REPORT

of the

COMMISSION ON TAXATION AND PRODUCTION OF IRON ORE AND OTHER MINERALS

Submitted to

THE MINNESOTA LEGISLATURE

1971

State of Minnesota

COMMISSION ON TAXATION AND PRODUCTION OF IRON ORE AND OTHER MINERALS

18G State Capitol
Saint Paul, Minnesota 55101
221-6753

TO THE MEMBERS OF THE 1971 LEGISLATURE

Gentlemen:

In accordance with Minnesota Statutes 1969, Section 3.923, the following report is hereby submitted to the members of the Legislature of the State of Minnesota.

Respectfully submitted,

STANLEY J. FUDRO
Secretary

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CONTENTS

PROBLEMS RELATING TO FOREIGN COMPETITION AND ITS EFFECT ON MINNESOTA PRODUCTION

(See editorial note at end of article.)

The Secretary-General of the International Iron and Steel Institute recently quoted the Director of Australia's Hammersley Iron Company as stating that there is enough iron ore in one region of Australia alone to supply the world for the next one hundred forty thousand years. It is interesting to note that in the state of foreign competition to Minnesota ores as described in the 1955 Legislative Report of this Commission, there is no mention of Australia. At that short time ago, the Labrador, Quebec iron ore developments were but in a preliminary state of development with but one mine operating in the Labrador, Quebec area and with all other mineral potentials merely being investigated. In the succeeding fifteen years, there has developed in Canada alone an annual capacity of operating pellet plants totaling over 27 million tons annually with additional reports of potential taconite pellet sources now being reported in the Mt. Wright area of Quebec. The following table is a complete listing from the annual review of the publication "Iron and Steel Engineer, 1969" of these Canadian pellet plants showing their ownership and location, their capacity and their initial year of operation.

PROJECT	LOCATION	ANNUAL CAPACITY - TONS	INITIAL OPERATION - (YEAR)
Sudbury Mine (International Nickel)	Copper Cliff, Ont.	750,000 250,000	1956 1967
Marmoraton (Bethlehen)	Marmora, Ont.	500,000	1957
Hilton Mines, Ltd. (Stelco, Jones & Laughlin, Others)	Shawville, Que.	1,000,000	1957

PROJECT	LOCATION	ANNUAL CAPACITY TONS	INITIAL OPERATION (YEAR)
Carol Pellet Co. (Bethlehem) (National Steel) (Hanna) (Armco) (Republic Steel) (Youngstown) (Wheeling)	Labrador City, Newfoundland	5,500,000 4,500,000	1963 1968
National Steel Corp. of Canada (formerly Lowphos Ore Ltd.) (National Steel) (Hanna)	Capreol, Ont. (Moose Mountain)	625,000	1963
Adams (Jones & Laughlin)	Kirkland Lake, Ont.	1,250,000	1964
Wabush Mines (formerly Arnaud Pellets) (Stelco) (Dominion) (Youngstown) (Inland) (Interlake) (Pittsburgh) (Others)	Pointe Noire, Que.	6,000,000	1965 1968
Caland Ore Co. Ltd. (Inland)	Atikokan, Ont.	1,781,000	1966
Steep Rock Iron Mines Ltd. (Algoma) (Detroit)	Steep Rock Lake, Ont.	1,568,000	1967
Sherman Mine (Dofasco) (Cleveland-Cliffs)	Témagami, Ont.	1,000,000	1968
Griffith (Stelco)	Iron Bay, Ont.	1,500,000	1968
Falconbridge	Br. Columbia and Ontario	1,000,000	1968
	Total	27,224,000	

To the above list might be added the Quebec Cartier Mining Company operation of U. S. Steel which in 1969 produced 7,735,000 tons of taconite concentrate. In addition to Canadian pellet capacity, shipments of iron ore other than pellets last year from Canada totaled over 8 million tons, more than eighty percent of this ore and of all

pellet production is exported from Canada for use in steel plants in the United States.

In addition to these Canadian pellet plant operations, we find outside of Minnesota, some other American sources, the following operating pellet plants all of which have been constructed and placed in operation since this Commission's 1955 Report to the State Legislature.

PROJECT	LOCATION	ANNUAL CAPACITY, TONS	INITIAL OPERATION (YEAR)
Republic Mine of Marquette Iron (Cleveland-Cliffs) (Jones & Laughlin) (International Harvester) (Wheeling)	Republic, Mich.	2,000,000	1956
Eagle Mills (Cleveland-Cliffs)	Eagle Mills, Mich.	800,000	1957
Cornwall (Bethlehem)	Cornwall, Pa.	700,000	1959
Humboldt Mine (Cleveland-Cliffs) (Ford)	Humboldt, Mich.	800,000	1960
Grace Mine (Bethlehem)	Reading, Pa.	1,500,000	1961
Empire Iron (Cleveland-Cliffs)	Palmer, Mich.	1,400,000	1963
(Inland) (McLouth) (International Harvester)		1,800,000	1966
Atlantic City (U. S. Steel)	Atlantic City, Wyo.	1,500,000	1963
The Hanna Mining Co. (Hanna)	Groveland, Mich.	1,600,000 500,000	1963 1967
Meramec Mining Co. (Bethlehem) (St. Joseph Lead)	Pea Ridge, Mo.	2,000,000	1964
Pioneer Pellet Plant (Cleveland-Cliffs) (Republic) (Bethlehem) (McLouth)	Eagle Mills, Mich.	1,200,000	1965
Eagle Mountain (Kaiser)	Eagle Mountain, Calif.	2,000,000	1965
Pilot Knob (Hanna) (Granite City)	Pilot Knob, Mo.	1,000,000	1968

PROJECT	LOCATION	ANNUAL CAPACITY, TONS	INITIAL OPERATION (YEAR)
Jackson County Iron Co. (Inland)	Black River Falls, Wisconsin	1,000,000	1968
	Total	19,800,000	

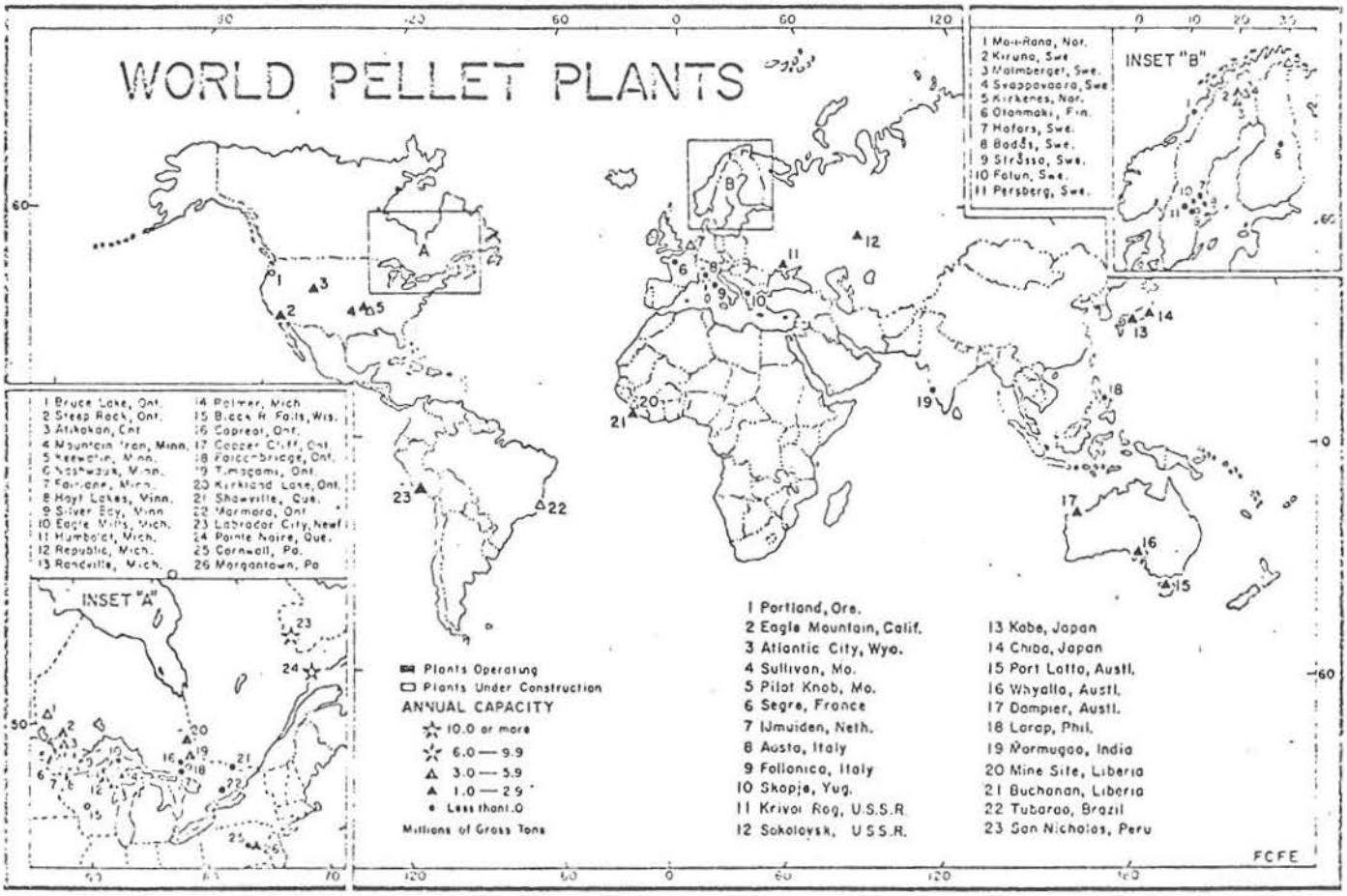
The present operating pellet plants in Minnesota are as follows:

PROJECT	LOCATION	ANNUAL CAPACITY, TONS	INITIAL OPERATION (YEAR)
Erie Mining Co.	Hoyt Lakes, Minn.	7,500,000	1955
(Bethlehem)		2,800,000	1967
(Youngstown)			
(Interlake)			
(Stelco)			
Reserve Mining Co.	Babbitt and Silver	9,000,000	1957
(Armco)	Bay, Minn.	1,700,000	1966
(Republic)			
Eveleth Taconite Co.	Eveleth, Minn.	1,600,000	1965
(Ford)			
(Oglebay Norton)			
National Taconite	Keewatin, Minn.	2,400,000	1967
(National Steel)			
(Hanna)			
Minntac	Mountain Iron,	4,500,000	1967
(U. S. Steel)	Minn.		
Butler Taconite	Nashwauk, Minn.	2,000,000	1967
(Hanna)			
(Inland)			
(Wheeling)			
	Total	31,500,000	

Moving outside North America, we find that pellet plants are now operating throughout the entire world as can be seen on this map showing the sites of world iron ore pellet plants. This map was prepared by Dr. Fillmore C. F. Earney of Northern Michigan University. On a worldwide basis, it is now reported that pellets provide more than ten percent of the total usable iron ore produced annually. The total annual capacity as of 1969 of the sixty-two worldwide pellet projects has now put the world's total capacity to over ninety-five million tons

gross annually. This status of Minnesota's production facilities as compared to North America's capacity indicates that our production approximates 40% percent of pellet capacity in our continental states and Canada. The outlook is for a continued growth in pellet production in North America and throughout the world as steel producers continue to seek improved raw materials and blast furnace efficiencies.

