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November 19, 2015

VIA ELECTRONIC FILING
Daniel P. Wolf
Executive Secretary
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul, MN 55101-2147

Re: In the Matter of a Petition to Ensure Competitive Electric Rates for Energy-Intensive Trade-Exposed Customers
Docket No. E015/M-15-984

Dear Mr. Wolf:

Please find enclosed Minnesota Power's response to Commission Staff Information Request No. 1 requesting that economic studies cited in Minnesota Power's Petition be eFiled in their entirety into the record.

Please contact me at 218-355-3919 with any questions related to this matter.

Yours truly,

Herbert Minke
Director, Energy Policy and Regulatory Affairs

HGM:
Attach.
c: Service List

This question is: ___ **Trade Secret**

_X_ Public

STATE OF MINNESOTA
PUBLIC UTILITIES COMMISSION

Utility Information Request

Docket Number: E015/M-15-984 **Date of Request: 11/18/2015**
Requested From: Herbert Minke Response Due: 11/25/2015
David R. Moeller

Analyst Requesting Information: Clark Kaml

Type of Inquiry:

	Financial		Rate of Return		Rate Design
	Engineering		Forecasting		Conservation
	Cost of Service		CIP		Other: X

If you feel your responses are proprietary, please indicate.

Request Number	
1	On pages 30 and 31 of Minnesota Power's November 17, 2015, Corrected Pagination Petition, Minnesota Power cites three studies in footnotes 10, 11, and 12: 10 "The Economic Impact of Ferrous and Non-Ferrous Mining on the State of Minnesota and the Arrowhead Region, including Douglas County, Wisconsin." Labovitz School of Business and Economics, University of Minnesota Duluth. November 2012. Page 4. 11 "Assessing the Impact of the Goods Producing Domain in Northeast Minnesota." Minnesota Department of Employment and Economic Development. Pages 1-3. 12 "Assessing the Impact of the Goods Producing Domain in Northeast Minnesota." Minnesota Department of Employment and Economic Development. Pages 8-9. Please supplement Minnesota Power's petition by e-filing these three studies in their entirety into the record. If you have any questions please let me know. **RESPONSE:** See attached.

Response by: Jennifer Peterson
Title: Policy Manager
Department: State Gov't Affairs
Telephone: (218) 355-3202

List sources of information:

The Economic Impact of Ferrous and Non-Ferrous Mining

on the State of Minnesota and the Arrowhead Region, including Douglas County, Wisconsin

For

- **Minnesota Department of Employment and Economic Development (DEED)**
- **Minnesota Power**
- **Natural Resources and Research Institute (NRRI) University of Minnesota**
- **Iron Range Resources and Rehabilitation Board (IRRRB)**
- **Iron Mining Association of Minnesota**
- **Mining Minnesota**

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The Bureau of Business and Economic Research extends a thank you to industry representatives from ArcelorMittal/Minorca Mine, Cardero, Cliffs Natural Resources, Duluth Metals, Encampment Minerals, Essar Steel Minnesota, Hibbing Taconite, Keetac, Kennecott Exploration, Magnetation, Mesabi Nugget, Mining Resources, Minntac, Northshore Mining, PolyMet, Teck American, Twin Metals, U.S. Steel, Vermillion Gold, United Taconite, and others for their willingness to provide information. The BBER also thanks Minnesota State representatives from the Department of Natural Resources, the Department of Revenue, and the Department of Employment and Economic Development, along with the University of Minnesota Natural Resources Research Institute for their assistance with fact-finding and background information.

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Executive Summary

The University of Minnesota Duluth Labovitz School of Business and Economics' research bureau, the Bureau of Business and Economic Research (BBER), was asked to study and report the direct, indirect, and induced economic impacts of construction and operations activities of ferrous and non-ferrous mining in Northeast Minnesota, measured in employment, output, and value added. (This report defines impact terminology in Section II—Impact Procedures and Input Assumptions.) IMPLAN Version3 software and data are used for the impact modeling. The study areas for the impact were designated as the State of Minnesota, and the counties of Minnesota's Arrowhead Region and Douglas County, Wisconsin.

BBER also studied Minnesota's ferrous and non-ferrous mineral revenue collected as taxes, royalties, and fees that were distributed in Minnesota.

All ferrous modeling in this analysis uses iron ore mining to represent Minnesota and Douglas County, Wisconsin, ferrous mining; all non-ferrous modeling in this analysis uses copper, nickel, lead, and zinc mining to represent Minnesota and Douglas County, Wisconsin, non-ferrous mining.[1] Also, the following mining impacts do not include other IMPLAN sectors classified as mining and described as "Stone mining and quarrying," and "Sand, gravel, clay, and ceramic and refractory minerals mining and quarrying."

In this report, ferrous mining activities are referred to as Iron ore mining, following the IMPLAN industry description. In the same way, non-ferrous mining activities are referred to as copper, nickel, lead, and zinc mining. Although lead and zinc mining are not significant in Minnesota and Douglas County, Wisconsin, this model sector captures the copper and nickel impacts that are significant. The activities of the non-ferrous IMPLAN sector follows the NAICS definition for this industry and includes establishments primarily engaged in developing the mine site, mining, and preparing and concentrating ores valued chiefly for their copper, nickel, lead, or zinc content.

The most recent IMPLAN data available is for the year 2010. (IMPLAN data uses various federal sources, and inputs to the modeling were provided by industry representatives, as described in the report.) A baseline model for mining operations in 2010 was created to show the impact of current ferrous and non-ferrous mining in the State and region. Further models were built to estimate the additional impact of proposed expansions to current operations as well as the impact of new projects. (All impacts are reported in 2012 dollars.)

[1] Inputs for the non-ferrous group projects were gathered from industry representatives from Duluth Metals, Twin Metals, Encampment Minerals, Cardero, Kennecott, PolyMet, Teck-American, and Vermillion Gold.

Key Results

The results of the impact study, totaling expansions and new projects in addition to all on-going operations in Minnesota, for ferrous and non-ferrous mining, are as follows.

Ferrous and Non-ferrous Operations Impacts on Minnesota, Baseline 2010, and Proposed Expansions and New Projects[2]

Source: IMPLAN		*Direct Effect*	*Indirect Effect*	*Induced Effect*	*Total Effect*
1) **2010 Ferrous (Baseline)**	***Value Added***	$1,136,832,423	$349,036,421	$435,339,232	$1,921,208,076
	Output	$1,711,897,209	$602,940,089	$708,088,618	$3,022,925,917
	Employment	3,975	2,273	4,978	11,226
2) **2010 Non-Ferrous (Baseline)**	***Value Added***	$111,689,936	$20,769,592	$24,596,460	$157,055,988
	Output	$136,398,301	$33,685,684	$40,004,310	$210,088,295
	Employment	175	144	232	551
3) **Ferrous Expansions and New Projects**	***Value Added***	$1,628,764,657	$500,072,160	$623,720,164	$2,752,556,981
	Output	$2,452,672,657	$863,845,522	$1,014,494,252	$4,331,012,432
	Employment	5,029	2,875	6,297	14,201
4) **Non-Ferrous New Projects**	***Value Added***	$115,785,590	$21,531,208	$25,498,408	$162,815,205
	Output	$141,400,005	$34,920,930	$41,471,260	$217,792,195
	Employment	427	352	566	1,345
5) **Total Ferrous (Expansions, New Projects, and 2010 Baseline Operations)**	***Value Added***	$2,765,597,080	$849,108,581	$1,059,059,396	$4,673,765,057
	Output	$4,164,569,866	$1,466,785,611	$1,722,582,870	$7,353,938,349
	Employment	9,004	5,148	11,275	25,427
6) **Total Non-Ferrous (New Projects and 2010 Baseline Operations)**	***Value Added***	$227,475,526	$42,300,800	$50,094,868	$319,871,193
	Output	$277,798,306	$68,606,614	$81,475,570	$427,880,490
	Employment	602	496	798	1,896
7) **Total Ferrous and Non-Ferrous (Expansions, New Projects, and 2010 Baseline Operations)**	***Value Added***	$2,993,072,606	$891,409,381	$1,109,154,264	$4,993,636,250
	Output	$4,442,368,172	$1,535,392,225	$1,804,058,440	$7,781,818,839
	Employment	9,606	5,644	12,073	27,323

The above table shows that total economic impacts, from the largest possible increase in ferrous and non-ferrous mining production for the State of Minnesota are a Value Added total of almost $5 billion, and Output total of almost $7.8 billion, and an Employment total of more than 27,300.

[2] Definitions for interpreting this table are as follows.
Three measures: **Value Added**–A measure of the impacting industry's contribution to the local community in wages, rents, interest, and profits; **Output**–Represents the value of local production required to sustain activities; **Employment**–Estimates are in terms of full and part time jobs, not in terms of full-time equivalent employees.
Three impact effects: **Direct**–Initial spending in the study area resulting from the project; **Indirect**–The additional inter-industry spending from the direct impact; **Induced**–The impact of additional household expenditure resulting from the direct and indirect impact.

- **Existing <u>ferrous</u> mining industry contributions to Minnesota's economy**

Source: *IMPLAN, BBER*

Iron ore mining:	Minnesota Direct, Indirect, and Induced Total Effect			Arrowhead and Douglas County, Wisconsin Direct, Indirect, and Induced Total Effect		
Operations	***Value Added***	***Output***	***Employment***	***Value Added***	***Output***	***Employment***
2010 Baseline	$1,921,208,076	$3,022,925,917	11,226	$1,631,590,282	$2,492,315,978	8,795

— Using the base year of 2010, the IMPLAN model's Value Added total impact shows that iron-ore mining contributed more than $1.9 billion in wages, rents, interest, and profits to Minnesota's economy. This total represents the direct value, plus additional inter-industry spending that resulted from the direct, as well as additional household spending that resulted from the direct and inter-industry spending.

— The Output total shows that iron-ore mining produced more than $3 billion in local production required to sustain activities. This total represents the direct value, plus additional inter-industry spending resulting from production, as well as additional household spending resulting from direct and inter-industry spending.

— The Employment total of more than 11,000 full- and part-time jobs represents the direct employment plus other jobs dependent on the sector, as well as jobs created by the additional household spending linked to direct and indirect jobs in the iron-ore mining industry.

The IMPLAN input-output model also provides an opportunity to calculate a multiplier value associated with each of these measures (Value Added, Output, and Employment). For example, the employment multiplier for iron-ore mining in the State of Minnesota of 2.8 estimates that for every job in the iron-ore mining industry, another 1.8 jobs are created elsewhere in the economy. In the same way, the model estimates that for every dollar of wages, rents, interest, and profits, another $0.69 is generated throughout the economy of the State.

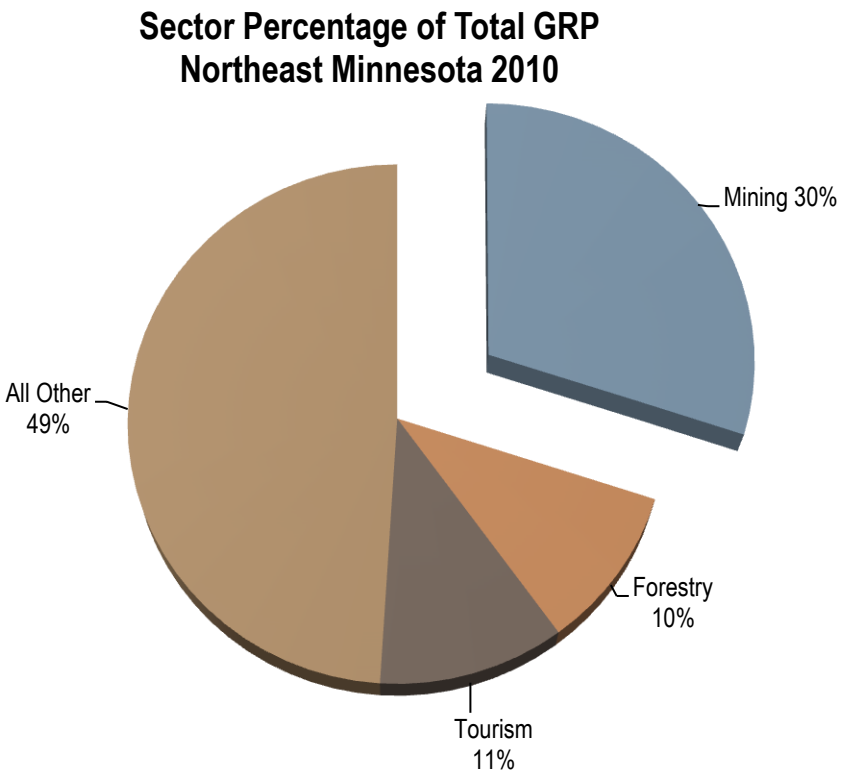
The impact of mining employment and the payroll associated with these jobs may be the most obvious impacts. However, an Output measure can show contribution to the region and to the State, through production taxes, royalties, and fees on the exported ore.

Although the total economic impacts for the State are always greater than the impacts for the region, the importance of the mining sector to the region's economy is proportionately greater.

From a regional point of view, for the period from 2004 to 2010, compared to other sectors of the economy in Northeast Minnesota, mining has led all other sectors contributing to Gross Regional Product (GRP). (See the report for details.) Note that the GRP for the State of Minnesota was $281.1 billion. When compared to the State, mining GRP totals approximately 5.3% for 2010.

Figure 1: NE Minnesota Percentage Gross Regional Product (GRP) by Industry Sector

Source: *IMPLAN, BBER*



- **Potential additions to <u>ferrous</u> mining expansions and new projects to the State's economy, if and when full operations are reached**

Source: IMPLAN, BBER

Iron ore mining:	<u>Minnesota</u> Direct, Indirect, and Induced Total Effect			<u>Arrowhead and Douglas County, Wisconsin</u> Direct, Indirect, and Induced Total Effect		
Operations	***Value Added***	***Output***	***Employment***	***Value Added***	***Output***	***Employment***
2010 Baseline	$1,921,208,076	$3,022,925,917	11,226	$1,631,590,282	$2,492,315,978	8,795
Expansions, 2016	$2,752,556,981	$4,331,012,432	14,201	$2,337,615,098	$3,570,795,747	11,127

For the following impacts, it is assumed that all currently proposed expansions and new projects in the ferrous mining industry sector are brought to full operations. These impacts are in addition to regular ferrous mining operations (but do not include construction impacts).

— The Value Added total impact shows that Iron ore mining expansions and new projects could contribute almost $2.8 billion in wages, rents, and profits annually as an addition to Minnesota's economy.

— The Output total impact shows that Iron ore mining expansions and new projects could contribute over $4.3 billion annually in local production as an addition to Minnesota's economy.

— The Employment total impact shows that Iron ore mining expansions and new projects could contribute more than 14,000 indirect and induced jobs (including temporary, part-time or short-term) in Minnesota employees by the impact year 2016.

Again, the total economic impacts for the State are always greater than the impacts for the region, although the importance of the mining sector to the region's economy is proportionately greater.

Construction in the Iron ore mining sector is estimated to occur between 2012 and 2016. The economic impact of the construction phase of all currently proposed expansions and new projects in the ferrous mining industry sector could contribute the following impacts for Minnesota:

Ferrous Mining Construction, Projected 2012–2016 Totals

Source: IMPLAN	***Value Added***	***Output***	***Employment***
2012	$744,837,822	$1,454,261,964	1,964
2013	$687,678,567	$1,342,661,101	3,079
2014	$138,277,993	$269,981,487	587
2015	$159,972,225	$312,329,163	1,258
2016	$100,988,119	$197,174,708	1,020

— For peak year construction (2012), the Value Added total impact shows that Iron ore mining construction could contribute almost $745 million in wages, rents, and profits to Minnesota's economy.

— For peak year construction, the Output total shows that Iron ore mining construction could contribute almost $1.5 billion in local production as part of Minnesota's economy.

— For peak year construction, the Employment measure shows that Iron ore mining construction could employ nearly 2,000 employees in direct, indirect, and induced jobs (including temporary, part-time or short-term) in Minnesota.

During 2011 (calendar year), Minnesota's iron mines paid $151.9 million in Production Tax, Occupation Tax, Sales and Use Tax, Income Tax, various Ad Valorem and Property Taxes, and Royalties and Rentals on State minerals.

Ferrous Mining Mineral Receipts, Minnesota, 2011

Source: *MN Depart. Of Revenue, MN DNR*	*2010 taxes payable in 2011*
Taconite Production Tax	$79,138,000
Occupation Tax	$12,617,000
Sales and Use Tax	$17,101,895
Income Tax (withholding on private royalties)	$137,943
Various Ad Valorem and Property Taxes	$902,235
Royalties and Rentals on State Iron Ore	
School Trust Lands	$25,696,263
University Trust Lands	$15,029,345
Tax Forfeit	$1,021,737
Other State Accounts	$277,000
Total	**$151,921,418**

The 2010 taconite production tax of more than $79 million is payable the following year.

In order to interpret tax tables in this report, readers should note that taxes are distributed between the General Fund, local units of government, and education. A further detail on interpreting the occupation tax is to note that this tax is split according to 10% for the University of Minnesota, 40% to Elementary and Secondary Education, and 50% to the General Fund. (A further breakdown of this $79 million in Production tax is found in Appendix A.)

Ferrous mining tax impacts have special importance for the support of schools and higher education in Minnesota. During 2011 (calendar year), Minnesota's iron mining industry paid $64.1 million towards Minnesota's education, through a percentage of production taxes, royalties and rents, and occupation taxes.

