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GOVERNOR'S TASK FORCE ON MINING AND MINERALS

Recommendations for Strengthening Minnesota's Mining and Minerals Industry

A Report to the Governor

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INTRODUCTION

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The economy of northeastern Minnesota is heavily dependent on the taconite mining industry. Approximately 6,500 people are directly employed by the taconite industry on the Iron Range of northeastern Minnesota. In addition, about 11,000 people are employed by suppliers and other businesses which provide products and services to the mining industry or its employees.

Altogether, the taconite mining industry and related businesses employ approximately 17,500 people -- nearly 15 percent of the total work force of 117,000 in northeastern Minnesota. The wages paid by the mining industry to its employees are higher than those paid by any other industry in the state.

If the challenges presently facing Minnesota's mining industry are not met, the region will likely witness a massive loss of jobs in the mining industry -- comparable to the first-half of the 1980's -- and the closing of taconite-producing facilities.

The loss of jobs by people employed by the mining industry -- and by businesses which support the mining industry -- would be a devastating setback to northeastern Minnesota. The region is slowly recovering from the social and economic upheaval caused by the permanent layoff of thousands of mine workers in the early 1980's.

The principal problem confronting the mining industry is a pending decline in the steel-making market for taconite ore. The market for taconite is likely to diminish for these reasons:

- minimills -- which produce steel from scrap utilizing electric-arc furnaces, and which produce it more cheaply and faster than firms producing steel from taconite ore -- are capturing a larger portion of the steel-making market each year. Mini-mills presently produce about 37 percent of the steel in the United States. By the year 2000, minimills are projected to increase their portion of the market to 50 percent. As a result, minimills have reduced the need for iron ore and taconite in the steel-making process. Overall, in 1981, for each ton of finished steel produced in the United States, 1.2 tons of iron ore were used. By 1990, only .97 of a ton was used to produce a ton of finished steel.

- companies presently using taconite ore are adopting more effective methods and means for producing steel -- resulting in the use of less iron ore per ton of steel produced. One such method is known by steel makers as "continuous casting". A measure of the amount of ore used in producing steel is the amount of scrap that is produced in the process. The change is illustrated by a reduction in the amount of scrap produced in making one ton of finished steel -- from 39 percent in 1981 to 11 percent in 1991.
- lighter weight steel is being used for products which previously used heavier weight steel, and the development of new finishing techniques has extended the life of steel products.
- depending on foreign exchange rates and on the distances involved, some producers in foreign countries can mine ore, ship it to the U.S. and sell it at a price which permits steel-producers to make steel at a lower cost than if they purchased and used taconite ore mined in Minnesota.
- manufacturers who previously bought steel to make their products are replacing some of the steel in those products with other substances such as plastic and aluminum.

In the last several years, the mining industry in Minnesota has been making efforts to cope with the decline in the market for taconite by:

- reducing the cost of taconite pellets by reducing production costs, including energy costs, and improving processing techniques;
- improving the quality of the pellet so that it is more valuable to steel producers by adding limestone so the pellet burns cleaner and at a lower temperature, and removing silica so there is less waste for producers to cope with;
- identifying and developing more uses for taconite, such as the use of taconite concentrate in removing impurities from coal; and by
- identifying and developing more uses for the high-quality steel which must be produced from taconite pellets (rather than the lower quality steel which is produced from scrap).

However, these efforts alone are expected to be insufficient to prevent further decline in the mining industry -- and a resulting loss of jobs.

On behalf of its citizens, the state of Minnesota has a stake in the survival of the mining industry. The loss of the jobs now provided by the taconite industry would result in social and economic distress of the scope experienced by the Iron Range throughout the first-half of the 1980's when thousands of jobs were eliminated due to a sharp decline in the market for taconite pellets. Loss of these jobs would also bring social and economic distress to Iron Range communities -- which receive approximately \$80 million each year in taxes paid by the mining industry.