Map of World Iron Ore Pellet Plants



With reference to available iron ore reserves, this Commission has had access to a 1970 publication consisting of approximately 500 pages and entitled Survey of World Iron Ore Resources sponsored and printed by the United Nations. The significant conclusions submitted

by this international study group to the Secretary-General of the United Nations are as follows:

1. The present report on world iron ore resources demonstrates a world total of more than 250,000 million tons of iron ore reserves and over 500,000 million tons of potential ore compared with the 85,000 million tons last reported in 1954. The reasons for this increase in resources are:

a. New discoveries.

b. Inclusion of low-grade beneficiable ore not considered previously.

c. More information on known iron regions and inclusion of areas from which little or no information was previously available.

2. Changes in marine shipping have had a singular impact on the ore-resource picture during the past decade. The construction of large carriers designed for the bulk handling of ore and the improved harbor facilities made necessary for berthing and cargo handling have resulted in a marked reduction in freighting costs. As a result, exploration has been stimulated in areas formerly regarded as too far from markets, and known ore deposits previously dormant because of shipping costs are now exploitable.

3. In quantitative terms, global reserves of iron ore are adequate to satisfy any world demand in the foreseeable future. However, the division between reserves and potential ores is fluid and dynamic; modest changes in demand, beneficiation, iron and steelmaking processes and/or transport practice may make today's potential ores economically attractive and may equally well render some medium - to high-grade ores less attractive, as has happened in many places during the past decade.

4.. The world's iron ore resources are capable of expansion.

5.. There is no reason to assume that advances in mining and ore-treatment technologies are at an end. Continued improvement and lowering of costs in these fields may promote potential ores to reserves and create ore from material now regarded as iron-bearing waste rock.

6.. Modern methods of exploration embodying instrumental techniques that have contributed so markedly to the accelerated rate of mineral discoveries in the past two decades have been particularly significant in the search for iron ore, and of these methods, airborne magnetometer surveys and photogeological mapping are probably most pertinent to iron ore search.

In addition to the above, the report concludes that as iron ore deposits that are economically exploitable increase in size, they require an extensive and expanding infrastructure which may consist of port development, railway construction, creation of new towns and ancillary small industry. In such cases, these developments are likely to have a pronounced and durable effect on the economy of the producing country.

It is interesting to note that this survey in Table 1 reports world reserves of iron ore approximating 251,300,000,000 tons. The entire United States of America, Puerto Rico, Mexico and Central America are described as having 3% of these reserves in contrast, for instance, to 44% of known reserves in Soviet Russia and 14% or almost five times the amount of reserves in Canada. The resources in Canada are about sixteen times greater than those reported in the 1954 United Nation's survey, and this increase is accounted for by changes in the statistics for Canada, where vast quantities of low-grade concentratable material not previously considered can now be included as resources, large new

deposits have been discovered and systematic exploration and geological investigations have made it possible to assess both reserves and potential more accurately.

In addition, iron ore resources in South America now are estimated as 14% of the world reserve supply and have nearly doubled in this period of time because of new discoveries and extensions of known deposits in Bolivia, Chile and the high plateau of the Peruvian Andes, and the inclusion as resources of ores amenable to concentration.

The following compilation of 1969 companies' iron ore shipments demonstrate fully the present international aspect of iron ore mining and taconite production. This summary, you will note, includes no figures for the Soviet Bloc nations.

The following quotation from a paper by John J. Dwyer, President of Oglebay Norton Company, Cleveland, Ohio, summarizes this situation:

> "Aside from these technological upheavals and their consequences, the last 20 years have brought about a commercial revolution. This phase of the evolution started with the search for new iron ore deposits in various parts of the world, a search urged by the U. S. government and undertaken by many different firms. The President's Materials Policy Commission, usually referred to as the Paley Commission, appointed by President Truman in 1951 called for expansion of capacity for the production of iron and steel in underdeveloped areas where available resources and potential markets provided a sound basis for the industry.
>
> The first new deposits to be discovered and exploited were the immense high grade hematite fields in Venezuela. After Venezuela, the order of discovery on one hand and commence-

ment of production on the other becomes complicated. During the last 10 years, large scale production started in Quebec, Labrador, Liberia, Brazil, Peru, Child, India and, finally, in Australia. All of the new producing areas shared one basic characteristic that the ore, concentrates or agglomerates could be delivered in large tonnages to shipping ports at a low enough cost to permit ocean transportation to the steelmaking centers, first by traditional-type bulk carriers and later with large ore carriers specifically designed for the task.

There had been ocean traffic in iron ore before. But the distances were short, for example, from Sweden and Norway to the United Kingdom and central Europe, from North Africa to France, and from Brazil to the United States. The carriers were in the 10,000 to 15,000-ton class, and the freight rates prohibited large scale intercontinental commerce in blast furnace ore.

The situation is totally different now; not entirely, but to a large extent because of the astonishingly rapid emergence of Japan as the world's third largest steelmaker, its largest shipbuilder, and the builder of the largest ships, including ore carriers from 100,000 to 200,000 tons. Japan is also foremost in the world in placing its steel plants on the seacoast where the best advantage can be taken of the deep draft unloading ports. The rest of the world is following the same trend, but at a slower pace because of the traditional sites of the old steel plants near the domestic coal deposits, usually a good distance from ocean ports.

The first ocean vessels specifically designed for carrying iron ore were built in Sweden. About ten years ago, a 35,000-ton ore vessel was the largest of the kind, and the owners concluded at the time that a larger ship could not enter the ports. Ships of about 50,000 tons were employed in transportation of ore from Venezuela to our own east coast and Europe, and from Quebec to the east coast. At about the same time, the Japanese were laying keels for 100,000-ton carriers, and the race has been on ever since.

Attention should be given to the emergence of the multipurpose or universal bulk carrier. Basically, these ships are designed to carry ore in the traditional holds, and oil, for example, in the ballast tanks. Today, we see ships carrying ore from Peru to Japan and then oil from Sumatra to California on the return trip. It goes without saying that such a ship is earning more by not returning ballasted with water.

Geography Now of Less Importance

Unlike two decades ago, we thus have a situation today wherein we see multimillion-ton traffic in iron ore from a number of South American countries to the U. S., Japan and Europe; from Canada to the U. S., Europe and Japan; from Africa to the U. S., Europe and Japan; and from Australia to Japan and Europe. The globe has shrunk, and today we are rapidly approaching, if not already in, the situation in which the geography of a large orebody does not necessarily determine its competitiveness anywhere along the sea lanes of the world. It also must be realized, as a corollary, that production of

ore anywhere in the world can affect production everywhere else.

Turning back to the domestic scene, we also see significant changes in modes of transportation. Unit trains play an important role in coal transportation, but they are also employed in moving pellets from plants in Michigan and Ontario. The first steps already have been taken in the overhaul of lake shipping that has adhered to the traditional ways of doing things for half a century or more. Locks are readied for longer hulls and wider beams, and new concepts are being introduced in shipbuilding, related as well to the art of construction as to the function of the ship. Thus, within a year or so, we will see the first ships on the lakes carrying 40,000 tons or more per trip and capable of unloading themselves faster than would be possible with the huletts, even if the latter were capable of reaching across the full beam of these ships.

The past also contains the beginning of a trend that probably will not greatly change the ore picture, but is significant nevertheless. Prereduced pellets are not thought of as blast furnace feed, but high grade pre-reduced pellets should lend themselves ideally to electric steelmaking, provided that the predicted cheap nuclear electric power becomes available. As the center of the population moves west, we may see small steel plants erected, without blast furnaces, based on small local ore resources, a circumstance strangely similar to that involved in the original merchant iron furnaces. Fuels suitable for pre-reduction are available practically everywhere in the country.

Competition Expected to Intensify

What can we predict safely about the iron ore trade in the years to come? One thing is certain. The competition around the world, the domestic scene included, will become tougher. Taking a look at ocean transportation again, there is no reason to doubt that the trend toward larger ships, more versatile in function, more highly automated, carrying smaller crews than before, will continue. The impact of the decreasing ocean freight rates will be fully felt when more and more ports will be able to receive ships with drafts of 45 ft. or more. Our east coast ports do not have this capability now, but ports have always had a way to accommodate, sooner or later, the ships that bring them trade."

Mr. Dwyer concludes that iron ore is in a permanent state of evolution, that the future demands that the industry be willing and ready to accept change to experiment, to innovate and to take risks, stating as follows:

"Think of the state of the iron ore producing industry 20 years ago, and perceive it today. Then think of what the next 20 years can and will bring, if we allow the evolution or revolution to continue forward."

When this Commission submitted its 1955 Report to the Minnesota Legislature, it stated that as of May 1, 1953, there were estimated reserves in Minnesota of iron ore in the ground other than taconite which can be mined and is merchantable either in its natural state or by present methods of beneficiation, of 915,183,000 gross tons. The latest

available figures (1969) of similar type iron ore reserves in Minnesota stands at 269 million tons. At the time of the 1955 Report to the Legislature, there was no production nor shipment of taconite. This was in contrast to production in 1969 of a total of 31.5 million tons as compared to 22.5 million tons of production of natural ores. Thus taconite accounted for 59.7 percentage of Minnesota's entire iron ore production in our most recent available year.

In this Commission's 1955 Report to the Minnesota Legislature, we reported on United States reserves in ten states other than Minnesota, and we now submit with this report the latest available information pertaining to reserves in those states as reported by the Survey of World Iron Ore Resources, a 1970 publication of the United Nations.

The map that is reproduced from that publication is submitted. This map now indicates known residual deposits, massive deposits or bedded deposits in Alaska, Puerto Rico, Hawaii and in twenty-four states other than Minnesota. We will refer only to the principal states having substantial known and available deposits in order to advise the Legislature of changes in published reserves since 1955.

ALABAMA

The Birmingham district of central Alabama is the chief iron ore area in the region, ranking next to the Mesabi district of the Lake Superior region in reserves. There are five principal mining districts in Alabama as follows with reserves as indicated.

1. Birmingham district - 1 billion. 127 million tons of commercial and marginal ore, 1 billion tons of additional material containing 23% to 27% iron.