Ferrous Mining Mineral Receipts Specifically in Support of Education, Minnesota, 2011

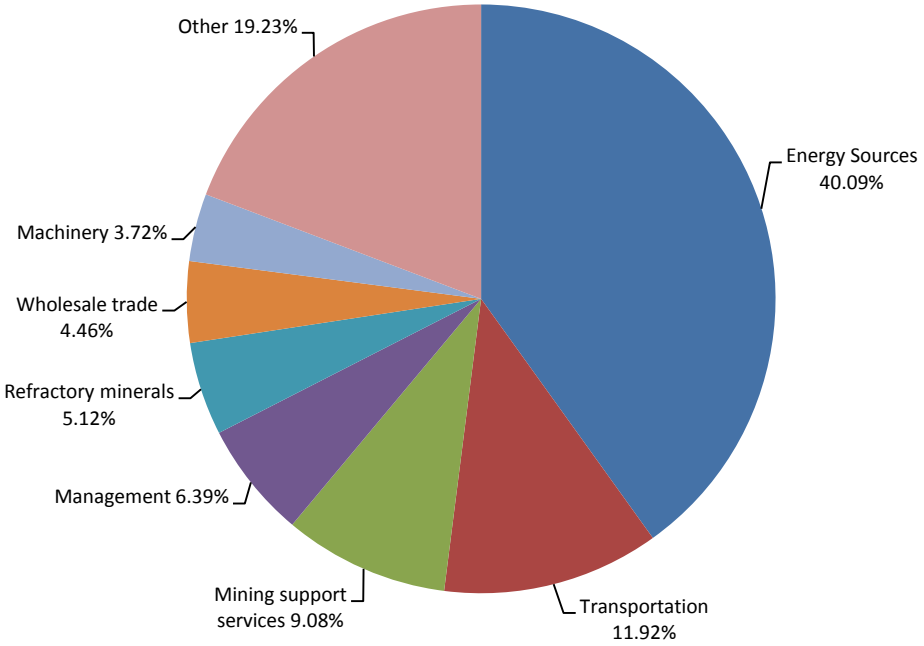
Source: *MN Depart. Of Revenue, MN DNR*	*School*	*University*	*Total Education*
School district component of Production Tax	$17,094,176		$17,094,176
State iron ore royalties and rent	$25,696,263	$15,029,345	$40,725,608
Occupation Tax	$5,046,800	$1,261,700	$6,308,500
Totals	**$47,837,239**	**$16,291,045**	**$64,128,284**

- **<u>Ferrous</u> mining suppliers and their contributions to mining production**

Based on the model's regional inputs from the industry balance sheet, the following are the ferrous mining industry's local purchases from suppliers. Support for these industries translates into development of the State's mining industry.

Figure 2: Local Supplier Purchases

Source: *IMPLAN, BBER*



In the chart above, Energy Sources include Electric Power, Natural Gas, and Petroleum. The section of Transportation includes both transports by truck and by rail.

- **Existing <u>non-ferrous</u> mining additions to Minnesota's economy**

Source: IMPLAN, BBER

Copper, nickel, lead, and zinc mining:	<u>Minnesota</u> Direct, Indirect, and Induced Total Effect			<u>Arrowhead and Douglas County, W</u> Direct, Indirect, and Induced Total Effect		
Operations	***Value Added***	***Output***	***Employment***	***Value Added***	***Output***	***Employment***
2010 Baseline	$157,055,988	$210,088,295	551	$154,976,119	$194,830,341	507

— Using the 2010 base year model (operations in the year 2010), the Value Added total impact shows that copper, nickel, lead, and zinc mining contributed more than $157 million in wages, rents, and profits to Minnesota's economy. (This figure represents the value received from exploration and supporting industries.)

— The Output total impact shows copper, nickel, lead, and zinc mining produced over $210 million in local production as part of Minnesota's economy.

— The Employment total impact shows that copper, nickel, lead, and zinc mining directly and indirectly employed 551 employees (including temporary, part-time or short-term jobs) in

Minnesota.

- **Potential additions to non-ferrous mining expansions and new projects to the State's economy, if and when full operations are reached**

Source: IMPLAN, BBER

Copper, nickel, lead, and zinc mining:	Minnesota Direct, Indirect, and Induced Total Effect			Arrowhead and Douglas County, Wisconsin Direct, Indirect, and Induced Total Effect		
Operations	***Value Added***	***Output***	***Employment***	***Value Added***	***Output***	***Employment***
2010 Baseline	$157,055,988	$210,088,295	551	$154,976,119	$194,830,341	507
New Projects, 2016	$162,815,205	$217,792,195	1,345	$160,659,059	$201,974,731	1,235

For the following impacts, it is assumed that all currently proposed new projects in the non-ferrous mining industry sector are brought to full operations. These impacts are in addition to regular non-ferrous mining operations (but do not include construction impacts).

— The Value Added total impact shows that copper, nickel, lead, and zinc mining new projects could contribute almost $163 million in wages, rents, interests and profits annually as an addition to Minnesota's economy.

— The Output total impact shows that copper, nickel, lead, and zinc mining new projects could contribute almost $218 million annually in local production as an addition to Minnesota's economy.

— The Employment total impact shows that copper, nickel, lead, and zinc mining new projects could contribute more than 1,300 additional direct, indirect, and induced jobs (including temporary, part-time or short-term) in Minnesota by the impact year 2016.

The economic impact of the construction phase of all currently proposed new projects in the non-ferrous mining industry sector could contribute the following impacts:

Non-Ferrous Mining Construction, Impacts on the State of Minnesota, 2012-2016

Source: IMPLAN	***Value Added***	***Output***	***Employment***
2012	—	—	—
2013	—	—	—
2014	$157,541,469	$307,592,556	1,020
2015	$157,541,469	$307,592,556	1,020
2016	$560,181,099	$1,093,728,114	2,170

— For peak year construction (2016), the Value Added total impact shows that copper, nickel, lead, and zinc mining construction could contribute over $560 million in wages, rents, interest and profits to Minnesota's economy.

— For peak year construction (2016), the Output total impact shows that copper, nickel, lead, and zinc mining construction could contribute almost $1.1 billion in production as part of

Minnesota's economy.

— For peak year construction (2016), the Employment total impact shows that copper, nickel, lead, and zinc mining construction could employ more than 2,100 employees in direct, indirect, and induced jobs (including temporary, part-time or short-term) in Minnesota.

In order to report non-ferrous taxes in Minnesota, the BBER followed the Minnesota DNR's Mineral Receipts by Account for 2010 and 2011. Compared to ferrous mining, non-ferrous mining contributes much less to the State.

- **Less than full operations of ferrous and non-ferrous proposed expansions and new projects**

The BBER considered the possibility that only some of the proposed projects will progress to full operations status. The following table presents impact results assuming 75% of Value Added, 75% of Output, and 75% of Employment is achieved by year 2016. The table also shows values for assuming 50% of projects are achieved and for the baseline operations in 2010 (for comparison).

Ferrous and Non-Ferrous Mining Impact on Minnesota: 75% and 50% Impact of Completion of All Proposed Expansions and New Projects

Source: IMPLAN	***Value Added***	***Output***	***Employment***
100%	$2,915,372,186	$4,548,804,627	15,546
75%	$2,186,529,140	$3,411,603,470	11,660
50%	$1,457,686,093	$2,274,402,314	7,773
Baseline (2010)	$2,078,264,064	$3,233,014,212	11,777

Note: Although the current economic downturn may affect the estimates of start dates and other time line assumptions, the BBER assumes in this study, following indications from industry, that these projects are proceeding as planned, and that the proposed projects are attempting to emerge from the downturn without losing years of momentum.

✷

The Economic Impact of Ferrous and Non-Ferrous Mining on the State of Minnesota and on the Arrowhead Region, including Douglas County, Wisconsin

I. Project Description

This project assesses the economic impact of ferrous and non-ferrous mining in Northeast Minnesota on the economy of the State of Minnesota and on the Arrowhead Region that, for this report, includes Douglas County, Wisconsin. Normally, Douglas County is not considered part of the Arrowhead Region, but since the taconite is transported through it, it is being included in this study.

The UMD Labovitz School of Business and Economics' research bureau, the Bureau of Business and Economic Research (BBER), studied and estimated the economic impacts of ferrous and non-ferrous mining construction and operations in Northeast Minnesota. The BBER has previously studied and reported a similar analysis of the ferrous and non-ferrous mining in Northeastern Minnesota in 2009. Additionally, it has studied and reported the prospective regional socio-economic impacts of a project in Menominee County, Michigan, in 2010; the economic impact of Essar Steel Minnesota in 2010; and the economic impact of U.S. Steel's Keetac mine expansion in 2009. Several further analyses, studies, and reports for the mining industry by the BBER were also conducted in 2006 and 2003.

The economic modeling data and software used for this project was IMPLAN, version 3.0, created in Minnesota by MIG, Inc. The study used IMPLAN's economic multiplier analysis and input/output modeling with the most recent IMPLAN data, which is for year 2010. Results of modeling are presented here in a written report.

The research objectives of the study included:

- To study the recent economic activity of ferrous and non-ferrous mining industries in Northeast Minnesota, including employment and production in unit tons.
- To model construction and operations impacts using three measures and three effects of mining activity. This will include the measures of employment, output, and value added, and will also model direct, indirect, and induced economic effects in the economies of the State of Minnesota, and the Arrowhead Region including Douglas County, Wisconsin.
- To describe Minnesota's mineral revenue collected from ferrous and non-ferrous mining industries in Northeast Minnesota, including 1) production taxes, 2) occupation taxes and royalties, 3) sales and use taxes, and 4) a discussion of how mineral revenue is being spent by the State of Minnesota.
- To draft the findings of the impact analysis into a report.

Modeling

The BBER needed inputs from companies involved in mining construction and estimates for construction project start dates and estimates of full operations.

Models were created to include projects, such as Essar's (Minnesota Steel) plant construction and the Mesabi Nugget project, as well as individual non-ferrous proposed projects like PolyMet. The construction impact model years were designated to begin with 2012. BBER's modeling used the completion date supplied by companies involved for any new project.

Operations models were created to include mining impacts from years beginning with 2012. The full operations year, when construction is complete and all projects are fully operational, was determined to be 2016.

Some IMPLAN modeling issues associated with small study areas like that in this report of county-level impacts, as noted in the IMPLAN User's Guide[3] include the following:

A small area will have a high level of leakage. Leakages are any payments made to imports or value added sectors, which do not in turn re-spend the dollars within the region.

Also, it can be expected that input-output multipliers are larger when more economic activity is incorporated into the local transactions matrix. The more imports are internalized, the larger the calculated multipliers become. At the state level all counties are incorporated, and for the state, the greatest level of internalized economic activity is attained. Theoretically, therefore, the state IMPLAN multipliers will always be greater than multipliers for any individual or subset of counties. But, as with most theories, this one has exceptions. It is possible, for example, for the same impact run on both a state and county models to yield lower impact results in the state model compared to the county model. It does not happen that frequently, but it is possible.

Deliverables

1) The BBER will report the direct, indirect, and induced economic impacts of construction and operations activities of ferrous and non-ferrous mining in Northeast Minnesota, measured in employment, output, and value added.
2) The BBER will report a description of the Northeast Minnesota mining industries in terms of a global mining context.
3) The BBER will report Minnesota's mineral revenue collected from ferrous and non-ferrous mining industries in Northeast Minnesota, including 1) production taxes, 2) occupation taxes and royalties, and 3) sales and use taxes.
4) The BBER will report ferrous and non-ferrous mineral revenue spent by the State of Minnesota.

[3] IMPLAN is used by state governments and the USDA Forest Service, among others. See MIG, Inc., IMPLAN System (data and software), MIG, Inc. 502 2nd St., Ste 301, PO Box 837, Hudson, WI 54016-1543. www.implan.com

5) The BBER will draft a final written report that will present the findings and analysis.

6) The BBER will offer an oral PowerPoint presentation of the BBER findings, if so requested.

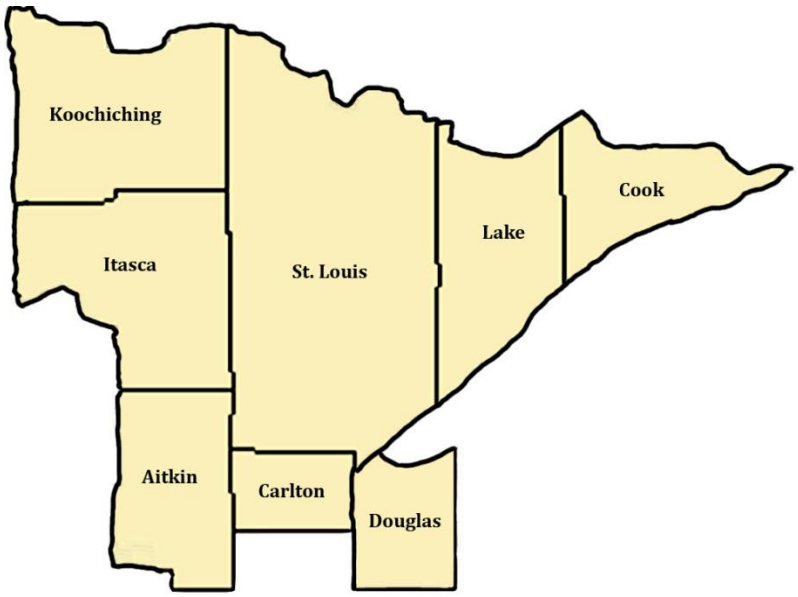
Study Area

The geographic scope for this economic impact analysis is proposed to be the Arrowhead region of Minnesota and the State of Minnesota. The Arrowhead Region of Northeast Minnesota includes Aitkin, Carlton, Cook, Itasca, Koochiching, Lake, and St. Louis Counties. For this study, it also includes Douglas County in Wisconsin.

The BBER worked closely with mining companies, the Iron Range Resources and Rehabilitation Board, the Minnesota Department of Employment and Economic Development, the Minnesota Department of Natural Resources—Lands and Minerals Division, and the University of Minnesota Natural Resources Research Institute, as well as the Iron Mining Association of Minnesota and Mining Minnesota and others, in determining key assumptions in the development of the IMPLAN models. Inputs required for these models include average employment for each year during any construction periods and dollar cost on a year-by-year basis for such construction periods. Operating assumptions required for the models include employment estimates, local purchases, and operations dollar value of sales or output production.

Regional data for the impact models for value added, employment, and output measures have been supplied by IMPLAN for this impact. Employment assumptions were provided to the BBER to enable construction of the impact model. From these data, Social Accounts, Production, Absorption, and Byproducts information were generated from the national level data and were incorporated into the model. All region study definitions and impact model assumptions were agreed on before work with the models began.

Figure 3. Counties of Minnesota's Arrowhead Region and Douglas County, Wisconsin



As background, the BBER estimated a simplified industry sector percentage of Gross Regional Product (GRP) for the major sectors of the Northeast Minnesota economy. Mining in the Arrowhead Region and

for the Duluth Metropolitan Statistical Area has been the leading industrial sector of the economy. Note that the GRP for the State of Minnesota was $281.1 billion. When compared to the State, mining GRP totals approximately 5.3% for 2010. However, comparing Northeast Minnesota economic activity by sector, GRP for mining shows that over time, mining has been the leading industrial sector, and that the mining industry has increased in relative importance.

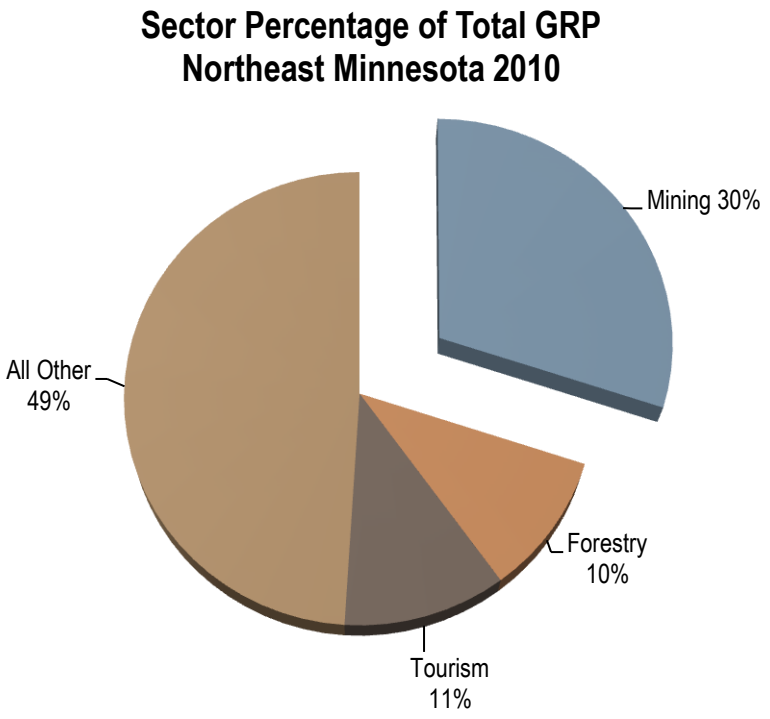
Table 1. Sector Percentages of Total GRP in Billions, Northeast Minnesota 2010

Industry	*2004*	*% of Total*	*2006*	*% of Total*	*2007*	*% of Total*	*2010*	*% of Total*
Mining	3.1	26%	3.9	30%	4.7	34%	4.5	30%
Forestry	1.9	16%	1.8	14%	1.6	12%	1.5	10%
Tourism	1.3	11%	1.4	11%	1.5	11%	1.6	11%
All Other	5.6	47%	5.2	45%	5.9	43%	7.3	49%
Total	11.9	100.0%	12.3	100.0%	13.7	100.0%	14.9	100.0%

Source: J. Skurla, UMD Labovitz School of Business and Economics, Bureau of Business and Economic Research
See also U.S. BEA at http://www.bea.gov/bea/regional/gsp/
Note: Tourism is estimated from the IMPLAN sectors, "amusements, gambling, and recreation," and "accommodation and food services." Also note: The above estimated GRP for an industry sector (for example, mining) includes estimations for indirect and induced effects (such as healthcare) provided to the industry.

From 2004 to 2010, mining has contributed to the GRP by almost three times that of the Forestry and Tourism sectors of the economy in Northeast Minnesota.

Figure 4. NE Minnesota Percentage Gross Regional Product (GRP) by Industry Sectors



II. Impact Procedures and Input Assumptions

IMPLAN Models

There are two components to the IMPLAN system, the software and databases. The databases provide all information to create regional IMPLAN models. The software performs the calculations and provides an interface for the user to make final demand changes. IMPLAN software version 3.0 was used in this analysis.

Comprehensive and detailed data coverage of the IMPLAN study areas by county, and the ability to incorporate user-supplied data at each stage of the model building process, provides a high degree of flexibility both in terms of geographic coverage and model formulation—in this case, definition of the State of Minnesota, and the Arrowhead region including Douglas County, Wisconsin, as a study area, and the definition of specific models for construction and operations, with adjusted production functions to reflect the proposed plant expansion. Using the IMPLAN software and data, the BBER identified the industry's proposed expenditures in terms of the sectoring scheme for the model, in producer prices, in historical dollars based on the year of the model, and applied those dollars spent within the study area definition given for the impact analysis.