There are steps which the state of Minnesota could take to help preserve and create jobs on the Iron Range and elsewhere in Minnesota. It could play a more active role in creating employment opportunities for all its citizens -- including workers who may ultimately be displaced by a reduction in the market for taconite pellets -- by fostering wider research which could lead to:

- the discovery of less expensive methods for processing taconite;
- the development of new uses for iron ore, including the use of iron ore in new steel-making processes;
- the identification, mining and processing of other minerals throughout the state; and
- new processing methods and equipment which would simultaneously be more environmentally-friendly and reduce environmental fees paid by mining companies.

In fact, however, at a time when jobs in the mining industry are in peril, the state of Minnesota has substantially diminished its support of such research. Also, at a time when the mining industry is struggling to reduce its costs to compete with prices charged by foreign producers of iron ore, the state has made changes in the nature and structure of environmental fees imposed on mining companies -- making it more costly to produce taconite pellets.

The Governor believes that the state of Minnesota should take a more active role in helping to preserve jobs in the taconite mining industry and in promoting the creation of jobs through the exploration, mining and processing of other mineral resources.

To identify measures to help the state of Minnesota achieve these goals, the Governor issued an executive order on January 4, 1993 creating a Task Force on Mining and Minerals. The Task Force was created in recognition that the state should play a

more active role in promoting development of the economic potential of the state's minerals, thereby increasing the strengths of Minnesota's economy, especially that of northeastern Minnesota.

The Task Force is made up of 15 members appointed by the Governor. A list of the members is included in the appendix to this report. The members represent a broad cross section of people interested in strengthening the mining and minerals industry of northeastern Minnesota. The Commissioner of the Iron Range Resources and Rehabilitation Board (IRRRB) served as the chair of the Task Force.

The executive order charges the Task Force with making recommendations to the Governor for strengthening the mining and minerals industry of northeastern Minnesota by April of 1993.

From January 8 through April 2, 1993 the Task Force held seven day-long meetings. The Task Force examined all areas in which state government affects the mining industry, including taxation, royalties, regulations, environmental issues and mineral research and mineral policies of state agencies, including the University of Minnesota.

RECOMMENDATIONS OF THE TASK FORCE

The Task Force understands that mining companies may increase their sales of taconite pellets -- and thereby preserve jobs -- by selling pellets at a lower price. Taconite pellets can only be sold at a lower price if companies are able to reduce their costs of producing the pellets. The state can help the mining companies reduce their costs of producing pellets by:

- promoting and investing in research which explores ways for mining companies to reduce the cost of producing pellets and improve their quality;
- reducing the costs imposed by government, such as by
 - ~ restructuring environmental fees so that lower fees are paid on the less environmentally-damaging pollutants produced by mining activities and higher fees are paid on more environmentally-damaging pollutants;
 - ~ helping mining companies develop more effective and less-costly methods for restoring mined land.

The state can also help develop other jobs on the Iron Range by promoting exploration for and mining of other minerals.

To accomplish the above tasks, the Task Force makes the following 14 recommendations:

Taconite Economic Development Fund

Mining companies pay the taconite production tax -- \$2.054 for each ton of taconite they produce. Of this amount, 10.4 cents is set aside in the Taconite Economic Development Fund. This fund was created by the legislature in 1992 to provide funds to help the mining companies invest in new equipment and facilities to replace outmoded and inefficient equipment and facilities and to conduct research on new mining technology. One reason for establishing the fund is that banks have been reluctant to lend mining companies funds for such improvements. Parent companies of Iron Range mining companies have also been reluctant or unable to provide funds to the mining companies for such improvements.

The fund is held by the Iron Range Resources and Rehabilitation Board. Expenditures from the fund must be approved by a joint committee made up of equal numbers of production and maintenance employees and managerial personnel. The fund has resulted in getting production and maintenance employees and managerial personnel to work closely together to set and achieve common goals, thus helping to reduce labor-management friction.

Each taconite producer has a separate account in the Taconite Economic Development Fund which is funded by the taxes it pays. The funds in the account are provided by setting aside 10.4 cents of the total \$2.054 cents of taconite production tax paid by the company for each ton of taconite it produces.

The Task Force recommends that the state double the amount of taconite production tax deposited in the Taconite Economic Development Fund from 10.4 cents per ton to 20.8 cents per ton for pellets produced in 1993, and extend the fund for pellets produced in 1994 and 1995.