2. Russellville district - (brown ore) - 15 million tons.

3. Southeastern Alabama district - 691 million tons inferred and

indicated.

4. Talladega district - 44 million tons of available and potential ore.

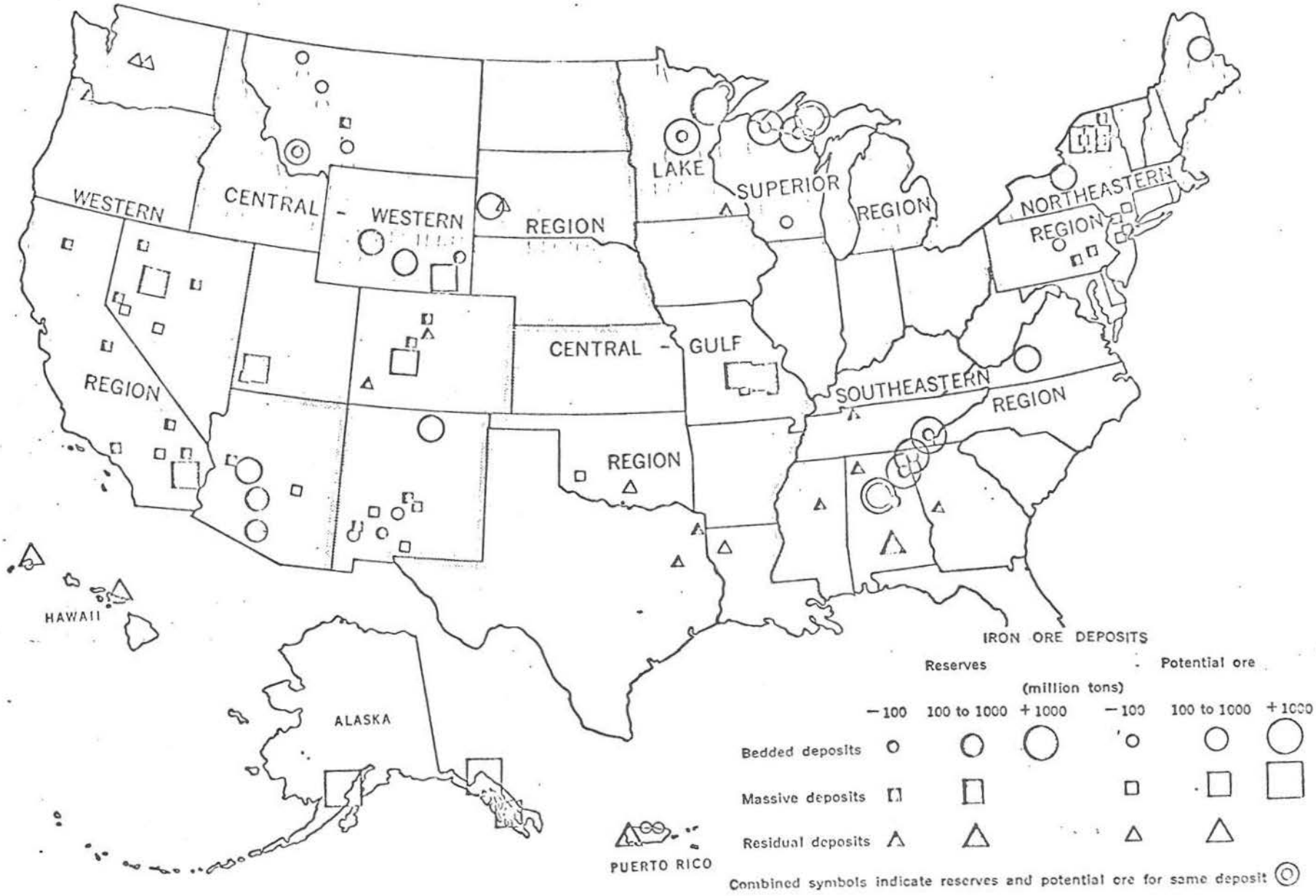
5. Northeastern Alabama - indicated and inferred reserves of 51 million tons and inferred potential ore 2,377,000,000 tons.

CALIFORNIA

California has iron ore deposits in widely separated parts of the state from the Klamath Mountains in the North to the Mojave Desert area in the south. The deposits are of magnetite and hematite type of ore and total reserves mineable in the Eagle Mountain district are estimated to be about 108 million tons. Additional known reserves in other areas of the state are estimated at about 40 million tons. Production of iron ore in 1969 in California was all in the form of concentrates and pellets and totaled 5,701,000 tons.

MICHIGAN

Michigan remains the second largest iron ore producing district in the United States with a present annual production of about 14 million tons. According to this United Nations report, the present iron ore reserve is estimated at 48.8 million tons excluding taconite. Michigan presently has six operating pellet plants, and reserves, according to the United Nations' publication, on the Market Range alone are estimated to be 400 million tons with an additional 17.5 billion tons estimated as "potential ores". The Menominee Range in Michigan is estimated to have present reserves in the Michigan sector thereof of 1.8 billion tons of taconite reserves and in the Wisconsin sector an additional 500 million tons. The Gogebic district contains an estimated 10 billion tons of iron formation and the additional potential ore has been estimated



Map 1. Map of the United States of America and Puerto Rico showing iron ore mining regions and iron ore reserves and resources of major districts and deposits.

at 7.7 billion tons.

NEW YORK, PENNSYLVANIA AND NEW JERSEY

New York, Pennsylvania and New Jersey are the iron producing states of the Northeast Region. Most of the ore is produced in the Adirondack district of Northeastern New York and is predominately in the form of magnetite. Reserves in the State of New York are stated to approximate 352 million tons with many additional causes amounting to hundreds of millions of tons described as potential iron ore. Pennsylvania has four principal districts containing substantial reserves of iron ore and total present reserves, principally described as sedimentary hematite deposits and so-called "brown ore deposits" are estimated to approximate 80 million tons of available reserves. New Jersey, while not presently producing iron ore in commercial quantities, is estimated to have resources containing 40% to 50% iron to the extent of 2 million tons.

TEXAS

The coastal plain of eastern Texas contains substantial deposits of so-called "brown ore", and it is estimated that present reserves amount to approximately 115 million tons. Production of crude iron ore from the east Texas district through 1969 is estimated to be about 75 million tons. The principal consumer of Texas ore is the Lone Star Steel Company, using ore from Marion and Morris Counties. This ore is beneficiated by washing, calcining and scintering. After crushing and washing, the concentrates contain approximately 40% to 48% iron ore of which is mined by open pit methods.

UTAH

Massive deposits of magnetite and hematite are found in Southwestern Utah with shipping grade averaging 53% iron. These ores are soft

and readily crushed, and it is estimated that present inferred reserves approximate 250 million tons. Small ore deposits of magnetite are found in the area of Iron Springs and in a district referred to as Bull Valley in Cave Mountain. This ore is used in steel centers located at Provo and Geneva, Utah and Fontana, California and at Pueblo, Colorado. The principal company mining these ores and producing steel in this area is U. S. Steel Corporation.

WISCONSIN

The only reference in our 1955 Report to Wisconsin ore is referred to the direct shipping ores approximating 50% to 60% dried iron and located on the Gogebic Range. At present, there are no operating natural ore mines in the State of Wisconsin; however, during this past year, a substantial taconite plant operated by Jackson County Iron Company and owned by Inland Steel Company came into operation near Black River Falls, Wisconsin. This ore is pelletized and shipped all-rail to the Chicago-Gary area. While no figures are available as to taconite reserve estimates, it is presently reported that reserves in the area of Black River Falls are sufficient for the life of this new taconite operation. Other deposits in Wisconsin are located northwest of Madison. This ore consists of a paint rock type of hematite. While reserves are estimated to be at least 50 million tons, this ore is not presently usable by any commercial process.

WYOMING

Reserves in the Atlantic City district are presently at 120 million tons. This taconite plant is a major source of ore for the steel works at Provo, Utah. Additional reserves in the Heartville district which supplies the steel works at Pueblo, Colorado are estimated to be about 30 million tons. An additional deposit of the Lake Superior type

of magnetic taconite is located at the Bradley Peak area of the Seminole Mountains with reserves of magnetic taconite containing about 28% to 44% iron estimated to approximately 100 million tons.

MISSOURI

The 1955 Commission Report contained no reference to the State of Missouri. Since that time, the iron ore deposit at Pea Ridge containing a high grade magnetite has formed the basis of a taconite operation producing pellets containing about 68% iron, estimates of reserves run to approximately 100 million tons. The sole operation in this area is that of Meramac Mining Company, an underground taconite operation producing over 1.5 million tons of pellets annually. These pellets find their way principally into the Chicago-Gary market and into steelmaking facilities located at St. Louis, Missouri.

In addition to this source of ore, there is an additional operation and mine located at Pilot Knob in Iron County. This taconite plant is operated by The Hanna Mining Company, and from this underground operation, over 1 million tons of pellets are produced annually for transshipment into the Chicago-Gary steel area. Reserves are reported adequate for many years of production and may be considered to be in the tens of millions of tons. An additional substantial deposit of medium grade iron ore has been located near the town of Bourbon in Missouri where selected samples of magnetite ore containing 52% to 60% iron were found. Reserves in excess of over 200 million tons of medium grade iron ore have been indicated by recent drilling and exploration.

Editorial Note.

In November, 1970 following the completion and submission of this report, two significant announcements were made covering Canadian taconite expansion moves. Iron Ore Company of Canada announced an expansion of their Quebec-Labrador taconite development which will cost in the neighborhood of $300,000,000. This company's production of taconite pellets will be expanded by an additional 15 million tons. At approximately the same time, Quebec Cartier Mining Company, Canada's second ranking ore producer, announced a $300,000,000 expansion program that will double its output to 12 million tons of pellets. This means that since the writing and submission of this report, developments are actually underway in Canada which will add an additional 27 million tons of pellet capacity. It is anticipated that Minnesota's taconite capacity by 1972 will be 37.5 million tons and Canada's capacity will be 59 million tons. According to available information, Quebec Cartier, at the peak of its expansion will employ 5,000 persons, and Iron Ore Company of Canada's expansion will provide employment for around 3,000.

II

REPORT OF VISIT BY COMMISSION MEMBERS TO MAJOR STEEL-MAKING AND DOCK FACILITIES IN CHICAGO-GARY AREA

On December 10 and 11, 1969, members of the Commission visited certain major steel making and dock facilities in the Chicago - Indiana area. The first plant and facility inspected was that of Inland Steel Company where this group had the opportunity of discussing raw material problems with Mr. William Bishop, Manager of Iron Production for the Company, and with Mr. Sidney Bauer, Manager Raw Materials and Procurement. Inland Steel Company is the seventh largest steel producer in the United States, and their Chicago plant is the third largest steel plant in this country being exceeded in capacity only by Bethlehem Steel Corporation's Sparrows Point Plant on the east coast of the United States and by U. S. Steel Company's plant at Gary, Indiana. The Inland Plant is known as Indiana Harbor Works and employs more than 21,000 people and utilizes both open hearth and basix oxygen furnaces in steel production.