Data

IMPLAN data files use federal government data sources including:

- US Bureau of Economic Analysis Benchmark I/O Accounts of the US
- US Bureau of Economic Analysis Output Estimates
- US Bureau of Economic Analysis REIS Program
- US Bureau of Labor Statistics County Employment and Wages (CEW) Program
- US Bureau of Labor Statistics Consumer Expenditure Survey
- US Census Bureau County Business Patterns
- US Census Bureau Decennial Census and Population Surveys
- US Census Bureau Economic Censuses and Surveys
- US Department of Agriculture Crop and Livestock Statistics

IMPLAN data files consist of the following components: employment, industry output, value added, institutional demands, national structural matrices and inter-institutional transfers.

Impacts for this model use the most recent IMPLAN data available, which is for the year 2010. The impact is reported in 2012 dollars.

Economic impacts are made up of direct, indirect, and induced impacts. The following cautions are suggested assumptions for accepting the impact model:

- IMPLAN input-output is a production-based model.
- Local or export based purchases that represent transfers from other potential local purchases are not counted.

- The numbers (from U.S. Department of Commerce secondary data) treat both full and part-time individuals as being employed.
- Assumptions need to be made concerning the nature of the local economy before impacts can be interpreted.
- The IMPLAN model was constructed for the year 2010 (most recent data available).

Definitions Used in This Report

The IMPLAN models for both operations and construction use the following definitions for the three measures and three effects of the impact reports:

Measures

Value Added – A measure of the impacting industry's contribution to the local community; it includes wages, rents, interest and profits.

Output–Represents the value of local production required to sustain activities.

Employment – Estimates are in terms of jobs, not in terms of full-time equivalent employees. Hence, these may be temporary, part time or short term jobs.

Effects

Direct – Initial spending in the study area resulting from the project

Indirect – The additional inter-industry spending from the direct impact

Induced – The impact of additional household expenditure resulting from the direct and indirect impact.

Industry Definitions

IMPLAN models for this study used the industrial sector 22 (Iron ore mining) to model the impact of ferrous mining. IMPLAN provides a bridge table, which identifies the corresponding Bureau of Economic Analysis (BEA) sector, as well as the North American Industry Classification (NAICS) code equivalents.

Table 2. Ferrous Mining Industry Definition

IMPLAN Sector	*Description*	*BEA*	*NAICS*
22	Iron ore mining	21221	21221

IMPLAN models for this study used the industrial sector 23 (copper, nickel, lead, and zinc mining) to model the impact of non-ferrous mining.

Table 3. Non-Ferrous Industry Definition

IMPLAN Sector	*Description*	*BEA*	*NAICS*
23	Mining copper, nickel, lead, and zinc	21223	21223

IMPLAN sector 24 corresponds to NAICS codes 21222 for mining non-ferrous metals gold and silver, and 21229 for Other Metal Ore Mining (including uranium-radium-vanadium ores, molybdenum ores, antimony ores, columbium ores, ilmenite ores, magnesium ores, tantalum ores and tungsten ores) which are not currently included in the business models for projects proposed for Minnesota, and are therefore not included in the non-ferrous sector for this study.

Mining impacts in this report have been sectored for analysis as ferrous and non-ferrous and do not include other IMPLAN sectors classified as mining, such as "Stone mining and quarrying," and "Sand, gravel, clay, and ceramic and refractory minerals mining and quarrying." Excluded sectors include such activities as "Stone mining and quarrying," "Dimension stone mining and quarrying," "Crushed and broken limestone mining," "Crushed and broken granite mining," "Other crushed and broken stone mining," "Sand, gravel, clay, and refractory mining," "Construction sand and gravel mining," "Industrial sand mining," and "Clay, ceramic, and refractory minerals mining."

Ferrous mining activities in this report are modeled in IMPLAN sector 22, and the sector is referred to as "Iron ore mining" in the text following the designation of the IMPLAN industry description. The same is true for non-ferrous mining activities, which are referred to in this report by the IMPLAN sector description "Mining copper, nickel, lead, and zinc." Although lead and zinc mining is not significant in Minnesota, the model sector "Mining copper, nickel, lead, and zinc" captures the copper and nickel impacts, which are significant.

The impact of mining exploration and drilling, identified under NAICS industry code 213 (Support Activities for Mining), are not the focus of this impact, although these activities are accounted for in the IMPLAN model, specifically through IMPLAN sector 27 (Other nonmetallic mineral mining and quarrying) and sector 30 (Support activities for other mining).

Model Assumptions

- Construction years for various projects are staggered between 2012 and 2016. Construction impacts are reported by years 2012, 2013, 2014, 2015, and 2016 and include all projects active during the reporting year.
- The operations year for all has been determined to be 2016. This impact study recognizes the broadest number of possible ferrous expansion projects, as well as start-ups in ferrous and non-ferrous mining.
- All impacts are reported in 2012 dollars.

Special considerations for interpreting these impact numbers include the following cautions:

Regional indirect and induced effects are driven by assumptions in the model. One problem is that the assumptions can mask the true multiplier. This is especially true of the assumption of constant returns to scale: This assumption most affects induced effects and says that if I drink coffee, and my income increases, I will drink proportionally more than before. The amount of weight placed on the induced effects (the percentage of the total induced effect you would want to use) could be further analyzed with an in-depth impact study, involving much more specific data collection and more detailed analysis.

The BBER suggests caution in regard to the interpretation of the tax impacts from these projects: Tax law changes frequently and will be difficult to forecast through the years proposed as operations for these projects. Also, taxes impacts in this report are based on different formulations. For instance, it has been suggested that occupation taxes could be expected to decrease.

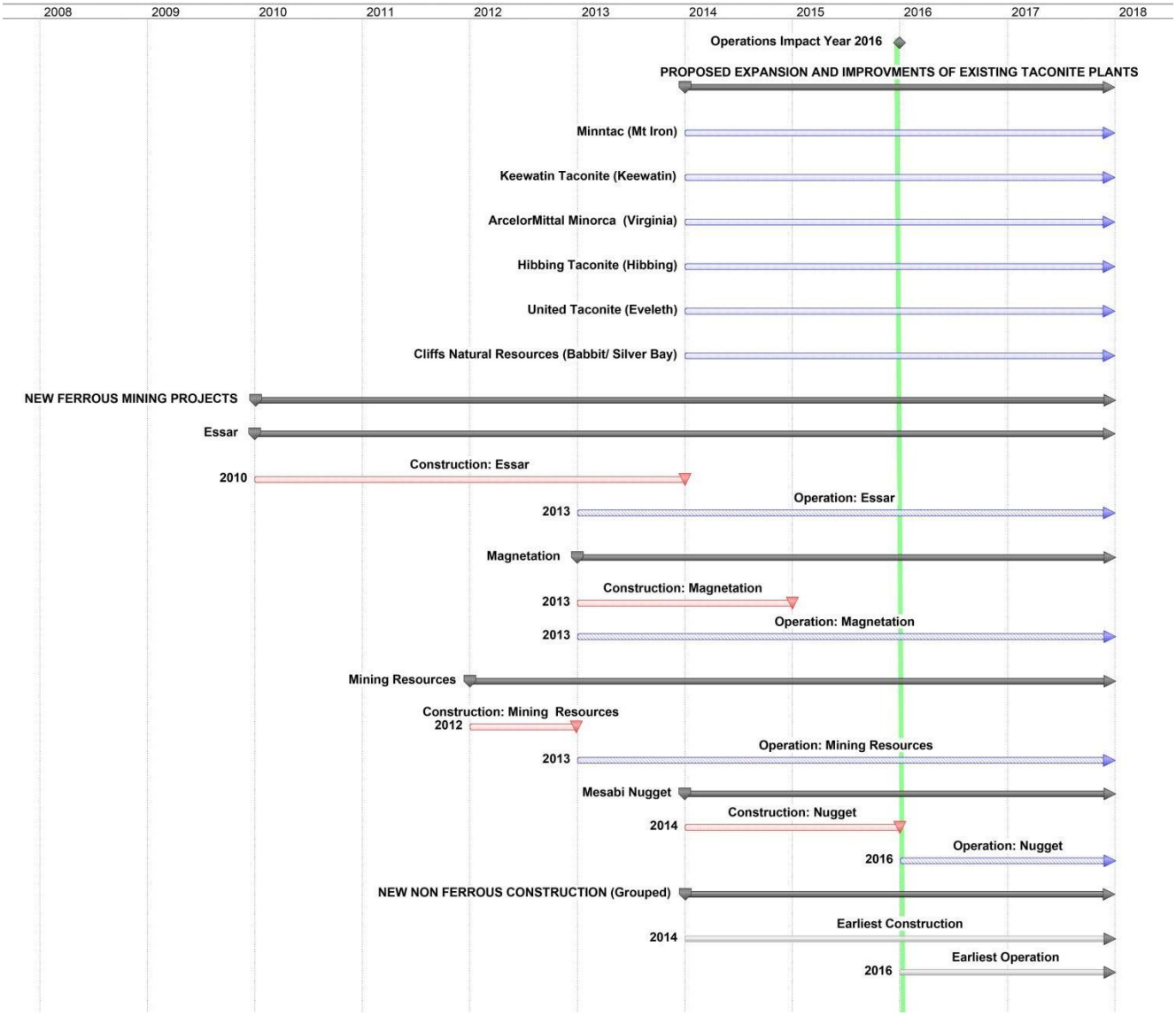
Readers should also note that estimated changes in production technology and employee productivity for industry sectors can differ; for instance, a difference in output per worker for differing industry sectors when production modeling includes Iron ore mining and Iron and steel mills.

Finally, and most importantly, the relationship of Output to Employment has been set for the model by data provided by the project managers to the BBER; the modeling in this study is driven by inputs provided to the models by the best estimates of engineers and managers involved in each project. It can be noted that, for purposes of research and with more resources, the modeling methodology can be driven by data collected from surveys and post-construction values. This survey data can provide greater accuracy in regional impact assessments for the linkage between core and peripheral labor market areas, and deliver better estimates of local vs. regional purchases.

Project Time Lines and Selection of Impact Year

A time line was used in order to select an appropriate year for the industry sector's full operations impact (YR 2016). A significant factor influencing assumptions about construction and operations start dates is the time necessary to complete the Environmental Impact Statement and all permitting activity that must be completed before construction can begin. The BBER has not attempted to forecast how long each project's permitting might require to complete. Also note, for purposes of display in this report, the BBER has grouped the non-ferrous start-ups to indicate the earliest construction and operations start date that might be assumed. The time line can be found on the following page. Note: At the time of this report, there were no non-ferrous projects poised for construction. These projects were only in exploration phase. The timing of non-ferrous project construction and then operations is difficult to determine or estimate. The slow economic recovery and possible difficulty in obtaining equity and debt financing from financial markets have delayed many of the projects.

Figure 5. The BBER's Assumptions for Project Time Lines and Selection of Impact Year 2016*



* As noted above, this time line was used in order to select an appropriate year for the industry sector's full operations impact (YR 2016). A significant factor influencing assumptions about construction and operations start dates is the time necessary to complete the Environmental Impact Statement and all permitting activity that must be completed before construction can begin. The BBER has not attempted to forecast how long each project's permitting might require to complete. Also note, for purposes of display in this report, the BBER has grouped the non-ferrous start-ups to indicate the earliest construction and operations start date that might be assumed.

III. Findings: Ferrous Mining Impacts

In this section, the BBER reports the direct, indirect, and induced economic impacts of construction and operations activities of ferrous mining in Northeast Minnesota, measured in employment, output, and value added. Impacts are modeled for both the State of Minnesota, and the immediate region, including the counties of the Arrowhead Region and Douglas County, Wisconsin.

To provide a baseline reference, the BBER modeled the impact on the State's economy that might be felt if ferrous mining and all its transactions had been removed from the State of Minnesota. The BBER uses IMPLAN's most recent data, which is for year 2010, for this impact model. This provides insight into the contribution of the ferrous mining industry to the State's economy.

Next, using employment and output projections from the mining industry, as well as assistance from representatives of the State, the BBER modeled the economic impact of proposed expansions and projects in the ferrous mining industry sector. A special sub-section of the findings covers the results of modeling ferrous mining tax impacts.

Finally, the BBER considered the possibility that not all projects will be viable and will progress to full operations status. Therefore, impacts for two development scenarios are presented, to show impact results if only half or only three quarters of projects currently proposed succeed. The 75% and 50% impacts are shown in relation to the baseline data and full implementation scenarios.

Ferrous Mining Industry's Contribution to the State's Economy

IMPLAN provides a model of the economy of the State of Minnesota, including ferrous mining (identified as sector 22 Iron ore mining), as presented in the section "Industry Definitions," above. The values in the tables below are estimated from sources associated with the IMPLAN model and also identified above.

In the tables below, the Value Added total measure shows that Iron ore mining contributed more than $1.9 billion in wages, rents, and profits to Minnesota's economy. The Value Added total represents the direct value of the wages, etc., plus the additional inter-industry spending that resulted from these wages, plus any additional household spending that resulted from the direct wages and inter-industry spending.

The Output total measure shows that Iron ore mining produced more than $3 billion in local production as part of Minnesota's economy. The Output total represents the direct value of local production, plus the additional inter-industry transactions that resulted from local production, plus any additional household spending that resulted from inter-industry production.

The Employment measure shows that Iron ore mining directly employed more than 3,900 employees (jobs—including temporary, part-time or short-term) in Minnesota. The Employment total of more than 11,000 jobs represents the direct employment in the industry sector, plus other jobs dependent on, but not part of, the Iron ore mining sector, plus any jobs created by the additional household spending and activity linked to direct and indirect jobs in the Iron ore mining industry.

The IMPLAN input-output model also provides an opportunity to calculate a multiplier value associated with each of these measures. For example, the employment multiplier for Iron ore mining in the State of Minnesota of 2.8 indicates that for every job in the Iron ore mining industry, another 1.8 jobs are created as the indirect and induced effect of the mining industry's job. In the same way, the model

estimates that for every dollar of wages, rents, interest and profits, another $0.69 is generated through indirect and induced effects throughout the economy of the State.

The impact of mining employment and the payroll associated with these jobs may be the most obvious impact; however the Output measure also shows contribution to the region and to the State through production taxes, royalties, and fees on the exported ore.

Although the total economic impacts for the State are almost always greater than the impacts for the Arrowhead Region and Douglas County, Wisconsin, the importance of the mining sector to the region's economy is proportionately greater.

The following tables show the baseline impact (current operations as of 2010) of ferrous mining on the State of Minnesota and the region, in 2012 dollars.

Table 4: Minnesota Ferrous Mining, Economic Impacts, Baseline 2010

Source: IMPLAN	*Direct Effect*	*Indirect Effect*	*Induced Effect*	*Total Effect*
Value Added	$1,136,832,423	$349,036,421	$435,339,232	$1,921,208,076
Output	$1,711,897,209	$602,940,089	$708,088,618	$3,022,925,917
Employment	3,975	2,273	4,978	11,226

Note direct effects for Value Added, Output, and Employment result in different totals for the State and the region. The regional economy does not enjoy the same level of added indirect and induced effects. This implies, for instance, that Iron ore mining creates about 2,400 more jobs in the Metro and other parts of the State compared to the Arrowhead region and Douglas County.

Table 5: Arrowhead and Douglas County, Wisconsin, Ferrous Mining, Economic Impacts, Baseline 2010

Source: IMPLAN	*Direct Effect*	*Indirect Effect*	*Induced Effect*	*Total Effect*
Value Added	$1,136,832,423	$230,153,874	$264,603,985	$1,631,590,282
Output	$1,711,897,209	$345,943,615	$434,475,153	$2,492,315,978
Employment	3,975	1,273	3,547	8,795

The top twenty-five Minnesota indirect and induced jobs dependent on Iron ore mining come from the following supporting industries:

Table 6: Iron Ore Mining Employment Impacts in Minnesota, Top Twenty-Five Detail, Baseline 2010

Source: IMPLAN

Industry	*Direct*	*Indirect*	*Induced*	*Total*
Mining iron ore	3,975	20	0	3,995
Food services and drinking places	0	37	519	556
Transport by truck	0	342	35	377
Real estate establishments	0	31	237	268
Wholesale trade businesses	0	125	141	266
Private hospitals	0	0	247	247
Electric power generation, transmission, and distribution	0	208	17	225
Offices of physicians, dentists, and other health practitioners	0	0	224	224
Nursing and residential care facilities	0	0	201	201
Nondepository credit intermediation and related activities	0	63	133	196
Retail Stores - General merchandise	0	8	172	180
Support activities for other mining	0	171	0	171
Retail Stores - Food and beverage	0	8	159	167
Management of companies and enterprises	0	140	26	166
Securities, commodity contracts, investments, and related activities	0	25	137	162
Employment services	0	57	88	145
Civic, social, professional, and similar organizations	0	18	109	127
Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	0	116	0	116
Individual and family services	0	0	107	107
Retail Stores - Motor vehicle and parts	0	8	97	105
Retail Nonstores - Direct and electronic sales	0	4	100	104
Monetary authorities and depository credit intermediation activities	0	28	73	101
Services to buildings and dwellings	0	36	56	92
Retail Stores - Miscellaneous	0	4	83	87
Architectural, engineering, and related services	0	67	17	84
Total From Top 25	**3,975**	**1,516**	**2,978**	**8,469**
As well as an additional 2,757 jobs in another 279 various sectors of the economy…	0	757	2,000	2,757
Grand Total	**3,975**	**2,273**	**4,978**	**11,226**

Jobs created as the impact of taxes are included in the model's calculations.

Economic Impact: Proposed Ferrous Mining Expansions and New Projects

The BBER modeled the economic impact of proposed expansions and projects in the ferrous mining industry sector. For this report, impact findings from individual projects are aggregated in the Iron ore mining sector and present an estimation of the impact of all currently proposed ferrous mining expansions and new start-up projects. The BBER relied on industry representatives and State of Minnesota representatives for its inventory of possible projects. The timeline in Figure 5 shows the BBER's rationale for choosing the year 2016, as the first possible full operations year in which all projects might be operational.

The BBER also modeled the economic impact of the total sector activity, which combines the proposed expansions and projects with the on-going industry in the State. Tables described as "all operations" present the impacts of Iron ore mining in year 2016 (in 2012 dollars), as if all proposed expansions and new projects were at full operations and are added to the continuing impact of current (2010) Iron ore mining operations.