Taconite Tax Rate

The taconite production tax rate is indexed to increase with inflation. The present index is based on the gross national product implicit price deflator. This index measures changes in the prices of fuel, housing, clothing, food and other related items, and changes in the prices of these items have little or no relationship to changes in the prices of steel products.

The indexing of the taconite tax rate to this measure was frozen by the state legislature for production in 1986, 1987, 1988, 1990, 1992 and 1993. It was not frozen for production in 1989 and 1991.

The Task Force recommends that the state extend the freeze on the indexing of the taconite tax rate until an alternate index which more closely links the index to economic conditions in the steel industry -- in particular, the value of steel -- is adopted by the legislature.

Sales Tax on Pollution Control Equipment

The cost of producing taconite pellets can be reduced by reducing the environmental

fees paid by mining companies. This must be accomplished in two stages:

- first, by structuring state environmental fees so that lower fees are paid on less environmentally-damaging pollutants (as discussed in the section entitled *Environmental Fees*), and
- second, by encouraging companies to reduce the amount of pollutants they produce through the installation of pollution prevention and control equipment.

To encourage the purchase and installation of such equipment, the Task Force recommends that the state exempt the purchase of pollution control and prevention equipment -- including footings and foundations constructed for the equipment -- from the state sales tax.

Taconite Production Equipment

Mining companies can reduce the cost of producing taconite pellets by investing in new and more efficient production equipment.

To encourage the mining companies to invest in such equipment, the Task Force recommends that the state exempt from the sales tax the purchase of new and replacement capital equipment.

Taconite Facilities

Mining companies can sell more taconite pellets by increasing the value of the pellet to steel producers, such as by increasing the iron content of the pellet. New facilities may be needed to accomplish improvement of the quality of the taconite pellet. New facilities may also be needed for the production of new products from taconite, including for use in new steel-making processes.

To encourage the development of such new facilities, the Task Force recommends that the state exempt from the sales tax building materials used in the construction of new or replacement facilities established for improving the value of taconite pellets and for production of mineral-related products.

Environmental Fees

The legislature appropriates funds to the Minnesota Pollution Control Agency (MPCA) to pay for its costs in enforcing state air quality standards. At the same time, the legislature requires that these funds be paid back to the state general fund

through a fee imposed on each ton of pollutant emitted. Each year the fee is determined by dividing the total amount of dollars appropriated to the MPCA into the total number of tons of pollutants emitted in the last reported year.

In addition, the federal clean air act, which goes into effect in 1994, will also be administered by the MPCA. The fees required to cover the costs of enforcing the federal standards will be determined according to the same basic formula.

The formula does not provide an incentive for reducing air pollution because if the number of tons of pollutants emitted is reduced, the amount of the fee must be increased in order to provide adequate funds to enforce the standards. The same fee is applied to all types of air pollutants, regardless of the degree of damage which the various pollutants cause to the environment. Fees are not structured to impose higher rates on more environmentally-damaging pollutants and lower rates on less damaging pollutants.

By restructuring state environmental fees so that mining companies pay lower fees for less environmentally-damaging air pollutants, the cost of producing taconite pellets can be reduced. Restructuring the fees in this manner would result in lower costs for the mining companies because the major pollutant they produce is dust, which is not as damaging to the environment as pollutants produced by some other industries. It would also have the collateral effect of encouraging industries which produce more damaging pollutants to reduce the amount of those pollutants, thus reducing environmental pollution as well as their costs.

Accordingly, the Task Force recommends that through the rule-setting process the Minnesota Pollution Control Agency restructure state per-ton air pollutant emission fees so that higher rates are applied to more environmentally-damaging air pollutants and lower rates are applied to less environmentally-damaging air pollutants.

Also, if permitted under federal law, the Minnesota Pollution Control Agency should restructure federal pollution fees collected by Minnesota to achieve the same effect.

Wetland Replacement

Under current law, any businesses -- including mining companies -- which take wetlands out of use in any of the state's 87 counties are required to replace each acre

taken out of use with two acres of wetland. Also, they are required to replace the wetland in the same year it is taken out of use.