At the present time, this plant has an annual capacity of 7,700,000 tons of steel and is utilizing as furnace feed 75% pellets and 25% scinter or coarse screen ores. Inland presently receives iron ore from the following sources and utilizes this ore in the indicated percentages for their production:

MINE	LOCATION	NATURE OF MATERIAL	PERCENTAGE OF IRON ORE USED AT INLAND
Caland	Steep Rock, Ontario Canada	coarse ore & pellets	25%
Empire Mine	Upper Peninsula of Michigan	pellets	21%
Butler Plant	Nashwauk, Minnesota	pellets	18%
Black River Falls Plant	North Central Wisconsin	pellets	11%

MINE	LOCATION	NATURE OF MATERIAL	PERCENTAGE OF IRON ORE USED AT INLAND
Wabush Taconite Plant	Quebec, Canada	pellets	10%
Sherwood Mine	Iron River, Michigan	coarse ore	7%

In summary, Inland receives in accordance with the above figures most of its iron units from Canada followed by Michigan, Minnesota and Wisconsin. They anticipate that all natural ores will be phased out and ultimately replaced by pellets.

The Commission discussed state or provincial and local taxes in areas other than Minnesota with the Inland personnel who stated that the following on a tonnage basis were approximately correct according to current figures: Michigan - 26¢ per ton; Wisconsin - 30¢ per ton; Quebec - 37¢ per ton and Steep Rock (Ontario) something approximating 50¢ per ton.

While the Inland Plant has been operating since August 12, 1907, they continuously modernize and improve their steel making methods. Present tonnage is approximately 13,670 tons per day and is expected to reach 18,000 per day in the next few years. Inland has its own fleet of six ore carriers and might be said to be uniquely a midwestern steel operation. As can be seen from the description of their ore sources, this Company has presently available six of such sources, and we were advised that their principal interest in continuing, discontinuing or expanding any raw material source is based on a cost - quality relationship.

The group next visited the Burns Harbor Plant of Bethlehem Steel Corporation which is the newest area steel plant and which is built

around the largest blast furnace in the Western Hemisphere. This furnace has a 7,000 ton capacity and is exceeded in size only by one blast furnace - that located in Japan. Bethlehem has invested approximately one billion dollars constructing this new plant which will have an initial steel capacity of close to two million tons annually. The Commission was advised that this plant will use both a basic oxygen furnace system as well as the more conventional open hearth furnace. Bethlehem Steel Corporation is a substantial owner of Erie Mining Company at Hoyt Lakes and Taconite Harbor, Minnesota. This Company is presently using only pellets as furnace feed. These pellets come from two sources - Erie Mining Company in Minnesota and from another taconite plant located at Pea Ridge, Missouri. Approximately one-third of their furnace feed comes from this Missouri plant and is shipped all by rail to Burns Harbor. We are advised that Bethlehem is presently building an ore carrier of 56,000 tons capacity and will use this large vessel exclusively to transport pellets from Taconite Harbor to Burns Harbor. Burns Harbor, incidentally, is a public harbor operated by a port authority and is not owned in a legal sense by Bethlehem Corporation.

The third plant inspected by the Minnesota Commission was that of the Gary Works of U. S. Steel Corporation which is the largest steel plant west of the Atlantic Coast in the United States producing approximately eight and one-half to nine million tons of steel annually. While this again is one of America's older operating steel plants, nevertheless it is very modern in that approximately 45% of its total ingot capacity is produced in basic oxygen furnaces. The most advanced development that this Commission inspected at the Gary Works was their

continuous slab caster and sizing mill. Operating from an immense plant, this unique system provides a continuous manufacture of high quality steel in a slab form. During 1969 in the ordinary month, this continuous caster produced approximately 65,000 tons of slabs. The Commission received this information at the Gary Plant principally from C. W. Dunn, Assistant General Supervisor; J. F. Tucker, Assistant Division Supervisor; and H. W. Finney, Division Supervisor Blast Furnace Division.

III

EXPLANATION OF THE COMPUTATION OF THE PRODUCTION TAX ON A GIVEN TACONITE OPERATION

(Presentation by Arthur C. Roemer, July 24, 1970)

All taconite, taconite lands (except the surface thereof) and land used in connection with taconite operations and the plant and machinery used in connection with taconite operations are exempt from the property tax. In lieu thereof a production tax of 11-1/2 cents per gross ton of ore produced plus 1/10 of one percent that the iron content exceeds 55 percent is imposed. The statute provides for an escalation of such formula based upon the cost of living index. By reason of the current cost of living index, the present basic rate is 11.6 cents per ton. A computation is attached showing the tonnage produced, the percentage of iron and the resultant tax rate per ton based upon the iron content. This tax rate multiplied by tons produced results in the total tax on taconite production. The statute provides that the tax should be distributed in the following manner:

11-1/2 percent to the village or town,

27 percent to the school district,

11-1/2 percent to the county,

3 percent to the state, and

47 percent to the taconite property tax relief account in the state treasury.

If the operations are carried out in more than one county or taxing

district, the Commissioner of Taxation is required to apportion the proceeds to the cities, villages, towns, school districts and county among such units of government on the basis of: 40 percent of the proceeds of the tax to the operation of the mine of the taconite and the remainder to the concentrating plant or the process of concentration. An example of a computation of such a distribution is attached.

STATE OF MINNESOTA

DEPARTMENT OF TAXATION

1969 TACONITE TAX - EVELETH TACONITE COMPANY - THUNDERBIRD MINE

Product	Tons Conc. Produced	% Dry Iron	Tax/Ton Cents	Tac. Tax on Production	Tax on Estimated Production	Credit Due Overpayment of 1967 Tax	Net Payment Due
Pellets	871,615	64.974	12.5974	109,800.83			
Pellets	1,020,129	65.877	12.6877	129,430.91			
Total pellets	1,891,744			239,231.74			
Fines	11,590	62.789	12.3789	1,434.71			
Fines	13,565	63.660	12.4660	1,691.01			
Total fines	25,155			3,125.72			
Grand total	1,916,899			242,357.46	231.022	42.03	242,315.43

Note: January 1969 wholesale price index = 110.7

Therefor base tax/ton tac. conc. @ 55.00 dry iron = 11.6 cents.

Kind of Concentrates	Pellets	Fines		TOTAL
Tons Produced	1,891,744	25,155		1,916,899
Tax Per Ton - Cents				
Proceeds of Gross Tax	239,231.74	3125.72		242,357.46

DISTRIBUTION

A: CREDITED TO MINING, 40% OF TAXES DISTRIBUTED TO CITIES, VIL, TWPS AND SCHOOL DISTRICTS 96942.98

				Tons Mined	% of Total
% of total mined in	St. Louis C.			1,916,899	100 -
% of total mined in	Virginia City	SD 706		883,205	46.0747
% of total mined in	Missabe Mt.	SD 697		1,033,694	53.9253
% of total mined in					
% of total mined in					
% of total mined in					
% of total mined in					

B: CREDITED TO CONCENTRATING, 60 % OF TAXES DISTRIBUTED TO CITIES, VIL, TWPS AND SCHOOL DISTRICTS 145,414.48

				Man Hrs. Concentrating	% Total
% of total man hours in	St. Louis			254,826	100 -
% of total man hours in	Missabe Mt.	697		33,539	13.1615
% of total man hours in	McDavitt Twp.	Unorg.		721,287	81.8385
% of total man hours in					
% of total man hours in					
% of total man hours in					

	% of Gross Tax	AMOUNT
C: STATE OF MINNESOTA	3	7270.72
D: PROPERTY TAX RELIEF FUND	47	113,908.01
Less Credit none Tons x.02		- .-
Total		113,908.01
E: TO COUNTIES	11.5	27,871.11
F: TO CITIES, VILLAGES, AND TOWNS	11.5	27,871 .11
G : TO SCHOOL DISTRICTS	27	65,436 .51
TOTAL NET TAX		242,357 .46

Counties	From Mining .4 x A x E	From Concentrating .6 x B x E	Total
St. Louis	11,148.44	16,722.67	27,871.11

City, Vil., or Town	From Mining .4 x A x E	From Concentrating .6 x B x E	Total
Virginia City	5,136.61		5,136.61
Missabe Mt.	6,011.83	2,200.96	8,212.79*
McDavitt		14,521.71	14,521.71

School District	From Mining .6 x D x G	From Concentrating .6 x B x G	
SD 706	12,059.87		12,059.87
SD 697	14,114.73	5167.46	19,282.19
Unorg		34094.45	34094.45

SUMMARY

Allocated To	Amount	1967 Adj.	Total
State of Minnesota	7270.72	- 2.52	7268.20
Prop. Tax Relief Fund	113,908.01	--	113,908.01
St. Louis C.	27,871.11	- 9.25	27,861.86
Virginia C.	5,136.61	-2.43	5,134.18

*Distribution of tac. taxes accruing to
Missabe Mt. - Chap. 637, 1967 Laws
Missable Mt. 8212.79 x .10 = 821.28
Eveleth C. 8212.79 x .90 = 7391.51

IV

COMPUTATION OF AD VALOREM TAX ON A MINE
(Presentation by Arthur C. Roemer, July 24, 1970)

The statutes have been vague on the method of computing the market value on mining property. Over the years, through administration and court action, the system now being used to value mining property has been developed. This is essentially based upon discounting the future income from the property. The first step of the operation is that the Ore Estimate Division of the University of Minnesota is designated by statute to be the advisor to the Commissioner of Taxation with respect to determining iron ore tonnage and analysis. In fullfillment of this statutory obligation, the University of Minnesota Ore Estimate Division periodically furnishes the Commissioner with an ore estimate of the type that is attached. This shows the tonnage of the different types of iron ore (direct shipping ore that cannot be mined by open-pit methods; open-pit iron ore, which requires washing; open-pit iron ore, which requires substantial beneficiation and iron ore, which due to overburden cannot now be economically mined) along with the percentage of natural iron ore (fe.), the amount of phosphorous, silica, manganese, alumina, moisture concluding in the amount of natural iron ore (nat. fe.) contained in the ton of ore. Any remarks pertaining to valuation are also

shown. Based upon this tonnage and analysis, the Mining Section of the Department of Taxation begins the valuation process by determining, based upon the average of the Lake Erie price for the past five years, the selling price of the iron ore in Lake Erie. From this is deducted two types of deductions, statutory and non-statutory deductions.

