereby maintaining the long term objective.

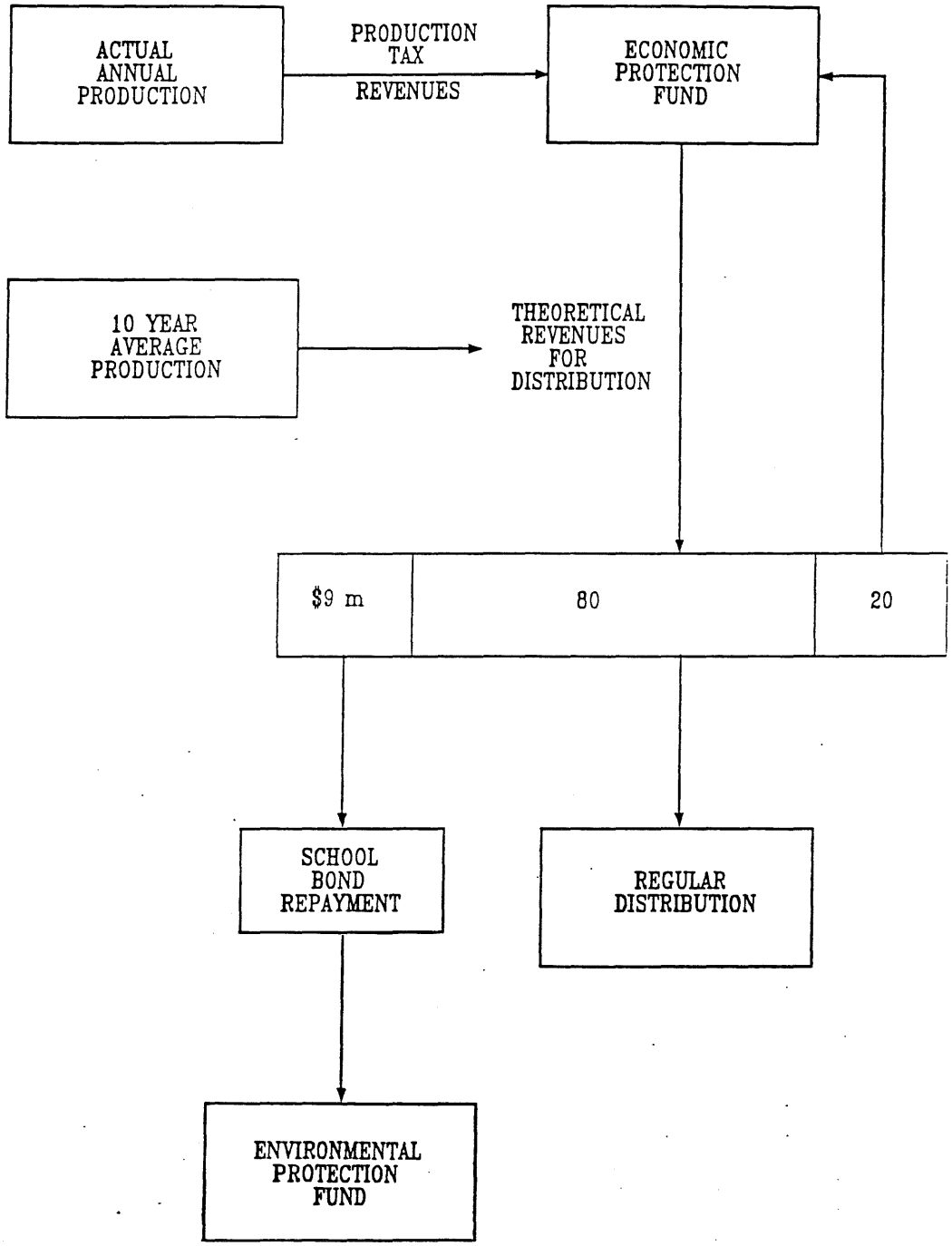
For reasonable regional economic security a Fund balance approximately five times annual distribution would be desirable. The lowest annual distribution in the examples was $39.6 million in the low scenario in 1999. A minimum fund balance of $200 million is therefore indicated. However, even under the high production scenario this target is not reached by the year 1999.

It is clear that a determined effort over a long time span will be required in order to achieve an adequate Economic Protection Fund balance.

The two main attributes of this approach are stability for all recipients and long term security via a growing Economic Protection Fund. It should also be noted that with a growing fund the interest income would increase.