Minnesota Construction: Proposed Ferrous Mining Expansions and New Projects

These projects include investment in facilities improvement and maintenance. Project totals have been aggregated by year. As noted earlier, the timeline for project construction is dependent on environmental permitting and the months or years such permitting requires for approval. Construction impacts associated with possible projects are modeled as yearly totals from 2012 to 2016. Note that unlike operations impacts, construction impacts do not present annual recurring totals. Each construction year's wages, production, and employment should be considered a snap-shot of a single year impact. Typically, construction is more labor and investment-intensive at the start of a project than in the final stages. In addition, although the construction investment adds up over time, employment does not; consider, for instance, that a construction project truck driver employed during 2012 may be continuing in the same job in 2013.

Table 7. Ferrous Mining Construction's Value Added, Output, and Employment Impacts on the State of Minnesota 2012–2016, Proposed Expansions and New Projects

Source: IMPLAN

	Value Added	*Output*	*Employment*
2012	$744,837,822	$1,454,261,964	1,964
2013	$687,678,567	$1,342,661,101	3,079
2014	$138,277,993	$269,981,487	587
2015	$159,972,225	$312,329,163	1,258
2016	$100,988,119	$197,174,708	1,020

Minnesota Operations: Proposed Ferrous Expansions and Mining Projects

Following the assumptions made for the time line of projects, operations impacts assume full production for all proposed expansions and new projects to be in year 2016.

Table 8. Ferrous Mining Operation's Value Added, Output, and Employment Impacts on the State of Minnesota, 2016, Proposed Expansions and New Projects

Source: IMPLAN	*Direct Effect*	*Indirect Effect*	*Induced Effect*	*Total Effect*
Value Added	$1,628,764,657	$500,072,160	$623,720,164	$2,752,556,981
Output	$2,452,672,657	$863,845,522	$1,014,494,252	$4,331,012,432
Employment	5,029	2,875	6,297	14,201

Minnesota Operations: All Proposed and Continuing Ferrous Mining, 2016

The table below shows the estimated impact of full operations for all proposed expansions and new projects and all continuing industry operations not considered a start-up or expansion of production capacity, for year 2016.

Table 9. Ferrous Mining Operation's Value Added, Output, and Employment Impacts on the State of Minnesota, 2016, All Operations

Source: IMPLAN	*Direct Effect*	*Indirect Effect*	*Induced Effect*	*Total Effect*
Value Added	$2,765,597,080	$849,108,581	$1,059,059,396	$4,673,765,057
Output	$4,164,569,866	$1,466,785,611	$1,722,582,870	$7,353,938,349
Employment	9,004	5,148	11,275	25,427

Region Construction: Proposed Ferrous Mining Expansions and New Projects

As with the impacts for the State, these projects include investment in facilities improvement and maintenance. Project totals have been aggregated by year. As noted earlier, the time line for project construction is dependent on environmental permitting and does not forecast the months or years such permitting requires for approval. Construction impacts associated with possible projects are modeled as yearly totals from 2012 to 2016.

Table 10. Ferrous Mining Construction's Value Added, Output, and Employment Impacts on the Arrowhead Region and Douglas County, Wisconsin, 2012–2016

Source: IMPLAN	*Value Added*	*Output*	*Employment*
2012	$541,798,194	$1,159,155,347	1,620
2013	$500,220,297	$1,070,201,130	2,540
2014	$100,583,985	$215,195,384	485
2015	$116,340,981	$248,906,845	1,038
2016	$73,459,178	$157,162,954	841

Region Operations: Proposed Ferrous Mining Expansions and New Projects

Following the assumptions made for the time line of projects, operations impacts assume full production for all proposed expansions and new projects to be in year 2016.

Table 11. Ferrous Mining Operation's Value Added, Output, and Employment Impacts on the Arrowhead Region and Douglas County, Wisconsin, Expansions and New Projects, 2016

Source: IMPLAN	*Direct Effect*	*Indirect Effect*	*Induced Effect*	*Total Effect*
Value Added	$1,628,764,657	$329,746,526	$379,103,915	$2,337,615,098
Output	$2,452,672,657	$495,641,041	$622,482,049	$3,570,795,747
Employment	5,029	1,611	4,487	11,127

Region Operations: All Proposed and Continuing Ferrous Mining, 2016

The table below shows the estimated impact of full operations for all proposed expansions and new projects and all continuing industry operations not considered a start-up or expansion of production capacity, for year 2016.

Table 12. Ferrous Mining Operation's Value Added, Output, and Employment Impacts on the Arrowhead Region and Douglas County, Wisconsin, 2016, All Operations

Source: IMPLAN	*Direct Effect*	*Indirect Effect*	*Induced Effect*	*Total Effect*
Value Added	$2,765,597,080	$559,900,400	$643,707,900	$3,969,205,380
Output	$4,164,569,866	$841,584,656	$1,056,957,202	$6,063,111,725
Employment	9,004	2,884	8,034	19,922

FERROUS MINING TAX IMPACTS

Ferrous Mining Tax Impacts on Minnesota and the Region

During 2011 (calendar year) Minnesota's iron mines paid $151.9 million in Production Tax, Occupation Tax, Sales and Use Tax, Income Tax, various Ad Valorem and Property Taxes and Royalties and Rentals on state minerals.

The 2010 taconite production tax of more than $79 million is payable the following year. As we note below, and in order to reconcile totals for subsequent tax impacts, readers must note that $97.3 million in Production, Sales and Use, Income and various Ad Valorem Taxes were accrued in 2010. These taxes are spread between the General Fund, local units of government and schools. Approximately $17.1 million of this was support to local school districts. (See Table 14.) A further detail on interpreting the Occupation tax is to note that the occupation tax is split according to 10% for the University of Minnesota, 40% to Elementary and Secondary Education, and 50% to the General Fund (or $6,308,500 in 2010). A further breakdown of this $79 million is found in Appendix A.

Table 13. Minnesota's Iron Mines Direct Support for the State

Source: *MN Depart. Of Revenue, MN DNR*	*2010 Taxes Payable in 2011*
Taconite Production Tax	$79,138,000
Occupation Tax	$12,617,000
Sales and Use Tax	$17,101,895
Income Tax(withholding on private royalties)	$137,943
Various Ad Valorem and Property Taxes	$902,235
Royalties and Rentals on State Iron Ore	
School Trust Lands	$25,696,263
University Trust Lands	$15,029,345
Tax Forfeit	$1,021,737
Other state accounts	$277,000
Total	**$151,921,418**

Notes for Table 13 above:

All taxes are according to the Department of Revenue's *Minnesota Mining Tax Guide, November 2011* (for 2010 taxes payable in 2011).

Royalties and rentals on state iron ore are from Department of Natural Resources Mineral receipts by Account for Calendar Year 2011. Iron ore and taconite income is 97% of the State's total mineral receipts.

Royalties (2010): $128.4 million in Royalties were paid in 2010 by iron mining industry (Royalties include state and private-owned royalties.)

Occupation taxes: Occupation taxes have increased from $10.3 million in 2007 to $12.6 million in 2010.

Production and other taxes: $97.3 million in Production, Sales and Use, Income and various Ad Valorem Taxes were paid in 2010. These taxes are spread between the General Fund, local units of government and schools. Approximately $17.1 million of this was support to local school districts.

More detail on Minnesota's Iron Mining industry's support for education is shown below. During 2011 (calendar year) Minnesota's Iron Mining industry paid $64.1 million towards Minnesota's education.

Table 14. Minnesota's Iron Mining Industry Support for Education

Source: *MN Depart. Of Revenue, MN DNR*	*School*	*University*	*Total Education*
School district component of Production Tax	$17,094,176		$17,094,176
State iron ore royalties and rent	$25,696,263	$15,029,345	$40,725,608
Occupation Tax	$5,046,800	$1,261,700	$6,308,500
Totals	**$47,837,239**	**$16,291,045**	**$64,128,284**

Notes for Table 14 above:

School district component of Production Tax is according to the Department of Revenue's *Minnesota Mining Tax Guide, November 2011* (for 2010 taxes payable in 2011).

School Trust and University royalties are from Department of Natural Resources Mineral receipts by Account for Calendar Year 2011. Iron ore and taconite income is 97% of the State's total mineral receipts.

Notes (cont.):

Occupation Tax is according to the Department of Revenue's *Minnesota Mining Tax Guide, November 2011*. Total tax is $12,617,000 of which 40% went to elementary and secondary education and 10% went to the University of Minnesota.

Ad Valorem and property tax according to the Department of Revenue's *Minnesota Mining Tax Guide, November 2011*, totaled $902,235, which benefited cities and townships, school districts, counties, and Indian Affairs Council.

The following table, taken from the Department of Natural Resources Mineral Receipts by Account Calendar Years 2010 and 2011, shows royalties and rental receipts to the State as distributed for ferrous mining. Royalties and rental receipts are payments by the mining companies to use the State's non-renewable mineral resources.

Table 15. Minnesota Ferrous Mineral Royalties and Rentals Receipts, 2010 and 2011

Source: *MN DNR, BBER*

Account	***2010 Iron-Ore Taconite***	***2011 Iron-Ore Taconite***
School Trust Fund	$10,487,000	$21,448,000
School Trust Fund (Minerals Mgmt)	$2,071,993	$4,248,263
University Trust Fund	$2,270,000	$12,526,000
University Trust Fund (Minerals Mgmt)	$451,195	$2,503,345
Tax Forfeit	$729,000	$859,000
Tax Forfeit (Minerals Mgmt)	$136,194	$162,737
Advanced Royalty Account	$389,000	$389,000
Totals	**$16,534,382**	**$42,136,345**

Ferrous Mining Development Scenarios

The BBER considered the possibility that only some of the proposed projects will progress to full operations status. The following table presents impact results assuming 75% of Value Added, 75% of Output, and 75% of Employment is achieved by year 2016. The table also shows values for assuming 50% of projects are achieved and for the baseline operations in 2010 (for comparison).

Also, given the variety of projects and the sensitivity of detail surrounding the commercial ventures being proposed, speculation about which projects are most likely to become operational requires treating the subject of ferrous mining development as an aggregated industry of many firms. The

following tables present impact results for percentage success rates for expansion and startup projects. Possible 75% and 50% impacts are shown in relation to the baseline data and full implementation scenarios. This calculation is based on decreasing the total hypothetical impacts of value added, output, and employment by 25% and 50%.

75% or 50% Impact: Possible Ferrous Mining Projects Completed, Minnesota and the Region

Table 16. Ferrous Mining Impact on Minnesota: 75% and 50% Impact of Completion of All Proposed Expansions and New Projects

Source: IMPLAN	*Value Added*	*Output*	*Employment*
100%	$2,752,556,981	$4,331,012,431	14,201
75%	$2,064,417,736	$3,248,259,323	10,651
50%	$1,376,278,491	$2,165,506,216	7,101

Table 17. Ferrous Mining Impact on the Arrowhead Region and Douglas County, Wisconsin: 75% and 50% Impact of Completion of All Proposed Expansions and New Projects

Source: IMPLAN	*Value Added*	*Output*	*Employment*
100%	$2,337,615,098	$3,570,795,747	11,127
75%	$1,753,211,324	$2,678,096,810	8,345
50%	$1,168,807,549	$1,785,397,874	5,564

IV. Findings: Non-Ferrous Mining Impacts

In this section, the BBER reports the direct, indirect, and induced economic impacts of construction and operations activities of non-ferrous mining in Northeast Minnesota, measured in employment, output, and value added. Impacts are modeled for both the State of Minnesota, and the immediate region, including the counties of the Arrowhead Region and Douglas County, Wisconsin.

To provide a baseline reference, the BBER modeled the impact on the State's economy that might be felt if non-ferrous mining and all its transactions had been removed from the State of Minnesota. The BBER uses IMPLAN's most recent data, which is for year 2010, for this impact model. This provides insight to the contribution of the non-ferrous mining industry to the State's economy.

Next, using employment and output projections from the mining industry, as well as assistance from representatives of the State, the BBER modeled the economic impact of proposed new projects in the non-ferrous mining industry sector. A special sub-section of the findings covers the results of modeling non-ferrous mining tax impacts.

Finally, the BBER considered the possibility that not all projects will be viable and will progress to full operations status. Therefore, impacts for two development scenarios are presented to show impact results if only half or only three quarters of projects currently proposed succeed. The 75% and 50% impacts are shown in relation to the baseline data and full implementation scenarios.

Non-Ferrous Mining's Contribution to the State's Economy

IMPLAN provides a model of the economy of the State of Minnesota, including non-ferrous mining (identified as sector 23 copper, nickel, lead, and zinc mining), as presented in the section "Industry Definitions," above. The values in the tables below are estimated from sources associated with the IMPLAN model and also identified above.

In the tables below, the Value Added total measure shows that copper, nickel, lead, and zinc mining contributed more than $157 million in wages, rents, and profits to Minnesota's economy. The Value Added total represents the direct value of the wages, etc., plus the additional inter-industry spending that resulted from these wages, plus any additional household spending that resulted from the direct wages and inter-industry spending.

The Output total measure shows that copper, nickel, lead, and zinc mining produced more than $210 million in local production as part of Minnesota's economy. The Output total represents the direct value of local production, plus the additional inter-industry transactions that resulted from local production, plus any additional household spending that resulted from inter-industry production.

The Employment measure shows that copper, nickel, lead, and zinc mining directly employed almost 200 employees (jobs—including temporary, part-time or short-term) in Minnesota. The Employment total of more than 500 jobs represents the direct employment in the industry sector, plus other jobs dependent on, but not part of, the copper, nickel, lead, and zinc mining sector, plus any jobs created by the additional household spending and activity linked to direct and indirect jobs in the copper, nickel, lead, and zinc mining industry.

The IMPLAN input-output model also provides an opportunity to calculate a multiplier value associated with each of these measures. For example, the employment multiplier for copper, nickel, lead, and zinc mining in the State of Minnesota of 3.1 indicates that for every job in the copper, nickel, lead, and zinc mining industry, another 2.1 jobs are created as the indirect and induced effect of the mining industry's job. In the same way, the model estimates that for every dollar of wages, rents, interest and profits paid to non-ferrous mining employees and companies, another $0.41 is generated through indirect and induced effects throughout the economy of the State.

The impact of mining employment and the payroll associated with these jobs may be the most obvious impact; however the Output measure also shows contribution to the region and to the State through production taxes, royalties, and fees on the exported ore.

Although the total economic impacts for the State are almost always greater than the impacts for the Arrowhead Region and Douglas County, Wisconsin, the importance of mining sector to the region's economy is proportionately greater.

The following tables show the (current operations as of 2010) impact of non-ferrous mining on the State of Minnesota and the region, in 2012 dollars.

Table 18. Minnesota Non-Ferrous Mining Economic Impacts, Baseline 2010

Source: IMPLAN	*Direct Effect*	*Indirect Effect*	*Induced Effect*	*Total Effect*
Value Added	$111,689,936	$20,769,592	$24,596,460	$157,055,988
Output	$136,398,301	$33,685,684	$40,004,310	$210,088,295
Employment	175	144	232	551

Note direct effects for Value Added, Output, and Employment results in different totals for the State and the region. The regional economy does not enjoy the same level of added indirect and induced effects. This implies, for instance, that copper, nickel, lead, and zinc mining creates about 50 more jobs in the Metro and other parts of the State than the Arrowhead region and Douglas County.

Table 19. Arrowhead and Douglas County, Wisconsin, Non-Ferrous Mining Economic Impacts, Baseline 2010

Source: IMPLAN	*Direct Effect*	*Indirect Effect*	*Induced Effect*	*Total Effect*
Value Added	$119,445,069	$11,918,069	$23,612,982	$154,976,119
Output	$136,398,301	$19,637,121	$38,794,919	$194,830,341
Employment	175	127	205	507

The top twenty-five Minnesota indirect and induced jobs dependent on copper, nickel, lead, and zinc mining come from the following supporting industries:

Table 20. Non-Ferrous Mining Employment Impacts in Minnesota, Top Twenty-Five Detail, Baseline 2010

Source: IMPLAN

Description	*Direct*	*Indirect*	*Induced*	*Total*
Mining copper, nickel, lead, and zinc	175	0	0	175
Custom computer programming services	0	58	0	58
Food services and drinking places	0	3	24	27
Real estate establishments	0	5	11	16
Private hospitals	0	0	12	12
Offices of physicians, dentists, and other health practitioners	0	0	10	10
Employment services	0	6	4	10
Architectural, engineering, and related services	0	9	1	10
Nursing and residential care facilities	0	0	9	9
Securities, commodity contracts, investments, and related activities	0	3	6	9
Nondepository credit intermediation and related activities	0	2	6	8
Retail Stores - General merchandise	0	0	8	8
Wholesale trade businesses	0	1	7	8
Support activities for other mining	0	8	0	8
Retail Stores - Food and beverage	0	0	7	7
Electric power generation, transmission, and distribution	0	6	1	7
Management of companies and enterprises	0	6	1	7
Civic, social, professional, and similar organizations	0	3	5	8
Monetary authorities and depository credit intermediation activities	0	2	3	5
Services to buildings and dwellings	0	3	3	6
Computer systems design services	0	5	1	6
Individual and family services	0	0	5	5
Retail Nonstores - Direct and electronic sales	0	0	5	5
Legal services	0	3	3	6
Retail Stores - Motor vehicle and parts	0	0	5	5
Total From Top 25	**175**	**123**	**137**	**435**
As well as an additional 116 jobs in various other sectors of the economy	0	21	95	116
Grand Total	**175**	**144**	**232**	**551**

Jobs created as the impact of taxes are included in the model's calculations.

The Economic Impacts of Non-Ferrous Mining Proposed Projects

The BBER modeled the economic impact of proposed expansions and projects in the non-ferrous mining industry sector. Findings from individual projects are aggregated in the tables below and present an estimation of the impact of all currently proposed new start-up projects. The BBER relied on industry representatives and State of Minnesota representatives for its inventory of possible projects. The timeline in Figure 5 shows the BBER's rationale for choosing the year 2016, as the first possible full operations year in which all projects might be operational.

The BBER also modeled the economic impact of the total sector activity, which combines the proposed new projects with the on-going industry in the State. Tables described as "all operations" present the impacts of copper, nickel, lead, and zinc mining in year 2016 as if all new projects were at full operations and are added to the continuing impact of current (2010) copper, nickel, lead, and zinc mining operations.

Minnesota Construction: Proposed Non-Ferrous Mining Projects

Project totals have been aggregated by year. As noted earlier, the time line for project construction is dependent on environmental permitting and the months or years such permitting requires for approval. Construction impacts associated with possible projects are modeled as yearly totals from 2012 to 2016.