The laws of the state of Minnesota contemplate that the ore should be valued based upon its valuation at the mouth of the mine in Minnesota. There is, however, no market in Minnesota for iron ore. We must, therefore, use the only available market price, the Lake Erie price, which is the price paid for iron ore delivered at Lake Erie. In order to arrive at the value of such ore in Minnesota, there must, therefore, be deducted the expenses of shipping such ore to Lake Erie. These expenses are called non-statutory deductions. These are shown in the present worth computation (attached) as item six, freight and marine insurance and item seven, marketing expense. The statutes authorize certain deductions (called statutory deductions) in arriving at the net value subject to tax. These include the cost of stripping, the cost of developing and beneficiation, the labor and other direct costs involved in mining. For the purpose of the computation on a given mine, these costs are

based upon the average of such mining cost over the previous five year period. These statutory deductions are shown as item one; mining costs, item two; beneficiation, item three; miscellaneous, item four; development, item five; plant and equipment, item eight; social security taxes, and all other taxes are listed in items nine, ten and eleven as well as interest on the investment of the plant reflected in item twelve. After deducting the estimated expenses from the estimated gross income, the result is the expected estimated future income. Since this estimated future income will not be received for a number of years (if at all), a multi-factor discount formula, commonly called the Hoskold Formula has been applied to the estimated future income. This Hoskold Formula operates on the assumption that the income from mining the iron ore will be recovered during the normal life of the range which is now assumed to be 20 years. In addition, a taxpayer should be entitled to recover his original investment (purchase price) (4 percent) as well as receive an income on his investment (risk factor) (7 percent). These three factors; range life, return of original investment and risk factor result in a 43 percent discount of the estimated future income. After applying this 43 percent discount, the remainder is the total present worth of the estimated future income. Since this constitutes

class 1 property, under our classification system, a 50 percent ratio is applied to the present worth in arriving at assessed value. This assessed value becomes then a part of the base of the governmental units in which such iron ore is located.

THE OFFICE OF ORE ESTIMATION

The Office of Ore Estimation under the Dean of the Institute of Technology, was originally established in 1909 under the Dean of the School of Mines. During the 61 years of its existance, the present Director is the fifth person to hold this position.

The Director is selected by the Board of Regents on the basis of education, background and experience.

The present Director came to the University in January of 1958 after having worked for more than twenty years in the copper, silver, lead and zinc mining industries. During his employment in the industry, he held positions of responsibility such as Chief Engineer, Mine Captain, General Administrator and Superintendent of Mines for two major mining companies - The Cerro de Pasco Copper Corporation and the St. Joseph Lead Company. He holds two degrees in mining engineering from the Carnegie-Mellon University in Pittsburgh, Pennsylvania and is a Registered Professional Engineer in Colorado, Missouri and Minnesota.

George F. Weaton, Director
Office of Ore Estimation

July 29, 1970

Since the establishment of this office in 1909, there have been some changes made in its operation. Due to the increase in the work load assigned to the office, by the Department of Taxation, a full time Director was hired on January 1, 1958 relieving the full time professor assigned to this work on a part time basis.

Instead of being primarily an instructor, the Director of the Office of Ore Estimation is primarily the technical consultant for mining to the Commissioner of Taxation, with secondary instructor's duties. Then too, the money for the operation of this office comes from the State Legislature for each biennium. This budget money is used to expedite and support the work done by this office which pertains to the estimation and classification of iron ores for the Ad Valorem Tax, taconites, semi-taconites and copper-nickel ores.

On July 1, 1970, when the School of Mineral and Metallurgical Engineering was dissolved as an administrative unit of the Institute of Technology, the Ore Estimate Division was changed to the Office of Ore Estimation under the Dean of the Institute of Technology.

Budget requests and the working use of this budget are the direct responsibility of the Director, who is in charge of the work. General control is, of course, exercised by the Dean of the Institute of Technology.

From the viewpoint of the state, the estimate work is one of the responsibilities of the Commissioner of Taxation. For this reason, the Commissioner is concerned with the overall budget requests. He is always consulted before the budget request is submitted.

The budget covers the following costs:

(1) Salaries of the Director (faculty member), the senior engineer and senior secretary (both Civil Service), and student part time help.

(2) Travel expenses incidental to inspection trips, etc.

(3) Supplies and office expenses.

The Advantages of this System

The taxation of iron ore in Minnesota has been, and is, a problem. To some degree, it is both emotional and political in nature. Within the context of this situation, it is desirable that the personal judgment inherent in estimation and classification of ore reserves be exercised by disinterested and competent professional engineers. It is desirable also that, insofar as possible, these engineers be free of possible political and economic pressures.

Advantages to the State

(1) The State is relieved of the problem of both obtaining and retaining qualified competent personnel.

(2) The Commissioner of Taxation and others are relieved of possible pressure to change tonnages or classification, as the estimates of the Office of Ore Estimation are final. (Reports from the Office of Ore Estimation to the Commissioner of Taxation must be defensible in the Tax Court from suits brought to it by either the Taxing Districts or by the mining companies; by the Director of this office.)

(3) A part of the problem of iron ore taxation is kept clear of political implications and prejudice.

(4) The method is economical to the State.

(5) Continuity of the method and philosophy of estimation is assured, regardless of changes in state personnel.

(a) Since its establishment in 1909, the present Director is only the fifth person to direct the work of this office.

Advantages to the University

(1) Summer work is available to mining faculty at such times as they are needed and able to serve.

(2) Work is available to graduate students and it can be used as an inducement in recruiting students.

(3) Faculty are kept up to date on new developments in mining and beneficiation and become familiar with operations and problems on the iron ranges as well as throughout the mining industry.

(4) Faculty meet many engineers and other executive personnel prominent in both the mining industry and government, and the School in turn becomes known to both the industry and the state.

(5) A full time secretary is employed who also does secretarial work for other staff members when the main office staff is overloaded. This work is in addition to that done for the faculty member in charge of the office.

(6) Equipment of the office, such as calculating machines, drafting equipment, etc., is available for faculty and student use.

(7) The University, through the Institute of Technology, is providing a service to the State.

(8) The regular academic budget is relieved of the salaries of the staff of this office as well as its operating expenses.

(9) Faculty members are present at the University during the summer months, and carry on certain school responsibilities at no cost to the University.

In summary, this work has been carried on to the satisfaction of the State and the mining industry for over sixty years. Representatives of both have clearly stated their opposition to relieving the Office of Ore Estimation of the responsibility for this work. The detailed problems of making the estimates lie with the engineers of the Office of Ore Estimation.

ESTIMATED TONNAGES OF MINES REVIEWED

by the Ore Estimate Division, 1958 through 1969

Year	Number of mines	Estimate submitted by operator in tons	By Ore Estimate Division	Tons added by Ore Estimate Div.	% increase due to Ore Estimate Division review
1958	185	236,659,796	272,509,411	35,849,615	15.1%
1959	108	97,426,800	112,129,093	14,702,293	15.0%
1960	108	138,412,463	146,840,729	8,428,266	6.0%
1961	116	83,623,913	92,620,725	8,996,812	10.7%
1962	103	53,236,399	74,519,093	21,282,694	39.9%
1963	114	85,363,931	104,896,213	19.533,282	22.8%
1964	82	85,041,147	94,253,215	9,212,068	10.8%
1965	72	39,121,341	44,876,294	5,754,953	14.7%
1966	95	49,232,840	56,008,877	6,776,037	13.7%
1967	70	43,445,859	55,724,949	12,779,090	28.2%
1968	57	53,650,629	65,884,726	12,234,097	22.8%
1969	43	37,238,231	42,754,289	5,489,364	14.8%
Totals -	1,153	1,002,452,349	1,205,771,903	155,538,571	15.5%

Recap - Iron Ore Estimates

12 years, 1958 - 1969, inclusive

Number of mines inspected and reviewed	1,153
Tons reported by mine operator or fee owner	1,002,452,349
Revised tonnage reported to the Department of Taxation	1,205,771,903
Tons added by the Office of Ore Estimation	155,538,571
Average addition per year (tons)	12,961,583
Percentage addition per year (average)	15.5%
Average addition per mine, per year (Tons)	134,899

Taxes are paid on the basis of revised tonnage reported to the Department of Taxation by the Office of Ore Estimation.

George F. Weaton, Director
Office of Ore Estimation

August 13, 1970

Recommendation to the Commission on Taxation and Production of Iron Ore and Other Materials

On October 20, 1967, I appeared before this Commission and made the recommendation that Minnesota Statues 1967, Sec. 273.13, Subdivision 2, Class 1, be ammended to extend indefinitely the five year period in the case of crude wash ore material and crude heavy media material removed during the process of stripping for a taconite and/or a semi-taconite body.

This will permit the accumulation of enough of this material either to warrant the construction of a plant for the beneficiation of this material or permit the shipment of it to a custom plant for processing.

If this change is not made, it is entirely possible that this material will be stripped along with the waste material during this operation and its identity will be completely lost.

At the present time, I know of at least three properties which will be mined for taconite within the next 18 months, each containing small reserves of natural ores - too small to mine as separate units, but these properties will be stripped for the taconite. In 1967, only 99,310 tons of natural iron ores was involved. In 1970, I am referring to over 2 million tons of material and this quantity will increase as the taconite pits expand. This ore is on the tax rolls at the present time. If its identity can no longer be defined, it will probably have to be removed from these tax rolls.

It is strongly recommended that this change be made to avoid the unnecessary wasting of our natural resources.

George F. Weaton, Director
Office of Ore Estimation

July 29, 1970

Net tonnage as of January 2, 1970:

Inactive mines which will be stripped for the mining of taconite in the foreseeable future.