One thought for a possible use for some of this interest income would be to fund the long term research needs not being addressed by current industry and state activities. This is a fundamental National problem as documented in the recent NMAB report "Competitiveness of the US Minerals and Metals Industry" and one of significant regional importance. It would appear that a mechanism exists that could allow Minnesota to take a traditional leadership role by supporting education and research related to regional economic stability through the wise development of our mineral resources.

FLOW CHART FOR STABILIZATION OF TACONITE PRODUCTION TAX DISTRIBUTION



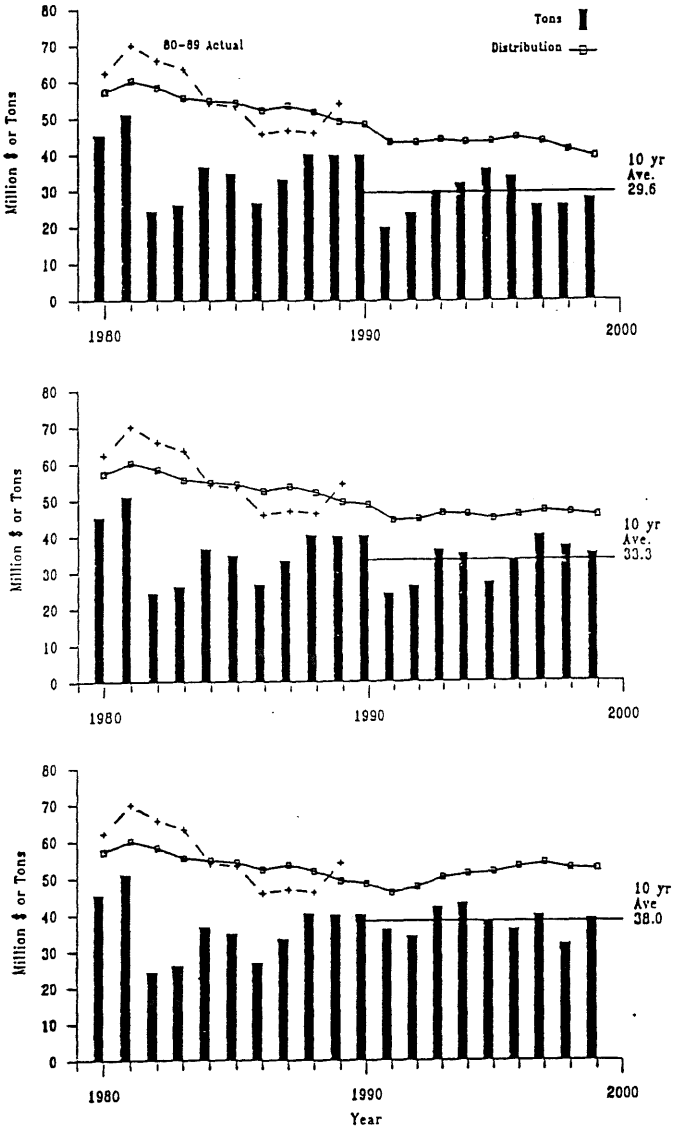


Figure 1. Taconite Production Tax Distribution for Three 1990-99 Tonnage Scenarios

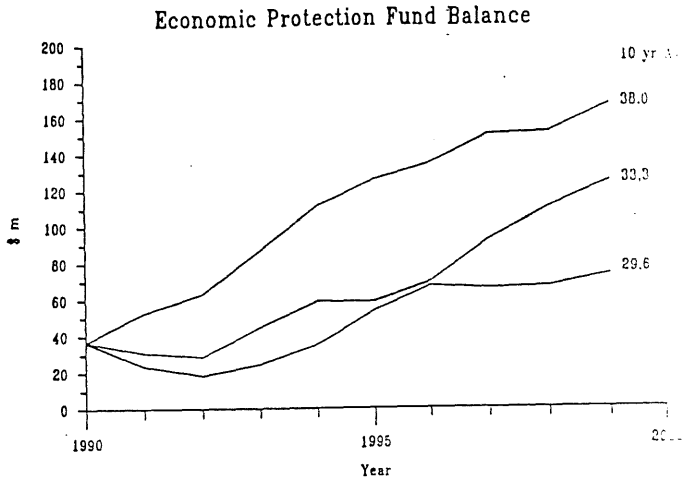


Figure 2. Growth of the Economic Protection Fund Balance for the Three Tonnage Scenarios in Figure 1 and the Proposed Distribution Formula