Table 21. Non-Ferrous Mining Construction's Value Added, Output, and Employment Impacts on the State of Minnesota 2012–2016, New Projects, Aggregated

Source: IMPLAN	*Value Added*	*Output*	*Employment*
2012	—	—	—
2013	—	—	—
2014	$157,541,469	$307,592,556	1,020
2015	$157,541,469	$307,592,556	1,020
2016	$560,181,099	$1,093,728,114	2,170

Minnesota Operations: Proposed Non-Ferrous Mining Projects

Following the assumptions made for the time line of projects, operations impacts assume full production for all proposed expansions and new projects to be in year 2016.

Table 22. Non-Ferrous Mining Operation's Value Added, Output, and Employment Impacts on the State of Minnesota, New Projects, 2016

Source: IMPLAN	*Direct Effect*	*Indirect Effect*	*Induced Effect*	*Total Effect*
Value Added	$115,785,590	$21,531,208	$25,498,408	$162,815,205
Output	$141,400,005	$34,920,930	$41,471,260	$217,792,195
Employment	427	352	566	1,345

Minnesota Operations: All Proposed and Continuing Non-Ferrous Mining, 2016

The table below shows the estimated impact of full operations for all proposed new projects and all continuing industry operations for year 2016.

Table 23. Non-Ferrous Mining Operation's Value Added, Output, and Employment Impacts on the State of Minnesota, 2016, All Operations

Source: IMPLAN	*Direct Effect*	*Indirect Effect*	*Induced Effect*	*Total Effect*
Value Added	$227,475,526	$42,300,800	$50,094,868	$319,871,193
Output	$277,798,306	$68,606,614	$81,475,570	$427,880,490
Employment	602	496	798	1,896

Region Construction: Proposed Non-Ferrous Mining Projects

As with the impacts for the State, project totals have been aggregated by year. As noted earlier, the time line for project construction is dependent on environmental permitting and does not forecast the months or years such permitting requires for approval. Construction impacts associated with possible projects are modeled as yearly totals from 2012 to 2016.

Table 24. Non-Ferrous Mining Construction's Value Added, Output, and Employment Impacts on the Arrowhead Region and Douglas County, Wisconsin, New Projects, Aggregated, 2012–2016

Source: IMPLAN	*Value Added*	*Output*	*Employment*
2012	—	—	—
2013	—	—	—
2014	$114,596,328	$245,174,222	841
2015	$114,596,324	$245,174,222	841
2016	$407,478,088	$871,782,948	1,790

Region Operations: Proposed Non-Ferrous Mining Projects

Following the assumptions made for the time line of projects, operations impacts assume full production for all new projects to be in year 2016.

Table 25. Non-Ferrous Mining Operation's Value Added, Output, and Employment Impacts on the Arrowhead Region and Douglas County, Wisconsin, New Projects, 2016

Source: IMPLAN	*Direct Effect*	*Indirect Effect*	*Induced Effect*	*Total Effect*
Value Added	$123,825,096	$12,355,096	$24,478,866	$160,659,059
Output	$141,400,005	$20,357,204	$40,217,523	$201,974,731
Employment	427	310	498	1,235

Region Operations: All Proposed and Continuing Non-Ferrous Mining, 2016

The table below shows the estimated impact of full operations for all proposed new projects and all continuing industry operations, for year 2016.

Table 26. Non-Ferrous Mining Operation's Value Added, Output, and Employment Impacts on the Arrowhead Region and Douglas County, Wisconsin, 2016, All Operations

Source: IMPLAN	*Direct Effect*	*Indirect Effect*	*Induced Effect*	*Total Effect*
Value Added	$243,270,165	$24,273,165	$48,091,848	$315,635,178
Output	$277,798,306	$39,994,325	$79,012,442	$396,805,072
Employment	602	437	703	1,742

NON-FERROUS TAX IMPACTS

Non-Ferrous Mining Tax Impacts on Minnesota and the Region

In order to estimate non-ferrous tax impacts on Minnesota, the BBER followed the Minnesota DNR's Mineral Receipts by Account for 2010 and 2011. Compared to ferrous mining, non-ferrous mining contributes much less to the State. As displayed in the following table, (again, according to the Department of Natural Resources Mineral Receipts by Account Calendar Year 2010 and 2011) the non-ferrous sector contributed $1,064,871 in 2010 and increased to $1,160,430 in 2011.

Table 27. Minnesota Non-Ferrous Mineral Royalties and Rentals Receipts, 2010 and 2011

Source: *MN DNR, BBER*

Account	*2010 Non-Ferrous Metallic Minerals*	*2011 Non-Ferrous Metallic Minerals*
School Trust Fund	$290,069	$329,353
School Trust Fund (Minerals Mgmt)	$58,014	$65,871
Tax Forfeit	$384,416	$424,535
Tax Forfeit (Minerals Mgmt)	$76,883	$84,907
Consolidated Conservation	$151,203	$112,745
Consolidated Conservation (Minerals Mgmt)	$30,241	$22,549
Volstead Lands	$2,800	$3,400
Volstead Lands (Mineral Mgmt)	$560	$680
Other Land Classes	$61,121	$98,492
Other Land Classes (Mineral Mgmt)	$9,564	$17,898
Totals	**$1,064,871**	**$1,160,430**

Non-ferrous Development Scenarios

The BBER considered the possibility that only some of the proposed projects will progress to full operations status. The following table presents impact results assuming 75% of Value Added, 75% of Output, and 75% of Employment is achieved by year 2016. The table also shows values for assuming 50% of projects are achieved and for the baseline operations in 2010 (for comparison).

Also, given the variety of projects and the sensitivity of detail surrounding the commercial ventures being proposed, speculation about which projects are most likely to become operational requires treating the subject of non-ferrous mining development as an aggregated industry of many firms. The following tables present impact results for percentage success rates for expansion and startup projects. Possible 75% and 50% impacts are shown in relation to baseline data and full implementation scenarios.

75% and 50% Impact: Possible Non-Ferrous Mining Projects Completed, Minnesota and Region

Table 28. Non-Ferrous Mining Impact on Minnesota: 75% and 50% Impact of Completion of All Proposed Expansions and New Projects

Source: IMPLAN	*Value Added*	*Output*	*Employment*
100%	$162,815,205	$217,792,195	1,345
75%	$122,111,404	$163,344,146	1,009
50%	$81,407,603	$108,896,098	673

Table 29. Non-ferrous Mining Impact on the Arrowhead Region and Douglas County, Wisconsin: 75% and 50% Impact of Completion of All Proposed Expansions and New Projects

Source: IMPLAN	*Value Added*	*Output*	*Employment*
100%	$160,659,059	$201,974,731	1,235
75%	$120,494,294	$151,481,048	926
50%	$80,329,530	$100,987,366	618

V. Findings: Ferrous and Non-Ferrous Mining Impacts

In this section, the BBER reports the direct, indirect, and induced economic impacts of construction and operations activities of both ferrous and non-ferrous mining in Northeast Minnesota, measured in employment, output, and value added. Impacts are modeled for both the State of Minnesota, and the immediate region, including the counties of the Arrowhead Region and Douglas County, Wisconsin.

To provide a baseline reference, the BBER modeled the impact on the State's economy that might be felt if ferrous and non-ferrous mining and all their transactions had been removed completely from the State of Minnesota. This provides insight on the contribution of the ferrous and non-ferrous mining industry to the State's economy. The BBER uses IMPLAN's most recent data, which is for year 2010, for this impact model.

Next, using employment and output projections from the mining industry, as well as assistance from representatives of the State, the BBER modeled the economic impact of proposed expansions and new projects in the ferrous and non-ferrous mining industry sectors. A special sub-section of the findings covers the results of modeling ferrous mining tax impacts.

Finally, the BBER considered the possibility that not all projects will be viable and will progress to full operations status. Therefore, impacts for two development scenarios are presented, to show impact results if only half or only three quarters of projects currently proposed succeed. The 75% and 50% impacts are shown in relation to the baseline data and full implementation scenarios.

Contribution to the State's Economy

IMPLAN provides a model of the economy of the State of Minnesota, including ferrous mining (identified as sector 22 Iron ore mining) and non-ferrous mining (identified as sector 23 copper, nickel, lead, and zinc mining), as presented in the section "Industry Definitions," above. The values in the tables below are estimated from sources associated with the IMPLAN model and also identified above.

In the tables below, the Value Added total measure shows that ferrous and non-ferrous mining contributed almost $2.1 billion in wages, rents, and profits to Minnesota's economy. The Value Added total represents the direct value of the wages, etc., plus the additional inter-industry spending that resulted from these wages, plus any additional household spending that resulted from the direct wages and inter-industry spending.

The Output total measure shows that ferrous and non-ferrous mining produced more than $3.2 billion in local production as part of Minnesota's economy. The Output total represents the direct value of local production, plus the additional inter-industry transactions that resulted from local production, plus any additional household spending that resulted from inter-industry production.

The Employment measure shows that ferrous and non-ferrous mining directly employed more than 4,100 employees (jobs—including temporary, part-time or short-term) in Minnesota. The Employment total of over 11,700 jobs represents the direct employment in the industry sector, plus other jobs dependent on, but not part of, the ferrous and non-ferrous sectors, plus any jobs created by the additional household spending and activity linked to direct and indirect jobs in the Iron ore mining, and copper, nickel, lead, and zinc mining industries.

The IMPLAN input-output model also provides an opportunity to calculate a multiplier value associated with each of these measures. For example, the employment multiplier for ferrous and non-ferrous mining in the State of Minnesota of almost 2.8 indicates that for every job in the ferrous and non-ferrous mining industries, another 1.8 jobs are created as the indirect and induced effect of the mining industries' job. In the same way, the model estimates that for every dollar of wages, rents, interest, and profits paid to mining employees and companies, another $0.66 is generated through indirect and induced effects throughout the economy of the State.

The impact of mining employment and the payroll associated with these jobs may be the most obvious impact; however the Output measure also shows contribution to the region and to the State through production taxes, royalties, and fees on the exported ore and production activity.

Although the total economic impacts for the State are almost always greater than the impacts for the Arrowhead Region and Douglas County, Wisconsin, the importance of the mining sector to the region's economy is proportionately greater.

The following tables show the baseline impact (current operations as of 2010) of ferrous and non-ferrous mining on the State of Minnesota and the region, in 2012 dollars.

Table 30. Minnesota Ferrous and Non-Ferrous Mining Economic Impacts, Baseline 2010

Source: IMPLAN	*Direct Effect*	*Indirect Effect*	*Induced Effect*	*Total Effect*
Value Added	$1,248,522,359	$369,806,013	$459,935,692	$2,078,264,064
Output	$1,848,295,510	$636,625,773	$748,092,928	$3,233,014,212
Employment	4,150	2,417	5,210	11,777

Note direct effects for Value Added, Output, and Employment results in different totals for the State and the region. The regional economy does not enjoy the same level of added indirect and induced effects. This implies, for instance, that ferrous and non-ferrous mining creates about 2,400 more jobs in the Metro and other parts of the State than the Arrowhead region and Douglas County, Wisconsin.

Table 31. Arrowhead and Douglas County, Wisconsin, Ferrous and Non-Ferrous Mining Economic Impacts, Baseline 2010

Source: IMPLAN	*Direct Effect*	*Indirect Effect*	*Induced Effect*	*Total Effect*
Value Added	$1,256,277,492	$242,071,943	$288,216,967	$1,786,566,401
Output	$1,848,295,510	$365,580,736	$473,270,072	$2,687,146,319
Employment	4,150	1,400	3,752	9,302

The Economic Impacts of Proposed Projects

The BBER modeled the economic impact of proposed expansions and projects in the ferrous and non-ferrous mining industry sector. Findings from individual projects are aggregated in the tables below, and present an estimation of the impact of all currently proposed ferrous and non-ferrous mining expansions and new start-up projects. The BBER relied on industry representatives and State of Minnesota representatives for its inventory of possible projects. The time line in Figure 5 shows the BBER's rationale for choosing the year 2016 as the first possible full operations year in which all projects might be operational.

The BBER also modeled the economic impact of the total combined sectors' activity, which combines the proposed expansions and new projects with the on-going industries in the State. Tables described as "all operations" present the impacts of ferrous and non-ferrous mining in year 2016, as if all proposed expansions and new projects were at full operations and are added to the continuing impact of current (2010) mining operations.

Minnesota Construction: Expansions and Proposed Ferrous and New Non-Ferrous Mining Projects

These projects include investment in facilities improvement and maintenance. The project totals have been aggregated by year. As noted earlier, the time line for project construction is dependent on environmental permitting and the months or years such permitting requires to gain approval. Construction impacts associated with possible projects are modeled as yearly totals from 2012 to 2016.

Table 32. Ferrous and Non-ferrous Mining Construction's Value Added, Output, and Employment Impacts on the State of Minnesota 2012–2016 (Aggregated, all projects)

Source: IMPLAN	*Value Added*	*Output*	*Employment*
2012	$744,837,822	$1,454,261,964	1,964
2013	$687,678,567	$1,342,661,101	3,079
2014	$295,819,462	$577,574,043	1,607
2015	$317,513,694	$619,921,719	2,278
2016	$661,169,218	$1,290,902,822	3,190

Minnesota Operations: Expansions and Proposed Ferrous and Non-Ferrous Mining Projects

Following the assumptions made for the time line of projects, operations impacts assume full production for all proposed expansions and new projects to be in year 2016.

Table 33. Ferrous and Non-ferrous Mining Expansions and New Projects Operation's Value Added, Output, and Employment Impacts on the State of Minnesota, 2016

Source: IMPLAN	*Direct Effect*	*Indirect Effect*	*Induced Effect*	*Total Effect*
Value Added	$1,744,550,247	$521,603,368	$649,218,572	$2,915,372,186
Output	$2,594,072,662	$898,766,452	$1,055,965,512	$4,548,804,627
Employment	5,456	3,227	6,863	15,546

Minnesota Operations: All Ferrous and Non-Ferrous Mining Operations

The table below shows the estimated impact of full operations for all proposed expansions and new projects and all continuing industry operations for year 2016.

Table 34. Minnesota Ferrous and Non-ferrous Mining Economic Impacts: Expansions, Startups, and All Other Operations, Aggregated, 2016

Source: IMPLAN	*Direct Effect*	*Indirect Effect*	*Induced Effect*	*Total Effect*
Value Added	$2,993,072,606	$891,409,381	$1,109,154,264	$4,993,636,250
Output	$4,442,368,172	$1,535,392,225	$1,804,058,440	$7,781,818,839
Employment	9,606	5,644	12,073	27,323

Region Construction: Expansions and Proposed Ferrous and Non-Ferrous Mining Projects

As with the impacts for the State, these projects include investment in facilities improvement and maintenance. Project totals have been aggregated by year. As noted earlier, the time line for project construction is dependent on environmental permitting and does not forecast the months or years such permitting requires for approval. Construction impacts associated with possible projects are modeled as yearly totals from 2012 to 2016.

Table 35. Ferrous and Non-ferrous Mining Construction's Value Added, Output, and Employment Impacts on the Arrowhead and Douglas County, Wisconsin, 2012–2016 (Aggregated, all projects)

Source: IMPLAN	*Value Added*	*Output*	*Employment*
2012	$541,798,194	$1,159,155,347	1,620
2013	$500,220,297	$1,070,201,130	2,540
2014	$215,180,313	$460,369,606	1,326
2015	$230,937,305	$494,081,067	1,879
2016	$480,937,266	$1,028,945,902	2,631

Region Operations: Ferrous and Non-Ferrous Expansions and Proposed Projects

Following the assumptions made for the time line of projects, operations impacts assume full production for all proposed expansions and new projects to be in year 2016.

Table 36. Ferrous and Non-Ferrous Mining Expansions and New Projects Operation's Value Added, Output, and Employment Impacts on the Arrowhead and Douglas County, Wisconsin, 2016

Source: IMPLAN	*Direct Effect*	*Indirect Effect*	*Induced Effect*	*Total Effect*
Value Added	$1,752,589,753	$342,101,622	$403,582,781	$2,498,274,157
Output	$2,594,072,662	$515,998,245	$662,699,572	$3,772,770,478
Employment	5,456	1,921	4,985	12,362

Region Operations: All Ferrous and Non-Ferrous Mining Operations

The table below shows the estimated impact of full operations for all proposed expansions and new projects and all continuing industry operations for year 2016.

Table 37. Arrowhead and Douglas County, Wisconsin, Ferrous and Non-Ferrous Mining Economic Impacts: Expansions, Startups, and All Other Operations, Aggregated, 2016

Source: IMPLAN	*Direct Effect*	*Indirect Effect*	*Induced Effect*	*Total Effect*
Value Added	$3,008,867,245	$584,173,565	$691,799,748	$4,284,840,558
Output	$4,442,368,172	$881,578,981	$1,135,969,644	$6,459,916,797
Employment	9,606	3,321	8,737	21,664

Ferrous and Non-Ferrous Tax impacts

As with the ferrous and the non-ferrous tax impact discussions above, the following tables, taken from the Department of Natural Resources Mineral Receipts by Account Calendar Years 2010 and 2011, show how tax receipts to the State are distributed for both ferrous and non-ferrous mining.

Table 38. Minnesota Ferrous and Non-Ferrous Royalties and Rentals Receipts, 2010 and 2011

Source: *MN DNR, BBER*

Account	*Ferrous Iron-Ore Taconite*	*Non-Ferrous Metallic Minerals*
	2010	
School Trust Fund	$10,487,000	$290,069
School Trust Fund (Minerals Mgmt)	$2,071,993	$58,014
University Trust Fund	$2,270,000	
University Trust Fund (Minerals Mgmt)	$451,195	
Tax Forfeit	$729,000	$384,416
Tax Forfeit (Minerals Mgmt)	$136,194	$76,883
Consolidated Conservation		$151,203
Consolidated Conservation (Minerals Mgmt)		$30,241
Volstead Lands		$2,800
Volstead Lands (Mineral Mgmt)		$560
Other Land Classes		$61,121
Other Land Classes (Mineral Mgmt)		$9,564
Advanced Royalty Account	$389,000	
Totals	**$16,534,382**	**$1,064,871**
	2011	
School Trust Fund	$21,448,000	$329,353
School Trust Fund (Minerals Mgmt)	$4,248,263	$65,871
University Trust Fund	$12,526,000	
University Trust Fund (Minerals Mgmt)	$2,503,345	
Tax Forfeit	$859,000	$424,535
Tax Forfeit (Minerals Mgmt)	$162,737	$84,907
Consolidated Conservation		$112,745
Consolidated Conservation (Minerals Mgmt)		$22,549
Volstead Lands		$3,400
Volstead Lands (Mineral Mgmt)		$680
Other Land Classes		$98,492
Other Land Classes (Mineral Mgmt)		$17,898
Advanced Royalty Account	$389,000	
Totals	**$42,136,345**	**$1,160,430**

Readers are referred to the Appendix A of this report for more on ferrous and non-ferrous tax information. The BBER offers in this appendix sources for ferrous and non-ferrous tax values, more detail on tax impacts and Minnesota's School Trust Lands and Permanent University Funds (PUF), and impact modeling using IMPLAN to estimate Federal, and State and Local taxes. This appendix also shows IMPLAN tax impact comparisons for ferrous and non-ferrous mining in Minnesota and the Arrowhead Region and Douglas County, Wisconsin.