1. Erie Mining Company

   a. Wentworth No. 1

SE-SW	Sec. 21-59-14		6,420 Tons

   b. Wentworth No. 2

SW-NE, NW-SE	Sec. 21-59-14		14,393 Tons

   c. Graham Mine

NE-SW, SW-SW	Sec. 21-59-14		21,477 Tons
		Total -	42,290 Tons

2. National Steel Pellet Co.

   a. Bennett Annex Mine

E½-NW, Lots 2&3	Sec. 19-57-21		165,370 Tons

   b. Russell Mine

SE-NE, SW-NW, S½	Sec. 13-57-22		384,346 Tons

   c. Stevenson Mine

E½-SE	Sec. 7-57-21		
N½-SW, S½-SW	Sec. 8-57-21		196,359 Tons
		Total -	746,075 Tons

3. Butler Pellet Company

See attached map		Total -	1,564,079 Tons
		Grand Total -	2,352,444 Tons

Natural Ore Mines Within the Areas of the Butler Taconite Pits

1967

121 - Kevin	NW-SW, Sec. 1-56-23,		
	B. HM Conc., O P	6,171 Tons	PF 1-10A
	SW-SW, Sec. 1-56-23		
	B. HM Conc. , O P	25,972 Tons	
	SE-NW, NE-SW Exhausted		
124 - Langdon	E½-NW, Sec. 11-56-23		
	NB. HM Conc., O P	285,812 Tons	PF 1-10A
		400,711 Cr.	
	SW-NE, Sec. 11		
	NB. HM Conc., O P	57,490 Tons	
		141,070 Cr.	
112 - Olson	(Lot 1) NE-NE, Sec. 1-56-23		
	NB. HM Conc., O P	99,310 Tons	PF 1-10B
115 - Olson	W½-NE, Sec. 1-56-23 Exhausted		
118 - Snyder	SE-NE, Sec. 1-56-23		
	NB. HM Conc., O P	83,280 Tons	PF 1-10A

1968

147 - No. Harrison	E½-SW, Sec. 31-57-22		
	B. HM Conc., O P	107,696 Tons	PF 1-9A
		127,500 Cr.	
150 - Halobe	W½-SE, Sec. 31-57-22		
	B. HM Conc., O P	39,181 Tons	PF 1-10A

1966

Ann	183 - Patrick (South Ann)	Lots 3&4 (N½-NW) Sec. 1-56-23		
		B. HM Conc., O P	42,059 Tons	PF 1-9C
		B. HM Hi SiO_2, O P	63,210 Tons	
Ann	185 - Patrick	SW-NW, Sec. 1-56-23		
		NB HM Conc., O P	6,884 Tons	PF 1-9C
Ann	191 - Patrick	Lot 1 (NE-NE), Sec. 2-56-23 Exhausted		
Ann	194 - Patrick ("Ann")	S½-NE, Sec. 2-56-23		
		B. HM Conc., O P Non-magnetic	3,528 Tons	PF 1-9C

Natural ore mines within the areas of the Butler Taconite Pits (Cont'd.)

Ann	197 - Patrick	E½-SW, SE-NW, Sec. 2-56-23		
		E½-SW - B. HM Conc., O P Non-magnetic	141,734 Tons	PF 1-9C
		SE-NW, B. HM Conc., O P	8,228 Tons	
Ann	200 - Patrick "A"	N½-SE, Sec. 2-56-23		
		B. HM Conc., O P	92,779 Tons	PF 1-9C
Ann	203 - Patrick "C"	S½-SE, Sec. 2-56-23		
		B. HM Conc., O P	12,904 Tons	PF 1-9C
		NB. HM Conc., O P	65,408 Tons	
			78,312 Tons	

1965

160 - Quinn W½-SW, Sec. 31-57-22 Exhausted

1963

112-114 Patrick Annex W½-SE, Sec. 1-56-23 (SE-SE exhausted)
NW-SE NB. HM Conc. 21,340 Tons
SE-SW, Sec. 1 Exhausted

1962

Patrick Annex N½-NE, Sec. 11-56-23

BWOC , O P	610 Tons	
NBWOC, O P	24,029 "	
BHMOC, O P	1,650 "	
NBLOC O P	67,768 "	
BVLF O P	12,503 "	
NBVLF O P	65,175 "	171,735 Tons

SE-NE, Sec. 11 None

199 - Harrison	Lot 3 (NE-NW), Sec. 6-56-22			
	NB WO Conc., O P		16,500 Tons	PF 1-9A
	NB LO Conc., O P		4,367 Tons	
201 - Harrison	Lot 4 (NW-NW) Sec. 6-56-22			
	B W O Conc., O P		144,596 Tons	PF 1-9A
	NB WO Conc., O P		21,085 Tons	
	B L O Conc., O P		81,621 Tons	188,571 cr
	N B LO Conc., O P		18,818 Tons	115,893 cr
			266,120 Tons	

1961

235 - McKillican SE-SE, Sec. 31-57-22
B LO Conc., O P 17,600 Tons

Natural ore mines within the areas of the Butler Taconite Pits (Cont'd.)

1961

235 - McKillican	SW-SE, Sec. 32-57-22		
	NB WO Conc., O P	2,062 Tons	PF 1-11B
	B LO Conc., O P	22,894 Tons	
	B LO Conc., U G	19,181 Tons	
		44,137 Tons	

1960

267 - David	SW-NW, Sec. 11-56-23		
	B LO Conc., O P	69,477 Tons	PF 1-10A
	NB LO Conc. O P	84,432 Tons	
	NB VLF Conc., O P	50,689 Tons	
		204,598 Tons	
		2,091,161 Tons	plus
		973,745 Cr.	

1941

Patrick Ann — S½-SW, Sec. 36-57-23 Exhausted

1933

Helen — SE-SE, Sec. 36-57-23 Exhausted

Harold — NW-NW- Sec. 11-57-21 Exhausted

REPORT ON PROBLEMS & POTENTIAL OF THE COPPER-NICKEL INDUSTRY

Members:
1. Senator Norman Hanson
2. Senator Harold Kalina
3. Representative Salisbury Adams
4. Representative James Ulland, Chairman

Dates of Meeting:
1. April 6, 1970
2. October 6, 1970

PURPOSE: To explore the problems and potentials of the currently undeveloped Copper-Nickel deposits in Minnesota.

Those who testified:

Mr. Lloyd K. Johnson, Duluth
Private Land Ownership

Mr. Gene Gere, Director of the Waters, Soils and Minerals Division of the Department of Conservation
State Mineral Ownership and Leasing Policy

Mr. Bruce Campbell, Assistant Senate Counsel
Memorandum on the Boundary Waters Canoe Area Controversy

Mr. Donn D. Christensen, Deputy Attorney General
State's Position in the BWCA Controversy

Mr. Dean D. Ramstad, Vice President of International Nickel Company
Case Study of International Nickel and views of the market for nickel

Mr. Craig Rupp, Forest Supervisor of the Superior National Forest
"Forest Service's Position on Mining Inside and Outside the BWCA"

The subcommittee spent its first meeting in developing background information on the Copper-Nickel deposits, the historic pattern of exploration, and current litigation on BWCA mining. Information developed at this session is available in the Research Department's file on Copper-Nickel.

The second meeting explored International Nickel Company's plans for development of its deposit in Northern Minnesota. In response to a question from Representative Ulland, Dean Ramstad, Vice President of INCO stated that they expected development of its deposit "well within 25 years."

Mr. Craig Rupp stated that mining within the BWCA was incompatible with the management plan and wilderness concept. Outside the BWCA the Forest Service expressed the continued desire to integrate mining development with forest and other uses.

In exploring the State and Federal and private roles in the exploration phase of development, no serious modifications were recommended to current procedures.

Increased environmental concern will require a close review of current restrictions on certain mining and smelting practices before full development of any deposit takes place. The subcommittee felt that since development was not imminent, an up-dating of restrictions could be delayed to make use of future scientific research.

CHARLES WESTIN'S (EXECUTIVE VICE PRESIDENT, DULUTH AREA CHAMBER OF COMMERCE) REMARKS BEFORE THE LEGISLATIVE COMMISSION ON TAXATION & PRODUCTION OF IRON ORE AND OTHER MINERALS. July 24, 1970.

DULUTH AND ITS SURROUNDING MARKET AREA OF OVER 250,000 PEOPLE HAVE ALWAYS DEPENDED HEAVILY UPON ITS ABUNDANCE OF NATURAL WEALTH TO INSURE ITS ECONOMIC PROSPERITY AND BUSINESS AND COMMUNITY GROWTH.

THIS WAS DEMONSTRATED QUITE CLEARLY WHEN THE REDUCTION OF NATURAL ORE RESERVES LED US INTO A RECESSION WHICH ENDED A FEW SHORT YEARS AGO WITH THE DEVELOPMENT OF THE TECHNOLOGY NEEDED TO MARKET THE MASSIVE QUANTITIES OF TACONITE.

IN YEAR ONE OF THE TACONITE BOOM, 3000 NEW JOBS WERE CREATED IN DULUTH ALONE AND IT IS ESTIMATED THAT BY THE YEAR 1975, TOTAL WORKERS WILL NUMBER OVER 16,000. OVER A BILLION DOLLARS HAS BEEN SPENT ON PLANT AND EQUIPMENT TO MINE AND PROCESS TACONITE ORE.

PAYROLL, WHICH BUYS GOODS AND SERVICES AND PAYS THE TAXES, AMOUNTS TO $137,000,000 FROM DIRECT EMPLOYMENT AND AN ESTIMATED ADDITIONAL $20,000,000 FOR TACONITE RELATED SERVICE INDUSTRIES. DIRECT TAXES RELATED TO ORE PRODUCTION REACHED A HIGH OF OVER THIRTY SEVEN MILLION DOLLARS IN 1969.

A STUDY DONE BY NEMDA INDICATED THAT OVER 144 LOCAL FIRMS DEALING IN SUCH THINGS AS BLASTING AGENTS, GRINDING AND CRUSHING EQUIPMENT. CONVEYOR EQUIPMENT, INDUSTRIAL MACHINERY, ENGINES,

TIRES, SAFETY EQUIPMENT, FUEL AND COUNTLESS OTHER ITEMS CONDUCTED BUSINESS LAST YEAR WITH BOTH THE IRON ORE AND TACONITE INDUSTRIES OF $131,181,647. THIS TELLS OF FIRMS WHICH ARE NEW TO THE AREA OR HAVE EXPANDED. SUCH COMPANIES AS --AMSCO DIVISION - AMERICAN BRAKE, TWO HARBORS; THE PRODUCTION OF TACONITE GRINDING RODS AT U.S. STEEL; MODERN CONSTRUCTORS; WALDER-JAMAR; ROAD MACHINERY AT DULUTH AND VIRGINIA AND NUMEROUS OTHERS.

ADDING ALL THE TOTALS, THE IRON MINING INDUSTRY AND ITS SUPPORTING INDUSTRIES EMPLOY A TOTAL OF 17,066 PEOPLE AND INJECT A TOTAL OF $326,750,036 INTO THE ECONOMY. (1968 FIGURES.)

IT HAS BEEN ESTIMATED THAT AT ITS PEAK DEVELOPMENT, THE INDUSTRY WILL GENERATE EMPLOYMENT FOR 50,000 IN AREA COMMUNITIES AND BUSINESSES AND SUPPORT 175,000 TO 200,000 PEOPLE. EVEN FROM THIS BRIEF EXAMINATION OF THE FACTS, IT IS CLEAR THAT OUR FUTURE IS TIED TO THAT OF THE TACONITE INDUSTRY. WE ARE AT THE HALFWAY POINT IN TACONITE DEVELOPMENT AND WISH TO DO EVERYTHING TO INDUCE THIS GROWTH. DULUTH IS THE CENTER OF A WIDE MARKET AREA OF MANY DIVERSE PEOPLE AND COMMUNITIES SPREAD OVER MANY SQUARE MILES . . . ALL DEPENDENT, IN SOME PART, FOR THEIR INCOME UPON THE FLOW OF MONEY ORIGINATING FROM THE CONTINUING DEVELOPMENT OF MINING.