To reduce the cost of producing taconite pellets, and to do so with no net loss of wetlands, the Task Force recommends a change to this law which would reduce mining companies' costs of replacing wetlands. Specifically, the Task Force recommends that each acre of wetland taken out of use in counties which have lost less than 20 percent of wetland since presettlement days be replaced with one acre of wetland -- instead of the present two acres of wetland. The Task Force also recommends allowing the replacement to be made over the course of the mining operation instead of requiring it to be in the same year the wetland is taken out of use. All counties in northeastern Minnesota in which mining operations take place have lost less than 20 percent of wetlands since presettlement days.

Petroleum Spill Cleanup

Under state law, a fee of \$.01 per gallon of petroleum products is imposed on the use of tanks containing petroleum products. This tax is deposited in the state Petrofund, and is used to provide 90 percent reimbursement of the costs of companies which clean up accidental discharges of petroleum from tanks they maintain -- up to a maximum reimbursement of \$1 million. However, under the law, tank facilities with a storage capacity of one million gallons or more and all petroleum refineries are not eligible to receive reimbursement of their cleanup costs.

The fee is paid by petroleum distributors at the time they receive the petroleum from a refinery or pipeline. The distributors then pass the \$.01 per gallon fee on to their consumers, all of whom maintain storage tanks -- including gasoline stations, farmers and mining companies.

While the \$.01 per gallon fee is thus passed on to mining companies, the Minnesota Pollution Control Agency has interpreted the law to exclude mining companies from receiving reimbursement for cleanup costs on the basis that they have tank facilities with a storage capacity of one million gallons or more.

The costs paid by mining companies to produce taconite pellets would be reduced if mining companies received reimbursement for their costs in cleaning up accidental discharges of petroleum from their tanks. Accordingly, the Task Force recommends that reimbursement from the Petrofund be authorized for all companies which maintain

petroleum storage tanks, regardless of the storage capacity of the tanks, except refineries and pipeline terminals.

Since petroleum distributors pass along the \$.01 per gallon tax to their customers, this law change would mean that all companies which are effectively paying the fee in the purchase price of the petroleum would be authorized to receive reimbursement of their cleanup costs.

Iron Ore Research

The iron ore cooperative research program, funded jointly by the State of Minnesota, the mining industry and the federal government (through the U .S. Bureau of Mines), was established in 1987 to develop improvements in iron ore mining equipment and mining operating procedures to increase production, improve taconite quality and reduce expenses.

Under the program, the legislature requires that state funds be matched dollar for dollar. Since 1987, the state has provided \$1.4 million to the program. This amount has been matched with \$2.4 million provided by the federal government and mining companies -- nearly \$1 million more than required by the state in matching funds. The program has funded 44 projects since its inception -- 25 of which have been completed.

More progress in achieving the goals of increasing production, improving taconite quality and reducing expenses can be obtained with additional funding. Therefore, the Task Force recommends an increase in funding for cooperative iron ore research from its current annual level of \$325,000 to \$1 million per year.

Mineral Diversification

The Minnesota Minerals Coordinating Committee (MMCC) was established in 1975 to provide for the diversification of the state's mineral economy through long-term support of mineral exploration, evaluation, development, production and commercialization. The committee is made up of representatives from the Department of Natural Resources Minerals Division and the University of Minnesota's Department of Civil and Mineral Engineering, the Natural Resources Research Institute and the Minnesota Geological Survey.

In January, 1988, the MMCC submitted a mineral diversification plan to the Minnesota legislature . The plan stated that "the probability that mineral diversification will suc-

ceed in Minnesota is high," and that "every region of the state possesses potential for mineral development of some kind" -- including such non-ferrous minerals as copper-nickel, titanium, gold, platinum and vanadium, and industrial minerals such as clay. But the state has never provided adequate funds to conduct research sufficient to realize the state's potential for new mineral industries.