Ferrous and Non-Ferrous Development Scenarios

The BBER considered the possibility that only some of the proposed projects will progress to full operations status. The following table presents impact results assuming 75% of Value Added, 75% of Output, and 75% of Employment is achieved by year 2016. The table also shows values for assuming 50% of projects are achieved.

Also, given the variety of projects and the sensitivity of detail surrounding the commercial ventures being proposed, speculation about which projects are most likely to become operational requires treating the subject of ferrous and non-ferrous mining development as aggregated industries of many firms. The following tables present impact results for percentage success rates for the expansion and startup projects.

75% and 50% Impact: Possible Ferrous and Non-Ferrous Mining Projects Completed, Minnesota and Region

Table 39. Ferrous and Non-Ferrous Mining Impact on Minnesota: 75% and 50% Impact of Completion of All Proposed Expansions and New Projects

Source: IMPLAN	*Value Added*	*Output*	*Employment*
100%	$2,915,372,186	$4,548,804,627	15,546
75%	$2,186,529,140	$3,411,603,470	11,660
50%	$1,457,686,093	$2,274,402,314	7,773

Table 40. Ferrous and Non-Ferrous Mining Impact on the Arrowhead Region and Douglas County, Wisconsin, 75% and 50% Impact of Completion of All Proposed Expansions and New Projects

Source: IMPLAN	*Value Added*	*Output*	*Employment*
100%	$2,498,274,157	$3,772,770,478	12,362
75%	$1,873,705,618	$2,829,577,859	9,272
50%	$1,249,137,079	$1,886,385,239	6,181

VII. Conclusions

In the summary tables below, the sector totals increase as the impact moves from the base year (numbers 1 and 2) through the impact of addition of expansions and new projects (numbers 3 through 6), to the hypothetical total (number 7) with includes all impacts.

The IMPLAN model's employment multiplier value associated with impact number 7 below is 2.8. This multiplier estimates that for this grand total impact, for every job in the mining industry, another 1.8 jobs are created as the indirect and induced effect of the mining industry's job. In the same way, for this impact, the model estimates that for every dollar of wages, rents, interest and profits, another $0.67 is generated through indirect and induced effects throughout the economy of the State.

Table 41. Summaries: Ferrous and Non-ferrous Operations Impacts on Minnesota, Baseline 2010, and Proposed Expansions and New Projects, in 2012 Dollars

Source: IMPLAN

			Direct Effect	*Indirect Effect*	*Induced Effect*	*Total Effect*
1)	**2010 Ferrous (Baseline)**	***Value Added***	$1,136,832,423	$349,036,421	$435,339,232	$1,921,208,076
		Output	$1,711,897,209	$602,940,089	$708,088,618	$3,022,925,917
		Employment	3,975	2,273	4,978	11,226
2)	**2010 Non-Ferrous (Baseline)**	***Value Added***	$111,689,936	$20,769,592	$24,596,460	$157,055,988
		Output	$136,398,301	$33,685,684	$40,004,310	$210,088,295
		Employment	175	144	232	551
3)	**Ferrous Expansions and New Projects**	***Value Added***	$1,628,764,657	$500,072,160	$623,720,164	$2,752,556,981
		Output	$2,452,672,657	$863,845,522	$1,014,494,252	$4,331,012,432
		Employment	5,029	2,875	6,297	14,201
4)	**Non-Ferrous New Projects**	***Value Added***	$115,785,590	$21,531,208	$25,498,408	$162,815,205
		Output	$141,400,005	$34,920,930	$41,471,260	$217,792,195
		Employment	427	352	566	1,345
5)	**Total Ferrous (Expansions, New Projects, and 2010 Baseline Operations)**	***Value Added***	$2,765,597,080	$849,108,581	$1,059,059,396	$4,673,765,057
		Output	$4,164,569,866	$1,466,785,611	$1,722,582,870	$7,353,938,349
		Employment	9,004	5,148	11,275	25,427
6)	**Total Non-Ferrous (New Projects and 2010 Baseline Operations)**	***Value Added***	$227,475,526	$42,300,800	$50,094,868	$319,871,193
		Output	$277,798,306	$68,606,614	$81,475,570	$427,880,490
		Employment	602	496	798	1,896
7)	**Total Ferrous and Non-Ferrous (Expansions, New Projects, and 2010 Baseline Operations)**	***Value Added***	$2,993,072,606	$891,409,381	$1,109,154,264	$4,993,636,250
		Output	$4,442,368,172	$1,535,392,225	$1,804,058,440	$7,781,818,839
		Employment	9,606	5,644	12,073	27,323

For the Arrowhead Region and Douglas County, Wisconsin, the IMPLAN input-output model's employment multiplier, for this grand total impact, is 2.3. This multiplier estimates that for every job in the ferrous and non-ferrous mining industries, another 1.3 jobs are created as the indirect and induced effect of the mining industry's job.

In the same way, for this impact, the model estimates that for every dollar of wages, rents, interest, and profits, another $0.42 is generated through indirect and induced effects throughout the economy of the Region.

Table 42. Summaries: Ferrous and Non-ferrous Operations Impacts on the Arrowhead Region and Douglas County, Wisconsin, Baseline 2010, and Proposed Expansions and New Projects, in 2012 Dollars

Source: IMPLAN

			Direct Effect	*Indirect Effect*	*Induced Effect*	*Total Effect*
1)	**2010 Ferrous (Baseline)**	***Value Added***	$1,136,832,423	$230,153,874	$264,603,985	$1,631,590,282
		Output	$1,711,897,209	$345,943,615	$434,475,153	$2,492,315,978
		Employment	3,975	1,273	3,547	8,795
2)	**2010 Non-Ferrous (Baseline)**	***Value Added***	$119,445,069	$11,918,069	$23,612,982	$154,976,119
		Output	$136,398,301	$19,637,121	$38,794,919	$194,830,341
		Employment	175	127	205	507
3)	**Ferrous Expansions and New Projects**	***Value Added***	$1,628,764,657	$329,746,526	$379,103,915	$2,337,615,098
		Output	$2,452,672,657	$495,641,041	$622,482,049	$3,570,795,747
		Employment	5,029	1,611	4,487	11,127
4)	**Non-Ferrous New Projects**	***Value Added***	$123,825,096	$12,355,096	$24,478,866	$160,659,059
		Output	$141,400,005	$20,357,204	$40,217,523	$201,974,731
		Employment	427	310	498	1,235
5)	**Total Ferrous (Expansions, New Projects, and 2010 Baseline Operations)**	***Value Added***	$2,765,597,080	$559,900,400	$643,707,900	$3,969,205,380
		Output	$4,164,569,866	$841,584,656	$1,056,957,202	$6,063,111,725
		Employment	9,004	2,884	8,034	19,922
6)	**Total Non-Ferrous (New Projects and 2010 Baseline Operations)**	***Value Added***	$243,270,165	$24,273,165	$48,091,848	$315,635,178
		Output	$277,798,306	$39,994,325	$79,012,442	$396,805,072
		Employment	602	437	703	1,742
7)	**Total Ferrous and Non-Ferrous (Expansions, New Projects, and 2010 Baseline Operations)**	***Value Added***	$3,008,867,245	$584,173,565	$691,799,748	$4,284,840,558
		Output	$4,442,368,172	$881,578,981	$1,135,969,644	$6,459,916,797
		Employment	9,606	3,321	9,122	22,049

Although the total economic impacts for the State are almost always greater than the impacts for the Arrowhead Region and Douglas County, Wisconsin, the importance of mining sector to the region's economy is proportionately greater.

The following graphic representations show comparisons between the 2010 baseline impacts and the hypothetical full operations with additional expansions and new projects. They compare the Value Added, Output, and Employment impacts of Minnesota versus the Arrowhead Region and Douglas County, Wisconsin.

Figure 6. Total Economic Impact of Ferrous and Non-ferrous Mining Payrolls (Value Added) In 2012 Millions of Dollars

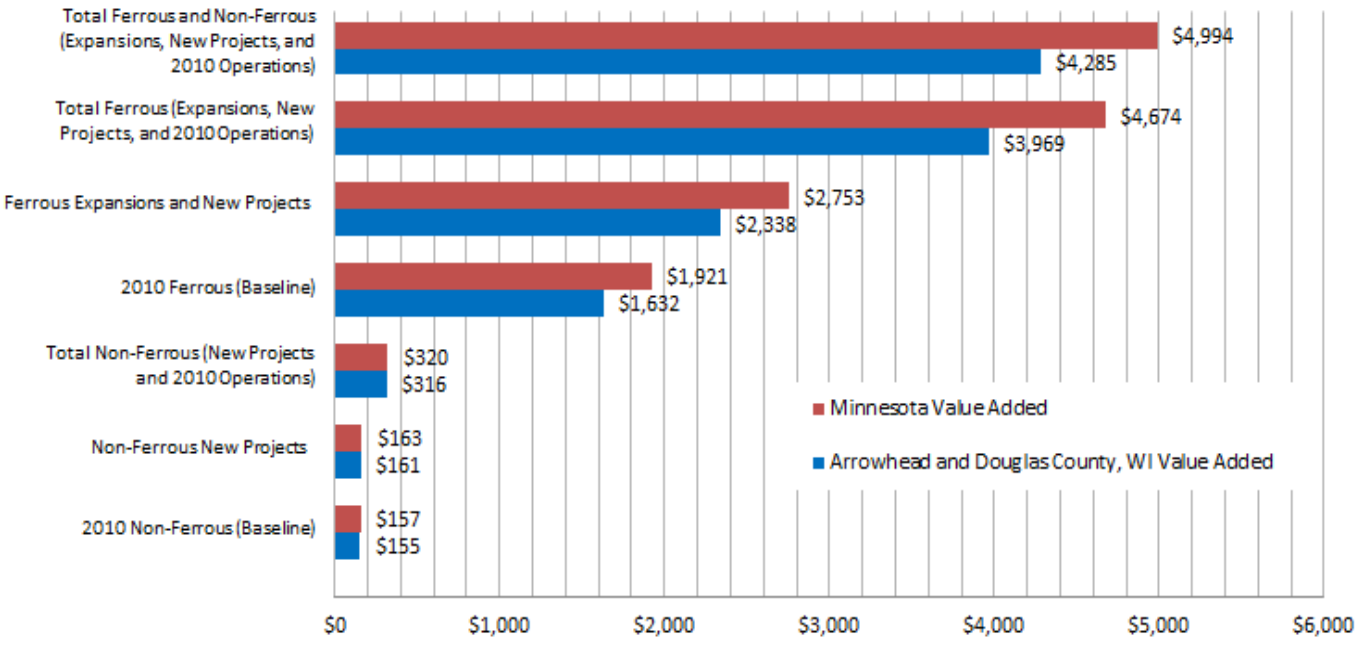


Figure 7. Total Economic Impact of Ferrous and Non-ferrous Mining Production (Output) in 2012 Millions of Dollars

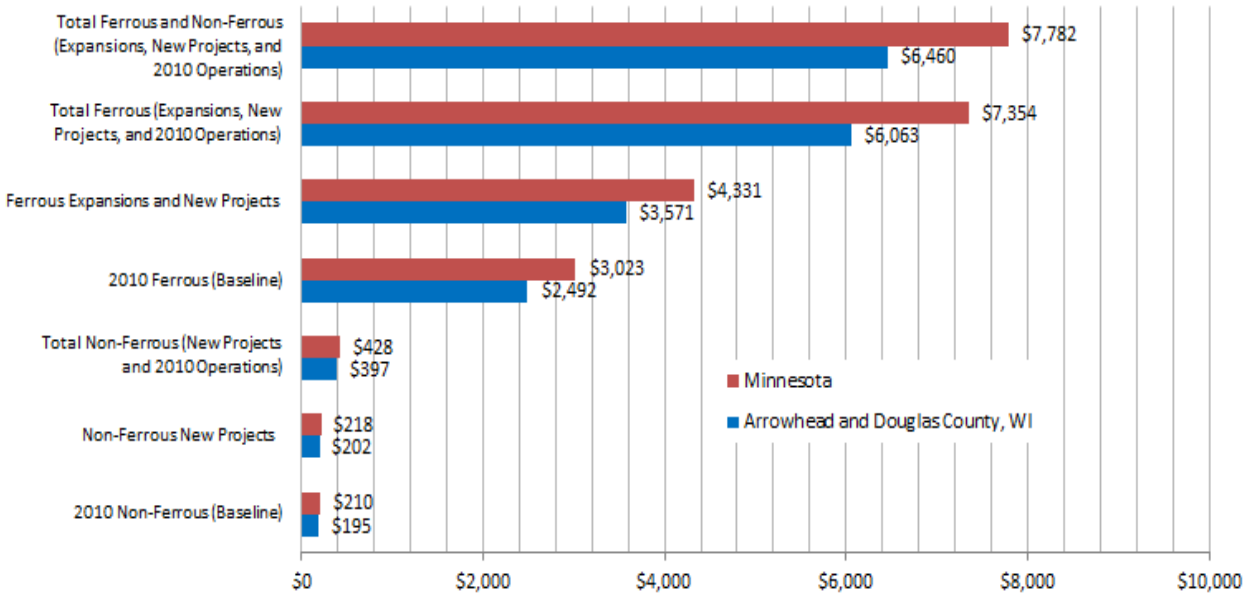
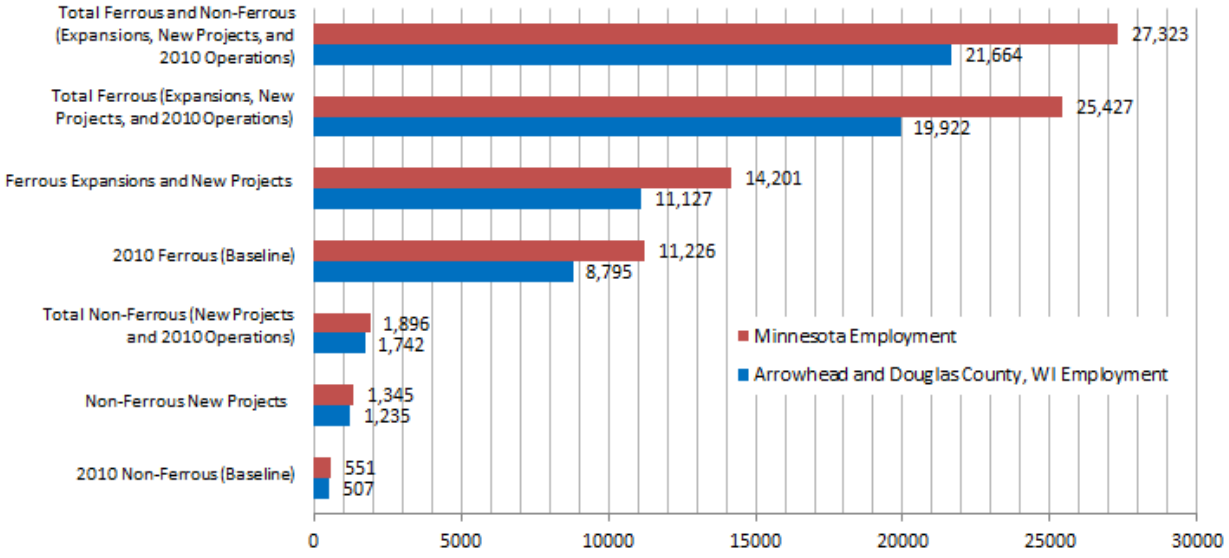


Figure 8. Total Economic Impact of Ferrous and Non-ferrous Mining (Employment)



References

Aylesworth, Ryan J., Dennis R. Becker, and Michael A. Kilgore. "Benchmarking Minnesota's Environmental Review and Permitting Processes for Forestry and Mining Industries: A Comparative Assessment," June 30, 2008, University of Minnesota.

Maki, Wilbur R., and Richard W. Lichty. *Urban Regional Economics: Concepts, Tools, Applications*. February 2000. Iowa State Press.

Miernyk , William. *Elements of Input Output Analysis*, New York, Random House, 1966.

Miller, Ronald E., and Peter D. Blair. *Input-output Analysis: Foundations and Extensions*, Englewood Cliffs, N.J. PrenticeHall, 1985 (out of print).

Minnesota Department of Natural Resources, Division of Lands and Minerals. *Minnesota's Permanent University Land and Fund*, February 17, 2012.

Minnesota Department of Natural Resources, Division of Lands and Minerals, Transactions Section. *Revenue Received from State Mineral Leases FY 1890-2011*, *Annual Report*, April 2012.

Minnesota Department of Revenue. *Mining Tax Guide,* November 2011.

Olson, Doug and Scott Lindall, IMPLAN Software (Version 3) [Software]. Available from MIG, Inc., www.implan.com.

Appendix A: Taxes, School Support, and the State of Minnesota's Mineral Revenue

This appendix reproduces secondary data sources for tax impact findings presented in the report, including sources for:

1) Taconite Production Tax
   A severance tax paid on concentrates or pellets produced by the taconite companies. The rate is determined by multiplying the prior year's rate by the percent change in the Gross Domestic Product Implicit Price Deflator from the fourth quarter of the second preceding year to the fourth quarter of the preceding year. The rate for 2010 production was $2.380 per taxable ton. The tax revenue is distributed to various cities, townships, counties, and school districts within taconite mining areas.
2) Occupation Tax
   All mining companies, ferrous or non-ferrous, are subject to the Minnesota Occupation tax. This is similar to a corporate income tax. The tax revenue is credited to the general fund.
3) Sales and Use Tax
   All firms involved in the mining or processing of minerals are subject to the 6.875% sales and use tax on all purchases, except those qualifying for the industrial production exemption.
4) Income Tax (withholding on private royalties)
   All persons or companies paying royalties are required to withhold Minnesota income tax from royalty payments (6.25%) and remit the withholding tax and applicable information to the Minnesota Department of Revenue.
5) School district component of production tax
6) Various Ad Valorem and property taxes
   Lands that include un-mined taconite and iron ore are subject to the ad valorem and property taxes. Lands and structures actively used for taconite production are exempt from the ad valorem tax and are subject to the production tax instead of the property tax.