VIII

MINUTES OF COMMISSION MEETINGS

September 12, 1969

The organizational meeting of the Commission was held on September 12, 1969. The following members were present: Senators E.J. Anderson, N. Hanson, R. Hanson, Kalina, LaBrosse, N. Larson, and Wright and Representatives Adams, Duxbury, Fudro, Kleinbaum, Mueller, O'Dea and Ulland.

On motion by Representative O'Dea, Senator E. J. Anderson was elected temporary chairman.

Senator Wright nominated Senator Anderson for the office of chairman. The motion was seconded. Senator Hanson moved nominations cease and that Senator Anderson be declared chairman of the Commission. The motion was seconded and carried.

Senator Norman Larson nominated Representative Mueller for the office of vice chairman. The motion was seconded and Representative Mueller was elected.

Senator Larson placed the name of Representative O'Dea in nomination for the office of secretary. Representative O'Dea withdrew his name and Represenat ve Duxbury nominated Representative Fudro. The motion was seconded and Representative Fudro was elected secretary.

Representative Fudro moved that the executive committee for the past interim as follows: Senator Donald O. Wright, chairman; Representative L. L. Duxbury; Senator Harold Kalina, Senator Rudolph Hanson and Representative Richard W. O'Dea, be re-elected. The motion carried and the committee as nominated was elected.

On motion made by Senator LaBrosse, seconded and carried, the purchase of 500 letterheads was authorized.

Senator Wright moved that the Commission reimburse members' expenses incurred in connection with attending the National Tax Conference in Boston September 29 through October 3rd. The motion was seconded and carried.

Representative Salisbury Adams reported on the recent price cut by U.S. Steel and suggested the Commission be alert to its eventual effects on occupation and ad valorem taxes in Minnesota.

Mr. Hastings of the Lake Superior Industrial Bureau invited members to contact him if they wished to tour the Iron Range.

In answer to a question by Senator LaBrosse, Mr. Hastings mentioned that information on freight rates is available in the mining directory. Senator LaBrosse suggested that this information should be made available to the Commission and Mr. Hastings agreed to obtain it for the next meeting.

There was a discussion of problems affecting the production and taxation of iron ore in Minnesota. Included among the topics which might be studied by the Commission were: the competition from Australia, the effect of greater production tax rates passed in the 1969 session, the occupation tax receipts, and freight rates.

It was suggested that subcommittees be established to consider the above topics and that the next meeting of the Commission be held the latter part of October.

On motion duly made and seconded, the meeting was adjourned.

STANLEY J. FUDRO
Commission Secretary

MINUTES OF THE MEETING OF THE COMMISSION
ON TAXATION AND PRODUCTION OF IRON ORE
AND OTHER MINERALS

October 31, 1969

Members present: Senators Anderson, E. J.; Hanson, N.; LaBrosse; and Wright and Representatives Duxbury; Fudro; Kleinbaum; Mueller; and Ulland.

The Chairman suggested the appointment of the following subcommittees:

1. The Problems and Potential of the Copper-Nickel Industry.
2. Mineral Potential on Federal and State-Owned Land.
3. Foreign Competition.
4. Environmental Problems.
5. Freight and Transportation Matters.
6. Valuation and Assessment Procedures.
7. Tax Problems of Natural Ores and Taconite.

The possibility of updating the 1955 report was also discussed.

Mr. Duxbury moved that the Commission approve the creation of the above subcommittees and that the chairman be authorized to appoint chairmen of each subcommittee. The motion was amended to provide that the chairman select the subcommittee members, giving consideration to suggestions by subcommittee chairmen and to preferences by individuals. The motion was seconded and carried. It was also decided that the list of the seven subcommittees be sent to each commission member so that they could indicate their preference.

Mr. Hastings was invited to address the meeting regarding freight rates. He explained that interstate freight rates are under the jurisdiction of the Interstate Commerce Commission and that iron ore shipments are interstate, with very few exceptions. The current freight rates can be found on pp. 236-237, Table 14, of the Mining Directory Issue, a Bulletin of the University of Minnesota available at the Mines Experitment Station. He also stated that any ship carrying less than 3 tons is not subject to regulation by the I.C.C. and that international trade poses another problem--the Great Lakes is part of the National Boundary.

In response to a question regarding any contemplated changes in railroad rates, Mr. Duxbury said he knew of none other than the across-the-board increase of 6%.

Mr. Hastings pointed out that at the last meeting there was discussion regarding the price increases announced by U.S. Steel. Since then, in August, U.S. Steel announced a reduction of 75¢ per ton. They also announced a change in the per ton lake freight rate to be charged the account of the seller, which meant that U.S. Steel would assume the increased cost, leaving a net result of 60¢ per ton difference in price. Also, on October 20, after reviewing the market at its previously announced prices for 1970, U.S. Steel announced that the ore will be sold at the 1969 price levels.

There was additional discussion of the 1955 report and its value as a research tool. It was suggested that the subcommittee reports be incorporated as an appendix and that it be updated. It was also suggested that it be ready for mailing to the members of the Legislature after the 1970 election and before the session so that they would have time to read it.

Senator Anderson suggested the Commission consider a tour of the Chicago-Indiana Area steel mills. Mr. Hastings agreed to help with arrangements and it was decided on motion by Senator Wright, Seconded by Mr. Kleinbaum, that a 3 or 4 day tour be arranged for the first part of December.

Mr. Duxbury suggested that perhaps the newer members of the Commission ought to be provided opportunities to visit some of the areas, such as those in Pittsburgh and on the East Coast, which some of the other members have visted in the past.

On motion duly made, seconded and carried, the meeting adjourned.

STANLEY J. FUDRO
Commission Secretary

Subcommittee appointments are attached.

SUBCOMMITTEES OF THE COMMISSION: Anderson is ex officio on all.

Copper-Nickel

Ulland, Chmn.
S. Adams
N. Hanson
Kalina

Mineral Potential

N. Hanson, Chmn.
S. Adams
Fudro
Mueller

Foreign Competition

N. Larson, Chmn.
R. Hanson
Kleinbaum
Murray

Environment

O'Dea, Chmn.
Duxbury
Fudro
LaBrosse

Freight Rates

LaBrosse, Chmn.
Duxbury
Kleinbaum
N. Larson

Valuation and Assessment Procedures

Mueller, Chmn.
Benson
Murray
Wright

Tax Problems

Wright, Chmn.
Benson
O'Dea
Ulland

MINUTES OF COMMISSION MEETING

January 27, 1970

Members present: Senators E. J. Anderson, Benson, Norman Hanson, Rudolph Hanson, Kalina, LaBrosse, and Wright and Representatives O'Dea and Ulland.

The Chairman called the meeting to order and announced that the subcommittee preferences would be reviewed, assignments made and a letter mailed to all members in the near future.

Mr. Richard Hastings reported that 6 to 8 members had made the tour of the Chicago area steel mills and that a summary of their findings has been prepared and is available for inclusion in the final report of the Commission.

There was a discussion of an article appearing in the January issue of Skillings Mining Review wherein it was pointed out that 58% of the dollar volume of iron ore shipped from Minnesota was pellets produced at taconite plants. Last year was the first year that taconite pellets production exceeded natural ore shipments.

Mr. Hastings referred to an article entitled "World's First Metallized Pellet Plant," which described a new inexpensive steel production at Portland, Oregon, which is completely automated, using slury from Peru which serves as a substitute for blast furnaces.

There was a discussion of the reasons for closing down mining operations in Spring Valley. Among reasons for inability to compete with pellet operations in Missouri, etc. were: transportation costs, grade, size and quality.

The Reserve Mining lawsuit and renewal of its permit was also discussed and the committee was brought up to date on the schedule of the hearings and other court and PCA actions.

The meeting was adjourned.

Respectfully submitted,

Stanley J. Fudro
Commission Secretary

SJF/VC/sk

COMMISSION ON TAXATION AND PRODUCTION
OF IRON ORE AND OTHER MINERALS

The meeting was called to order at 2:10 P. M., on June 22, 1970, by Chairman Ernest J. Anderson. The meeting was held in the Radisson Hotel, Duluth, Minnesota.

Present:	Senator Anderson	Senator N. Larson
	Senator LaBrosse	Senator N. Hanson
	Senator Wright	
	Representative Ulland	Representative Kleinbaum

Senator Ernest Anderson explained the functions of this Commission to the guests. He gave a brief introductory remark on the talk of Mr. Kimball Whitney of the Economic Development Bureau. Senator Anderson then gave the floor to Richard Hastings who introduced the first speaker, Mr. Charles Westin, Executive Vice President of the Duluth Chamber of Commerce. Mr. Westin spoke on the effect of the iron mining and taconite industry on Duluth's economy.

Senator Anderson thanked Mr. Westin and introduced Mr. Whitney as the second speaker. The chief purpose of Mr. Whitney's talk was to examine the mining industry on those important ingredients and interrelationships which help to delineate its position and influence in the State's economy.

Afterwards a discussion was held with several questions asked. Senator LaBrosse requested Mr. Whitney to try and get a true figure of non-taconite employment (satellite or secondary fields) as he felt it was vital to the Commission to know this. Senator Larson commented on those who advocate an increase in higher taxes of taconite industry. He felt that we should encourage the industry and keep faith with the industry and not drive it out of Minnesota.

Richard H. Hastings spoke about the input-output system and mentioned that $9 out of a thousand dollars goes directly into the paper and timber industries and agriculture. Any study on the secondary industries such as the paper industry, agriculture, timber industry, etc. would be a step in the right direction and that the mining industry is interested in determining this effect of the taconite industry on other industries. We should not be interested in finding an appropriate level of taxation where growth is discouraged - growth is what we are talking about, trying to bring in new industries and have present ones grow. Taconite mining requires twice as many employes as natural ore mining does, referring to year-round employment, higher wages, etc. There are three companies right now investigating this State for taconite plants. If it had not been for the State Legislature and the Taconite Amendment, we would not have the taconite industry at all today. There are as many as three people employed in other businesses to keep one person on a taconite payroll, possibly as many as four people.

Senator Anderson called for more discussion. Mr. Nevers made a minor correction on a figure for the Minntac Plant. The total tonnage per year of that plant should be 6,000,000 tons.

Senator Wright mentioned that it was his impression that steel companies do not want to handle anything other than taconite pellets, in converting to other products. He said the consumer wants pellets.

Senator Anderson thanked Mr. Whitney for his presentation. The Chairman then called for a committee to be appointed to study the Stanford Research Institute Report and bring their report into the whole Commission by the first of January. The members agreed to this unanimously. No members were appointed to this committee at the meeting.