In the 1992-1993 biennium, the state closed the Mineral Research Center of the University of Minnesota, and reduced funding for the minerals diversification plan by \$364,000. In addition, funding for the U.S. Bureau of Mines for mineral research has been reduced by nearly \$500,000 per year. Even before these cuts, the federal government and Minnesota were spending less on mineral research than on other natural resource industries such as agriculture and forest products.

In order to foster the diversification of the state's economy, the Task Force recommends that for the 1994-1995 biennium funding for the committee be returned to its 1990-1991 biennium level of \$800,000 per year.

The mineral diversification plan developed by the Department of Natural Resources should be modified so the amount of the increase in funds over the 1994-1995 biennium is targeted to diversifying the minerals industry in areas of the state which have experienced -- or have the potential for experiencing -- the greatest reductions in employment.

Minerals Research

The University of Minnesota receives income in the form of royalties from mining operations conducted by mining companies on land owned by the University. The royalties are deposited in the Permanent University of Minnesota Trust Fund. Interest from the fund is used to establish and maintain teaching and research chairs at the University.

Beginning in 1992, the amount of royalties received annually by the University from mining operations on University-owned land increased considerably when leases with the mining companies expired and were renegotiated on more favorable terms for the University. In addition, new leases on University land not previously leased by the mining companies provided additional royalties. The increased amount of royalties which will be deposited in the University Trust Fund will result in an increase in the amount of interest earned each year by the Trust Fund.

The Task Force recommends that -- beginning with the increase in interest received in 1992 over the base year of 1991 -- one-half of the increase in interest be set aside by the University in a separate account for use in funding mineral and mineral-related research, including research aimed at reducing environmental problems related to mining. The Task Force supports the portion of Senate File 1137 which includes this proposal.

Depending on the focus of the research, the results may benefit mining companies by reducing their costs, increasing the quality of taconite, increasing production and developing new uses for iron ore. In addition, the research may benefit the state of Minnesota by identifying uses for other minerals in the state, and by developing new techniques for mining and processing these minerals.

In addition, since the royalties paid to the University increase with increases in production by the mining companies, research conducted by the University which results in benefiting the mining companies by increasing their production will also benefit the University since the increase in production will bring an increase in royalties.

Minerals Chair

To provide leadership for mining research efforts and to help concentrate University mining research efforts, the Task Force recommends that the University of Minnesota create a chair for metallic mineral research at the University of Minnesota, Duluth. The research should be conducted at research facilities in the vicinity of mining operations on the Iron Range. One-half of the cost of the chair should be funded by the University, and the other half by matching funds obtained by the University from other sources.

Since research needs and interests may change depending on economic, scientific and social developments, the Task Force suggests that appointments to the chair should be made by the University for prescribed terms such as three to five years.

Minerals Conference

To draw public attention to the urgency of the present situation of the mining industry and the potential for the development of the state's mineral resources, and to encourage more research, the Task Force feels that it would be useful to hold a high-profile conference -- featuring discussions of these issues by experts of national standing. The conference would have the dual impact of attracting public interest and also,

through its deliberations, making tangible contributions to the development of Minnesota's mineral resources.

The Task Force recommends that the conference seek to identify methods for expanding the market for iron ore through the use of direct reduction iron processes, such as the Fastmet process and the iron carbide process which produce high quality iron for use in electric-arc furnace and blast furnace operations, thus reducing energy costs and pollutant emissions and emission fees. The conference should also identify possibilities for mining and processing non-ferrous metals, and address environmental issues related to mining.

The Task Force recommends that such a conference be convened in the fall of 1993 under the joint sponsorship of the University of Minnesota, the Department of Natural Resources and the mining industry.

Extend the Life of the Task Force

Finally, the State of Minnesota should take advantage of the expertise and energy which has been assembled on the Task Force and the momentum which has been generated by extending the life of the Task Force through 1995 to develop additional proposals and recommendations for strengthening the mining industry. In addition, the Task Force is well qualified to develop a strategic plan which it feels is needed to coordinate the activities of state and local governments, lawmakers and the University of Minnesota toward the accomplishment of common goals in sustaining the economic viability of the Iron Range area.

Members of the Governor's Task Force on Mining and Minerals

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Notes