This appendix also includes background information on,

7) Minnesota's School Trust Lands, and Permanent University Funds (PUF)

Finally, this appendix includes a tax impact study from the IMPLAN model for purposes of comparison.

8) IMPLAN model tax impact comparisons for ferrous and non-ferrous mining in Minnesota and the Arrowhead Region and Douglas County, Wisconsin.

1) Taconite Production Tax

Figure 9. Taconite Production Tax

Source: Minnesota Mining Tax Guide, November 2011, pg. 16.

Taconite Production Tax Distribution*

Production year	2005	2006	2007	2008	2009	2010
City and township	$2,047,900	$2,091,131	$2,053,321	$2,087,203	$1,741,289	1,707,978
Township Fund	–	–	–	1,161,019	961,848	938,421
Taconite municipal aid	6,454,084	6,588,041	6,484,790	6,568,276	5,361,555	5,234,627
M.S. 298.28, Subd 3(b)***	–	–	–	–	49,156	93,382
Mining effects	1,769,593	1,806,224	1,773,075	1,802,316	1,503,108	1,474,603
School district — regular	1,512,883	1,567,083	1,553,181	1,579,632	1,329,597	1,296,216
School district fund	5,928,663	6,134,022	5,932,765	6,939,441	5,823,744	5,670,746
School Building Maintenance Fund	–	–	–	1,548,025	1,256,439	1,217,160
Taconite Levy Shortfall Payment	–	–	–	–	501,635	807,218
Taconite Referendum Fund	4,218,742	3,985,816	3,636,432	3,324,393	3,067,031	2,974,743
County	9,984,746	10,112,692	9,934,767	8,904,372	8,861,655	8,862,567
County road and bridge	2,637,217	2,671,467	2,623,622	4,527,635	3,760,396	3,657,961
Taconite Property Tax Relief	13,719,754	33,269	10,635,240	9,656,986	3,435,404	11,846,794
IRRRB ($.03 Indexed)	3,071,150	3,289,341	3,327,352	3,472,124	2,881,831	2,811,548
Range Association of Municipalities and Schools	104,092	137,886	136,469	139,165	113,697	110,294
Taconite railroad (fixed)	2,482,454	2,482,454	2,482,454	2,482,454	2,482,454	2,482,454
IRRRB (fixed)	1,252,520	1,252,520	1,252,520	1,252,520	1,252,520	1,252,520
School bond payments	4,767,129	3,747,420	4,265,993	4,360,743	4,119,962	4,021,158
Taconite Environmental Protection Fund	9,417,968	11,537,116	11,003,226	10,280,483	13,200,509	6,386,643
Producer Grant & Loan Fund	3,098,810	3,177,818	3,157,554	3,196,114	2,831,630	2,782,967
Douglas J. Johnson Economic Protection Trust Fund	2,864,404	4,001,532	3,682,303	3,197,366	4,302,341	842,910
IRRRB Educational Revenue Bonds	–	1,415,106	1,411,525	1,410,125	1,407,525	1,408,725
Iron Range Higher Education Acct	–	–	1,896,471	1,935,031	1,570,547	1,521,884
Biomass Energy Project Loan	–	–	3,882,294	–	–	–
Renewable Energy Initiative	–	–	–	5,998,597	–	–
Taconite Economic Development Fund	11,520,660	12,257,357	8,503,411	12,213,126	254,341	9,673,605
Hockey Hall of Fame	–	76,669	75,860	77,401	62,822	60,876
Transfer from schools to cities**	–	11,444	157,095	30,239	0	–
Public Works & Local Economic Development Fund	–	14,720,531	4,323,954	–	9,032,845	–
Total	**$86,852,769**	**$93,096,939**	**$94,185,674**	**$98,144,786**	**$81,165,881**	**$79,138,000**

* The production tax is collected and distributed in the year following production. For example, the 2010 production tax was collected and distributed during 2011.
** This is excess school levy reduction money that will be used to reduce levies of cities and townships within the school district.
***Prior to 2009, this amount was included in the Taconite municipal aid amounts.

2) Occupation Tax

Figure 10. Occupation Tax Paid by Company

Source: Minnesota Mining Tax Guide, Minnesota Department of Revenue, November 2011, pg. 34

Occupation Tax Paid by Company								
	2003 (000's)	2004 (000's)	2005 (000's)	2006 (000's)	2007 (000's)	2008 (000's)	2009 (000's)	2010 (000's)
Hibbing Tac	$7	$1,141	$1,525	$2,175	$2,260	$5,420	$0	$300
Arcelor-Mittal	35	124	240	130	680	1,137	0	0
National Steel*	0	0	0	0	0	0	0	0
Northshore	0	41	25	280	832	1,563	340	707
United Tac	0	354	770	151	1,086	2,600	0	2,010
USS - Minntac	1,400	3,104	4,000**	5,000**	5,500**	12,668**	0	9,600
USS - Keetac	0	147						
Taconite total	**$1,442**	**$4,911**	**$6,560**	**$7,736**	**$10,358**	**$23,388**	**$340**	**$12,617**
Mesabi Nugget	$-	$-	$-	$-	$-	$-	$-	$0
Direct-reduced iron (DRI) total	$-	$-	$-	$-	$-	$-	$-	**$0**
Magnetation	$-	$-	$-	$-	$-	$-	$-	$0
Natural ore total	$-	$-	$-	$-	$-	$-	$-	**$0**
Total tax paid	**$1,442**	**$4,911**	**$6,560**	**$7,736**	**$10,358**	**$23,388**	**$340**	**$12,617**

*The former National Steel is now USS-Keewatin Taconite (Keetac).
** USS-Minntac & USS-Keetac file a combined return.

3) Sales and Use Tax

Figure 11. Use Tax Paid

Source: Minnesota Mining Tax Guide, Minnesota Department of Revenue, November 2011, pg. 43

Use Tax Paid

Year	Use tax	Refund claims*	Net use tax collected
2000	18,829,904	12,698,510	6,131,394
2001	14,123,142	15,775,844	(1,652,702)
2002	13,694,774	12,850,487	844,287
2003	12,435,693	11,238,116	1,197,577
2004	17,139,316	8,624,502	8,514,814
2005	20,219,218	12,393,334	7,825,884
2006	23,191,259	14,446,391	8,744,868
2007	25,795,536	19,191,938	6,603,598
2008	24,225,373	14,670,700	9,554,673
2009	16,040,963	18,876,729	(2,835,766)
2010	$25,303,605	$8,201,710	$17,101,895

* These are capital equipment refund claims allowed, not including interest, for new or expanding businesses and for repair and replacement parts.

4) Income Tax (withholding on private royalties)

Figure 12. Royalty Paid and Income Tax Withheld

Source: Minnesota Mining Tax Guide, Minnesota Department of Revenue, November 2011, pg. 40

Royalty Paid and Income Tax Withheld
(Taconite, natural ore and others)

Year	Royalty paid	Income tax withheld
2001	$45,448,947	$265,587
2002	$37,903,733	$142,422
2003	$45,173,508	$216,629
2004	$56,726,329	$214,962
2005	$77,298,269	$332,015
2006	$86,238,285	$238,142
2007	$87,154,748	$334,975
2008	$118,761,439	$415,491
2009	$62,952,973	$207,365
2010	$128,435,093	$137,943

5) School district component of production tax

Figure 13. Taconite Production Tax Distributions to School Districts, 2011

Source: Minnesota Mining Tax Guide, Minnesota Department of Revenue, November 2011, pg. 19

Taconite Production Tax Distributions to School Districts - 2011

School districts	$.0343 Taconite School Fund	$.1572 Regular School Fund	Taconite Railroad	$.04 School Bldg Maintenance Fund	$.213 Taconite Referendum	Tax. Levy Replacement Shortfall Paymt*	Total
001 Aitkin	–	$144,173	–	–	$0	$14,589	$158,762
166 Cook County	$21,087	34,328	$264,977	–	0	0	320,392
182 Crosby-Ironton	–	164,510	–	–	0	15,649	180,159
316 Greenway	33,373	528,737	–	$87,511	256,312	65,102	971,035
318 Grand Rapids	–	630,768	–	–	261,840	43,237	935,845
319 Nashwauk-Keewatin	90,994	178,845	–	40,784	112,834	65,678	489,135
381 Lake Superior	71,496	284,579	342,720	73,637	116,056	38,188	926,676
695 Chisholm	–	484,006	–	53,116	206,397	69,014	812,533
696 Ely	–	55,256	–	–	57,293	14,340	126,889
701 Hibbing	210,360	950,706	–	152,875	563,724	252,503	2,130,168
706 Virginia	74,908	575,814	–	171,976	313,585	94,444	1,230,727
712 Mtn. Iron-Buhl	371,682	333,784	–	76,870	199,470	53,526	1,035,332
2142 St. Louis County	147,484	346,560	284,841	220,786	225,644	32,740	1,258,055
2154 Eveleth-Gilbert	91,495	598,086	–	218,515	326,119	48,208	1,282,423
2711 Mesabi East	183,337	360,594	214,397	121,090	335,469	0	1,214,887
Totals	**$1,296,216**	**$5,670,746**	**$1,106,935**	**$1,217,160**	**$2,974,743**	**$807,218**	**$13,073,018**

*Made from Taconite Property Tax Relief Account

Figure 14. Taconite Production Tax School Bond Payments

Source: Minnesota Mining Tax Guide, Minnesota Department of Revenue, November 2011, pg. 19

Taconite Production Tax School Bond Payments

School districts		Year authorized[1]	Final payment year[2]	Payment[3]	Outstanding balance[4]
166	Cook County[5]	1996	2016	$503,465	$2,684,500
316	Greenway	2000	2019	154,516	1,120,000
318	Grand Rapids	1996	2010	475,730	0
381	Lake Superior	2000	2022	391,821	3,574,112
695	Chisholm	2000	2020	297,738	2,462,717
696	Ely	1996	2015	68,686	300,000
701	Hibbing	1996	2011	212,512	204,000
706	Virginia	1996	2016	795,904	2,161,076
712	Mt. Iron-Buhl	1998	2017	325,308	1,900,000
2154	Eveleth-Gilbert	1996	2017	234,916	1,976,000
2711	Mesabi East	1996	2011	60,562	60,000
2711	Mesabi East	2008	2016	500,000	0
Totals:				$4,021,158	$16,442,405

1 Legislative year in which taconite funding was enacted.
2 Production year from which final bond payment will be deducted.
3 Payments made from 2010 pay 2011 tax distribution
4 Estimated portion of outstanding bond balance to be paid by taconite funds (not including interest).
5 All taconite bonds funded at 80 percent taconite, 20 percent local effort, unless otherwise noted: Cook County – 1996, 70 percent
Mesabi East – 2008, $500,000

6) Various ad Valorem and property taxes

Figure 15. Iron Ore Ad Valorem Tax Payable

Source: Minnesota Mining Tax Guide, Minnesota Department of Revenue, November 2011, pg. 49

Iron Ore Ad Valorem Tax Payable

Year assessed	Market value	Payable	Year estimated tax payable			Total
			Crow Wing	Itasca	St. Louis	
1996	4,448,800	1997	10,900	34,900	226,200	272,000
1997	4,175,400	1998	10,400	23,500	244,900	278,800
1998	4,020,900	1999	8,200	18,900	188,100	215,200
1999	3,781,800	2000	4,200	20,200	181,800	206,200
2000	3,765,800	2001	3,900	18,600	159,400	181,900
2001	3,637,400	2002	3,500	17,600	147,200	168,300
2002	2,720,400	2003	3,500	16,900	107,200	127,600
2003	2,734,200	2004	3,300	15,400	101,600	120,300
2004	2,529,200	2005	2,700	14,100	87,300	104,100
2005	2,355,700	2006	2,700	13,300	77,400	93,400
2006	2,350,100	2007	2,500	12,700	79,100	94,300
2007	2,255,300	2008	2,300	11,600	68,400	82,300
2008	2,345,800	2009	2,200	11,400	70,100	83,700
2009	2,347,000	2010	2,200	12,200	71,500	85,900
2010	2,345,500	2011	2,400	12,700	76,400	91,500
2011	2,341,600	2012				

Figure 16. Taconite Railroad Ad Valorem Tax Assessed

Source: Minnesota Mining Tax Guide, Minnesota Department of Revenue, November 2011, pg. 50

Taconite Railroad Ad Valorem Tax Assessed					
Year payable	Assessed	St. Louis County	Lake County	Cook County	Total tax
1995	1994	$78,281	$140,300	$14,454	$233,034
1996	1995	64,516	116,143	14,456	195,115
1997	1996	49,283	61,107	13,292	123,682
1998	1997	46,250	66,114	10,330	122,694
1999	1998	43,891	68,874	8,648	121,413
2000	1999	42,340	65,444	8,542	116,326
2001	2000	35,467	64,295	8,500	108,262
2002	2001	27,323	37,336	7,202	71,861
2003	2002	6,746	17,890	0	24,636
2004	2003	4,519	15,964	0	20,483
2005	2004	3,896	13,312	0	17,208
2006	2005	3,366	10,921	0	14,287
2007	2006	3,054	10,081	0	13,135
2008	2007	3,212	9,063	0	12,275
2009	2008	2,562	6,415	0	8,977
2010	2009	2,319	7,293	0	9,612
2011	2010	2,514	7,223	0	10,137

Figure 17. Tax Collection and Distribution

Source, Minnesota Mining Tax Guide, Minnesota Department of Revenue, November 2011, pg.51

Tax Collection and Distribution			
Period ending	80% retained by local government	20% payment to Indian Business Loan Account	Total collections of affected counties
Dec. 31, 2002	707,716	176,929	884,645
Dec. 31, 2003	461,456	115,364	576,820
Dec. 31, 2004	342,468	85,617	428,085
Dec. 31, 2005	542,524	135,631	678,155
Dec. 31, 2006	341,884	85,471	427,355
Dec. 31, 2007	451,904	112,976	564,880
Dec. 31, 2008	433,578	108,395	541,973
Dec. 31, 2009	463,472	115,868	579,340
Dec. 31, 2010	448,864	112,216	561,080

Figure 18. Unmined Taconite Tax Paid

Source: Minnesota Mining Tax Guide, Minnesota Department of Revenue, November 2011, pg. 47

Unmined Taconite Tax Paid

(Year payable)

County	2004	2005	2006	2007	2008	2009	2010	2011
Itasca	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
St. Louis	300,173	273,601	261,687	532,102	495,033	466,991	238,274	239,518
Totals	**$300,173**	**$273,601**	**$261,687**	**$532,102**	**$495,033**	**$466,991**	**$238,274**	**$239,518**

7) Permanent University Funds (PUF)

The Minnesota Department of Natural Resources (DNR) administers more than 12 million acres of state-owned mineral rights. As of January 2012, there are 25,845 total acres of permanent university fund lands, with an additional 21,368 acres of mineral rights. The minerals management account was designed to create a $3 million principal that could be drawn upon in the event that future income generation drops. The $3 million level was reached in Fiscal Year 2007. At the end of each fiscal year the amount exceeding $3 million is distributed to the Permanent School Fund and Permanent University Fund in proportion to the revenue contributed to the minerals management account by these two land types. For Fiscal Year 2011, the Permanent University Fund will receive $1,285,875 transfer from the minerals management account.

Figure 19. FY 2011 Proceeds to be Transferred to the PUF

Source: Minnesota's Permanent University Land and Fund, Minnesota DNR, February 2012, pg. 5

Mineral lease revenue to DNR's Permanent University Account	$10,023,146.60
Transfer from minerals management account	1,285,875.26
Forest, Suspense Account, Land Sale, and real estate lease revenue to DNR's Permanent University Account	$111,338.10
TOTAL transferred to Permanent University Fund	**$11,420,359.96**

Figure 20. FY 1992-2011 Mineral Lease Revenue Distribution by Account

Source: Minnesota's Permanent University Land and Fund, Minnesota DNR, February 2012, pg. 6

(Note: Revenue earned in a FY is transferred to the PUF in the following FY)

FY	Endowed Mineral Research Account	Endowed Scholarship Account	Total
1992	$1,485,903.50	$1,485,903.50	$2,971,807.00
1993	$2,003,975.50	$2,003,975.50	$4,007,951.00
1994	$1,931,548.50	$1,931,548.50	$3,863,097.00
1995	$2,636,377.00	$2,636,377.00	$5,272,754.00
1996	$2,712,847.14	$2,712,847.14	$5,425,694.28
1997 *	$1,217,628.85	$1,217,628.85	$2,435,257.70
1998	$806,960.06	$806,960.06	$1,613,920.12
1999	$673,229.62	$673,229.62	$1,346,459.23
2000	$416,364.08	$416,364.08	$832,728.15
2001	$1,020,555.16	$1,020,555.16	$2,041,110.31
2002 **	$930,779.53	$930,779.53	$1,861,559.06
2003	$2,759,933.17	$2,759,933.17	$5,519,866.33
2004	$2,342,521.57	$2,342,521.57	$4,685,043.14
2005	$3,774,828.09	$3,774,828.09	$7,549,656.17
2006***	$2,835,833.00	$2,835,833.00	$5,671,666.00
2007****	$4,513,724.83	$4,513,724.83	$9,027,449.66
2008****	$4,494,636.83	$4,494,636.83	$8,989,273.67
2009****	$3,962,402.33	$3,962,402.33	$7,924,804.67
2010****	$914,090.50	$914,090.50	$1,828,181.00
2011****	$5,654,510.93	$5,654,510.93	$11,309,021.86
TOTAL	**$47,088,650.19**	**$47,088,650.19**	**$94,177,300.35**

* The 1997 data does not include the $250,000 one-time appropriation from the university lands and minerals suspense account.
** The 2002 data does not include a $459,525.91 administration and management fee under Minnesota Statutes, §93.223, subd. 2.
*** The 2006 data does not include the $1,417,795 transferred to the minerals management account.
**** The 2007 data does not include the $1,593,561 transferred to the minerals management account, but does include the $1,059,644 transferred from the minerals management account. The 2008 data does not include the $1,876,064 transferred to the minerals management account, but does include the $1,485,017 transferred from the minerals management account. The 2009 data does not include the $1,684,862 transferred to the minerals management account, but does include the $638,827 transferred from the minerals management account. The 2010 data does not include the $451,195 transferred to the minerals management account, but does include the $9.417 transferred from the minerals management account. The 2011 data does not include the $2,503,345 transferred to the minerals management account, but does include the $1,285,875 transferred from the minerals management account.