Representative Ulland made a short report of the copper-nickel subcommittee meeting. They have had one meeting, and it was divided into two parts. The first part discussed the background of the copper-nickel industry. Gene Gere of the Conservation Department gave a report on state leasing. A private mineral owner, L. Johnson, gave the history of private mineral leasing and ownership. They hope to have an industry representative give a view on leasing and hope that Inco will send a representative to the next meeting. The second part of the meeting consisted of a talk by Bruce Campbell of the Senate Counsel and Don Christianson of the Conservation Department on the legal problem of the BWCA. At the end of July, Mr. Ulland will call a second meeting.

Senator LaBrosse asked the mining industry people about more expansion in the foreign market. Mr. Hastings and Mr. Nevers answered. Mr. Nevers said there was a statement in the Wall Street Journal stating that U. S. Steel is in the process of making extensive engineering studies of iron ore operations in Canada in which a plant will run in excess of 10 million tons. In Brazil U. S. Steel has been exploring there for various metals. We have discovered a rather substantial deposit of iron ore. It is not completely delineated. Negotiations are at the preliminary stage with Brazil.

Senator LaBrosse commented on his subcommittee on freight rates. At the meeting of this subcommittee, Tom Hayes and others gave a talk. Senator LaBrosse said that he would be having another meeting.

Senator Anderson called on Mr. Hastings to give an agenda for Tuesday, June 23 of the tour. Mr. Hastings said that he had arranged for a greyhound bus at the Commission's expense for the tour. The bus would leave from the Radisson around 8:30 A. M. They will drive up to a taconite plant of The Hanna Mining Company at Keewatin. At noon a luncheon is planned at the Kahler-Inn Towne Motel in Hibbing. Brief remarks will be made by Hanna and U. S. Steel representatives. In the afternoon, we will inspect an open pit natural ore mine called the Sherman Mine and look at one of the few large remaining natural ore operations in Minnesota. Then we will proceed to Minntac and view that plant. We will arrive back in Duluth at 5:00 or 5:30 P. M. One

or more employes of these companies will be available for you to answer questions.

Senator Wright moved that the meeting be adjourned. Senator Larson seconded that motion. The meeting was adjourned at 3:50 P. M.

A copy of Mr. Whitney's presentation is on file in the Commission office.

MINUTES OF THE MEETING OF THE COMMISSION
ON TAXATION AND PRODUCTION OF IRON ORE
AND OTHER MINERALS

July 24, 1970

Members present: Senators E. J. Anderson, Benson, Kalina, and LaBrosse and Representatives Fudro, Kleinbaum, Mueller, O'Dea and Ulland.

The Chairman called the meeting to order and called on Mr. Arthur C. Roemer, Deputy Commissioner, Department of Taxation to review the taxes on taconite.

Mr. Roemer: Thank you Mr. Chairman, members of the committee, we are prepared today to discuss both the computation of a production tax on taconite operation and also the method of the computation of the property tax on regular iron ore, and for the purpose of explanation of this computation, I have a couple of exhibits that I would like to pass out to the members of the committee so that you can follow along with me on the steps that are taken in the computation of the tax.

In the event that you have some questions that I am not able to answer, I have with me today, other members of our department that work more closely with this -- Mr. Sulerud is the Property Tax Director, Mr. Arthur Anderson, Chief Mining Engineer, and Ellis Maxwell is also a Mining Engineer with our Evaluation Section.

(A copy of the text of Mr. Roemer's remarks as distributed follows. A verbatim copy of the presentation including discussion, is on file with the commission records.)

Mr. Roemer also testified as follows. "The committee may be interested in knowing what the situation is regarding ad valorem taxes paid on regular iron ore, and obviously it has been dropping, it's becoming a diminishing thing. The high point for the taxes levied on iron ore and taconite was reached in 1959 when a total of $27,000,000 in ad valorem taxes was levied on iron ore. This remained somewhat stable through 1963 and it dropped to $24,000,000 and the drop since has been a lot more rapid. In 1964, $21,000,000; 1965, $20,000,000; 1966, $15,000,000; 1967, $13,000,000; 1968, $11,000,000; 1969, $10,810,000. This reflects, of course, the depletion of a good number of our mines, the closing of mines and the dimished amount of iron ore remaining on the iron range. This is just the taxes on the remaining iron ore in the ground, the occupation tax which is another type of tax has been changing over the years. Instead of being produced from iron ore, about half of the occupation tax is being paid by taconite. But, on the property tax, this solely reflects the value of the iron ore. I might say that the value has diminished for two reasons. One is that the ore that is being mined out, and secondly, is the reclassification of ores. Some years ago material may have been called iron ore that is not called iron ore today. As taconite pellets become more desirable, this material that once may have been mined is no longer of interest to the mining companies and is therefore dropped from the rolls -- not completely, but a minimum valuation of .10 of a cent a ton is put on it merely to keep track of it on the rolls."

In fact there may be a third reason here, and that is that the processing costs the mining and beneficiation costs have increased in recent years, whereas the Lake Erie price has not increased significantly in the five years, and this of course produces a smaller estimated future income, and when you have a smaller estimated income by this process you have a smaller amount subject to tax so this is possibly a third reason for the reduction of the ad valorem tax on regular iron ore."

There was a discussion of ore estimate procedures and it was decided to invite Professor Weaton to address the meeting on August 14 to discuss procedures presently used, how new estimates may be ordered, etc. It was also decided that subcommittee reports be made at the August 14 meeting.

A motion was made, seconded and carried that members of the Commission attending the National Tax Conference be reimbursed for necessary expenses.

Stanley J. Fudro
Commission Secretary

sk

MINUTES OF THE MEETING OF THE COMMISSION
ON TAXATION AND PRODUCTION OF IRON ORE
AND OTHER MINERALS

August 14, 1970

Members present: Representatives S. Adams, Fudro, Kleinbaum, Mueller and Ulland and Senators E.J. Anderson, Benson, N. Hanson, Kalina, LaBrosse and Wright.

The chairman called the meeting to order and called upon Professor George Weaton of the Office of Ore Estimation who described the functions and responsibilities of his office.

He stated that he is primarily a technical consultant for mines to the Commissioner of Taxation. Money for running the office is appropriated by the Legislature, which is used to administer the office and pay for the cost of estimating and classifying iron ores for the ad valorum tax, taconite and semi-taconites and copper-nickel ore. The office is under the Dean of the Institute of Technology. Staff members are: director, senior engineer, senior secretary and student part-time help.

Professor Weaton stated he felt it was important that the estimation and classification be done by disinterested and competent professiona engineers and that it be removed as much as possible from political and economic pressures. He also stated what he considered to be the advantages of the present system to the state and to the University. (A complete listing is included in the copy of Professor Weaton's testimony on file in the Commission office.)

He repeated his recommendation that Section 273.13, Subd. 2, Class 1, be amended to eliminate the five-year limitation on listing of stockpiled crude wash ore and crude heavy media material which has been removed during stripping of taconite bodies. Removal of the limitation would allow stockpiling over a longer period of time, which would, Professor Weaton felt, allow companies to make arrangements for building beneficiation plants or to permit shipment to a custom processing plant. Without the removal the companies would cause the material to be removed with waste material, and the identity would be completely lost and no longer be identified on the tax rolls. He said the amount presently stockpiled has increased to 2,000,000 tons, from 90,000 tons in 1967.

In response to a question as to whether the Department had any estimate of the amount of taconite now available, Professor Weaton said he could not do it without a computer because it takes approximately 12 hours to do each 40-acre tract. He has since written a computer program but has been unable to obtain the information from the mining companies. Minnesota pellets reached #13 when compared with its competitors.

There was a discussion of the effect a reduction or forgiveness of

the St. Lawrence Seaway debt would have on Minnesota's ore competition. Professor Weaton said the resulting reduction in toll could well wipe out the natural ore producers, who have only five or six years of production remaining anyway. It was also felt it would be detrimental to the taconite industry, particularly since it is also beginning to be faced with greater pellet quality competition.

It was suggested that the Director of the Duluth Port Authority be invited to a commission meeting to discuss the proposal. A motion was made and carried that the chairman appoint a subcommittee to go to Washington to review the bill with its sponsors. It was agreed that the subcommittee should be empowered to hire someone to assist with the investigation and that the chairman be a member of the committee.

There was a discussion of subcommittee reports and the final committee report. The chairman announced that he would be checking with Senate counsel for their assistance in writing the report.

The meeting was adjourned.

Tape recording, rough draft of transcription and copy of Professor Weaton's presentation are on file in Commission office.

VC/pl

IX. SUMMARY

The testimony and materials presented to the commission during the 1969-1970 interim demonstrated the following points:

(1) that the taxation policies of the state embodied in statute and constitutional provisions have had and continue to have a positive and beneficial effect on the iron ore industry of Minnesota;

(2) that the realities of foreign competition dictate that Minnesota continue to provide a favorable climate for investment in iron ore and taconite and other mineral production facilities;

(3) that the question of mineral mining and production cannot be considered independently of the legitimate environmental concerns of the citizens; and

(4) that the uniqueness of the iron mining industry requires constant review of tax policies to insure a proper balance between the need for an adequate return of revenue to the state and a healthy climate for the industry.

Because of the complexity of the factors involved in the above-listed facts, the Commission is convinced that the kind of constant review necessary to keep the legislature fully informed can only be achieved by a continuing commission such as itself. It is hoped that the data assembled in this report can materially assist other members of the legislature in considering legislation on this most important subject.

The Commission considered revising the landmark study conducted by the 1955 Commission on Iron Ore, but was unable to accomplish this objective because of time and staff limitations. The valuable findings of that com mission, so essential to an understanding of Minnesota's iron ore policies, is in need of revision in the light of recent developments.

The Commission's attention was drawn to the continuing problem of the adequacy of the financing of the St. Lawrence Seaway and the potential adverse impact of the modification of seaway tolls on the iron ore and taconite industry. Proposals before the Congress to forgive the debt of the Seaway as a means of stimulating traffic on the Seaway were viewed by the Commission as having complex effects in terms of encouraging foreign competition in iron ore

and taconite but yet stimulating the non-mining economy of northeastern Minnesota. The effects of the action of Congress in the Maritime Act of 1970 in forgiving interest on the debt will not be fully evident for some time, and, in any event, appears only to be a temporary solution. The Commission is of the opinion that continued study of this question is required and that close contact with Minnesota's Congressional delegation should be maintained.

Recommendation:

It is recommended that the Commission on Taxation and Production of Iron Ore and Other Minerals continue to direct its attention to the critical problems of foreign competition and taconite taxation.

It is further recommended that the Commission conduct investigations necessary to update the findings of the 1955 Commission study and that adequate funds and staff be provided to accomplish that objective.