The Endowed Scholarship Account, which started receiving revenue from mining of permanent university fund lands in Fiscal Year 1993, has resulted in the University of Minnesota's largest endowed scholarship program. The first scholarships were awarded in Fiscal Year 1994. Now over 20% of the University of Minnesota's new freshmen who are Minnesota residents receive an Iron Range Scholarship.

Figure 21. FY 1994-2011 Distribution of Endowed Scholarship Account Income*

Source: Minnesota's Permanent University Land and Fund, Minnesota DNR, February 2012, pg. 7

FY**	UM - Twin Cities	UM – Duluth	UM – Morris	UM – Crookston	TOTAL
1994	$58,635.00	$19,517.00	$4,922.00	$1,782.00	$84,856.00
1995	$116,080.00	$38,637.00	$9,743.00	$3,528.00	$167,988.00
1996	$232,573.00	$79,341.00	$21,112.00	$7,491.00	$340,517.00
1997	$323,094.00	$111,072.00	$29,820.00	$11,173.00	$475,159.00
1998	$458,013.00	$158,751.00	$41,883.00	$16,888.00	$675,535.00
1999	$572,418.00	$198,404.00	$51,501.00	$21,951.00	$844,274.00
2000	$715,901.00	$247,050.00	$60,879.00	$27,333.00	$1,051,163.00
2001	$853,500.28	$293,515.94	$71,125.02	$32,056.35	$1,250,197.59
2002	$895,541.15	$308,186.23	$75,045.35	$34,020.56	$1,312,793.29
2003	$824,531.76	$284,183.28	$69,044.53	$31,020.01	$1,208,779.58
2004	$789,287.74	$272,099.19	$66,024.07	$30,010.94	$1,157,421.94
2005	$832,139.00	$286,734.00	$69,548.00	$31,724.00	$1,220,145.00
2006	$886,643.51	$305,515.01	$74,103.64	$33,801.67	$1,300,063.83
2007	$951,555.92	$327,882.11	$79,528.88	$36,276.35	$1,395,243.26
2008	$1,234,792.00	$425,478.00	$103,201.00	$47,074.00	$1,810,545.00
2009	$1,424,235.00	$554,765.00	$90,128.00	$51,532.00	$2,120,660.00
2010	$1,550,235.85	$603,844.09	$98,101.58	$56,091.02	$2,308,272.54
2011	$1,562,866.30	$608,763.89	$98,900.87	$56,548.02	$2,327,079.08
TOTALS	$14,282,042.51	$5,123,738.74	$1,114,610.94	$530,300.92	$21,050,693.11

* FY 1993 revenues totaling $18,832 were returned to the principal.
** Amounts provided for FYs 1994 – 2000, 2008, and 2009 were rounded. Amounts for FYs 2001- 2007, 2010 and 2011 are not subject to rounding.

Distribution of Collected Royalties:

Figure 22. Mineral Revenue (in thousands) FY 2002-2011

Source: Revenue Received from State Mineral Leases, Minnesota DNR, April 2012, pg. 8

FY	School Trust Lands	University Trust Lands	Tax-Forfeited Lands and Minerals	Other Land Classes	Special Advance Royalties	Total Revenue
2002	$4,669	$2,321	$554	$25	$13	$7,582
2003	$6,705	$5,453	$616	$26	$299	$13,099
2004	$5,616(*)	$4,685(*)	$328	$25	$275	$628
2005	$11,565	$7,550	$1,493	$62	$322	$20,992
2006	$11,160	$7,089	$1,302	$77	$346	$19,974
2007	$16,549	$9,960	$1,611	$93	$320	$28,533
2008	$20,972	$9,380	$539	$108	$389	$31,388
2009	$16,792	$8,268	$760	$128	$324	$26,272
2010	$10,487	$2,270	$729	$252	$389	$14,127
2011	$21,448	$12,526	$859	$277	$389	$35,499
Total	$120,347	$64,817	$8,791	$1,073	$3,065	$198,094

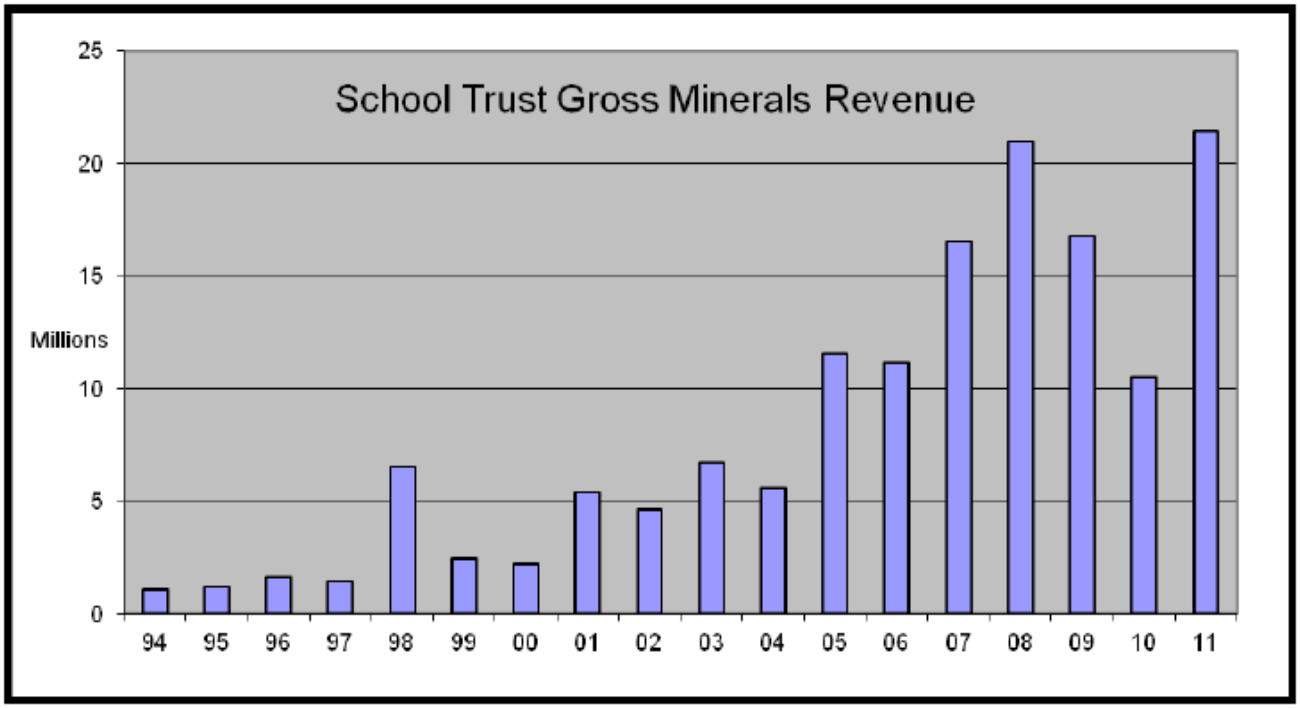
Figure 23. Revenue from Mineral Leases, FY 2010-2011

Source: Minnesota's School Trust Lands, Minnesota DNR, March 2012, pg. 9

	FY10	FY11
Taconite and Iron ore rents/royalties	$10,101,699	$20,921,168
Non-ferrous metallic minerals	$290,069	$329,436
Stockpiling/Surface leases	$4,320	$4,320
Peat	$77,319	$137,601
M-leases	$13,752	$42,481
Industrial Minerals	$0	$13,102
Total	**$10,487,159**	**$21,448,108**

Figure 24. School Trust Fund Gross Minerals Revenue FY 1994-2011

Source: Minnesota's School Trust Lands, Minnesota DNR, March 2012, pg. 10



8) IMPLAN tax modeling

Source: IMPLAN, BBER

The following tax impact values are based on the existing relationships of the data found in the IMPLAN database. The general sources for that data include National Income and Product Accounts (NIPA) from the Bureau of Economic Analysis (BEA); the Bureau of the Census's annual Consumer Expenditure Survey (CES), and the Bureau's Annual Survey of State and Local Government Finances, as well as the BEA's Regional Economic Information System (REIS).

IMPLAN tracks tax impacts through "Employee Compensation, Proprietary Income, Household Expenditure, Enterprises (Corporations), and Indirect Business Taxes." Federal tax impacts include "Corporate Profits Tax, Indirect Bus Tax: Custom Duty, Indirect Bus Tax: Excise Taxes, Indirect Bus Tax: Fed NonTaxes, Personal Tax: Estate and Gift Tax, Personal Tax: Income Tax, Personal Tax: NonTaxes (Fines- Fees, Social Ins Tax- Employee Contribution, and Social Ins Tax- Employer Contribution."

According to the IMPLAN model, state tax impacts include "Corporate Profits Tax, Dividends, Indirect Bus Tax: Motor Vehicle Lic, Indirect Bus Tax: Other Taxes, Indirect Bus Tax: Property Tax, Indirect Bus Tax: S/L NonTaxes, Indirect Bus Tax: Sales Tax, Indirect Bus Tax: Severance Tax, Personal Tax: Estate and Gift Tax, Personal Tax: Income Tax, Personal Tax: Motor Vehicle License, Personal Tax: NonTaxes (Fines-Fees, Personal Tax: Other Tax (Fish/Hunt), Personal Tax: Property Taxes, Social Ins Tax- Employee Contribution, and Social Ins Tax- Employer Contribution."

Readers are cautioned that comparisons with the foregoing Minnesota Department of Revenue and Minnesota Department of Natural Resources tax accounting do not compare easily with results from the IMPLAN model. However, the ability of IMPLAN to model tax impacts is demonstrated in the following comparisons for ferrous and non-ferrous mining in Minnesota and the Arrowhead Region and Douglas County, Wisconsin.

The IMPLAN tax impact is presented below for Federal and State totals.

Table 43. Ferrous Mining Tax Impact on Minnesota, 2016

Source: IMPLAN	*Employee Compensation*	*Proprietor Income*	*Indirect Business Tax*	*Households*	*Corporations*	*Total*
Federal Govt, NonDefense	$106,270,736	$6,643,855	$11,659,937	$67,672,704	$62,733,588	$254,980,820
State/Local Govt, NonEducation	$1,894,478	$0	$65,727,414	$33,751,865	$10,315,824	$111,689,581
	$108,165,214	$6,643,855	$77,387,351	$101,424,569	$73,049,412	$366,670,401

This table shows state and local taxes of almost $111.7 million. This amount includes taxes that are not directly attributable to production.

The totals compile the direct, indirect, and induced effects of business and household spending. With the exception of indirect business taxes and sales and use taxes, these are additional taxes paid by business and workers to state and local government.

Table 44. Tax Impact Totals, Including Proposed Expansions and New Projects as Well as On-Going Ferrous and Non-Ferrous Operations, 2016

Source: IMPLAN, BBER	*Minnesota*	*Arrowhead and Douglas County, Wisconsin*
Iron ore mining:		
Federal Government NonDefense	$254,980,820	$215,651,408
State/Local Govt NonEducation	$111,689,581	$97,895,406
Totals	**$366,670,401**	**$313,546,814**
Copper, nickel, lead, and zinc mining:		
Federal Government NonDefense	$31,583,140	$31,869,803
State/Local Govt NonEducation	$28,792,696	$23,690,264
Totals	**$60,375,836**	**$55,560,067**
Ferrous and Non-Ferrous mining:		
Federal Government NonDefense	$286,563,960	$247,521,211
State/Local Govt NonEducation	$140,482,277	$121,585,669
Totals	**$427,046,237**	**$369,106,880**

Appendix B: Additional Information

Readers are encouraged to remember the BBER is providing an economic impact analysis. Policy recommendations should be based on the "big picture" of total impact, and a cost-benefit analysis would be needed to assess the environmental, social, and governmental impacts of ferrous and non-ferrous mining in the State.

Although a detailed cost-benefit analysis is beyond the scope of this report, a few points currently surrounding ferrous and non-ferrous mining activity in Minnesota and the Arrowhead and Douglas Counties are provided below.

1) Employment trends

Employment data show the continuing importance of the mining sector.

Table 45. Minnesota Mining Employment and Payroll

Source: MN DEED Census of Employment and Wages (CEW)

Year	*Average Number of Employees*	*Annual Wages*
2002	5517	$273,016,618
2003	5139	$279,122,837
2004	5219	$295,623,992
2005	5132	$311,659,581
2006	5147	$335,058,894
2007	5222	$342,880,476
2008	5510	$394,811,584
2009	4419	$281,094,812
2010	5223	$384,668,356
2011	5811	$474,225,320

As a measurement of how important mining is to the Arrowhead Region, mining employment in the Region can be compared to the State. Location quotients identify the significance of an economic sector to the economic base of the state or region. When location quotients are sorted, those above 1.0 are usually considered part of the economy's base, and therefore, exporting industries. Those less than 1.0 are supporting industries, and thus, net importers. When sorted for importance, the mining sector in the Arrowhead Region leads all other sectors, showing mining activity in the Region to be at least ten times more important than any other sector in the economy compared to the State.

Table 46. Location Quotients, Arrowhead Region, Compared to the State of Minnesota, 2011

Source: IMPLAN

	Arrowhead	***MN***	***Location Quotient***
Total, All Industries	137,866	2,604,196	
Mining	339	19,191	10.10
Utilities	3,107	5,811	1.99
Public Administration	5,586	98,601	1.60
Arts, Entertainment, and Recreation	8,611	300,904	1.41
Accommodation and Food Services	1,490	14,177	1.27
Health Care and Social Assistance	2,961	126,093	1.26
Retail Trade	17,443	280,750	1.17
Construction	3,206	93,222	1.07
Other Services (except Public Administration)	398	57,199	0.98
Educational Services	4,591	136,378	0.82
Transportation and Warehousing	1,087	35,879	0.65
Finance and Insurance	3,333	128,850	0.64
Administrative and Support and Waste Management and Remediation Services	854	72,683	0.58
Real Estate and Rental and Leasing	4,032	130,774	0.57
Manufacturing	9,389	215,983	0.54
Professional, Scientific, and Technical Services	28,297	425,713	0.49
Wholesale Trade	3,630	48,621	0.44
Agriculture, Forestry, Fishing and Hunting	13,962	207,111	0.33
Management of Companies and Enterprises	4,359	84,240	0.22
Information	10,254	121,418	0.13

2) Direct and indirect benefits from the mining industry to the State of Minnesota.

One way to examine the indirect and induced impacts from direct jobs in mining in St. Louis County, for example, is to show other jobs in the economy of the Region and of the State that are dependent on mining but not necessarily situated in the mining venues. This list implies occupations in industries supplying mining workers with transportation, eating and drinking establishments, healthcare providers, housing, and infrastructure, for the county, the region, and the State. In the report itself, a discussion is offered for comparing indirect and induced jobs in the region and the state, and thereby demonstrating the jobs supporting mining are outside the region but in the State.

Table 47. Indirect and Induced Jobs Dependent on Iron Ore Mining Employment in Minnesota, 2010

Source: IMPLAN

Industry	*Direct*	*Indirect*	*Induced*	*Total*
Mining iron ore	3,975	20	0	3,995
Food services and drinking places	0	37	519	556
Transport by truck	0	342	35	377
Real estate establishments	0	31	237	268
Wholesale trade businesses	0	125	141	266
Private hospitals	0	0	247	247
Electric power generation, transmission, and distribution	0	208	17	225
Offices of physicians, dentists, and other health practitioners	0	0	224	224
Nursing and residential care facilities	0	0	201	201
Nondepository credit intermediation and related activities	0	63	133	196
Retail Stores - General merchandise	0	8	172	180
Support activities for other mining	0	171	0	171
Retail Stores - Food and beverage	0	8	159	167
Management of companies and enterprises	0	140	26	166
Securities, commodity contracts, investments, and related activities	0	25	137	162
Employment services	0	57	88	145
Civic, social, professional, and similar organizations	0	18	109	127
Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	0	116	0	116
Individual and family services	0	0	107	107
Retail Stores - Motor vehicle and parts	0	8	97	105
Retail Nonstores - Direct and electronic sales	0	4	100	104
Monetary authorities and depository credit intermediation activities	0	28	73	101
Services to buildings and dwellings	0	36	56	92
Retail Stores - Miscellaneous	0	4	83	87
Architectural, engineering, and related services	0	67	17	84
Total From Top 25	**3,975**	**1,516**	**2,978**	**8,469**
As well as an additional 2,757 jobs in another 279 various sectors of the economy…	0	757	2,000	2,757
Grand Total	**3,975**	**2,273**	**4,978**	**11,226**

ASSESING THE IMPACT OF THE GOODS PRODUCING DOMAIN ON NORTHEAST MINNESOTA

The energy-intensive, goods producing domain (defined as the manufacturing, natural resources and mining, and construction industries) plays a significant role in the economies of Carlton County, Duluth Metropolitan Statistics Area (MSA), and the Northeast region. Industries in this domain provide high paying jobs and create significant ripple effects that support employment throughout the broader economy. Though goods producers in the region are part of a larger nationwide trend of employing a smaller percentage of the population, they are still a significant economic driver for the region. Moreover, projections from the Department of Employment and Economic Development (DEED) show employment—particularly in the mining industry—growing significantly in the coming years.

REGIONAL ECONOMIC SNAPSHOT

The seven-county Northeast Minnesota region is home to 326,000 residents or about 6 percent of the overall state population.[1] The regional per capita income was $38,368, approximately 25 percent below the state average of $47,377. The 3-county Duluth MSA—the second largest MSA in Minnesota—is the economic engine and central site for the refinement and export of abundant local natural resources. [2]

TABLE 1: ECONOMIC SNAPSHOT

Geography	Population Estimate, 2013	Employment, 2013	Unemployment, 2013	Personal Income Per Capita, 2012
Carlton County	35,437	13,348	6.1%	$33,329
Duluth, MSA	279,787	124,258	6.2%	$38,171
Northeast Region	326,489	140,327	6.5%	$38,368
State of Minnesota	5,382,376	2,691,838	5.1%	$47,377

Sources: 3-Year ACS, U.S. Census Bureau; QCEW, BLS; LAUS, BLS via DEED LMI; Regional Data, BEA

By 2013, the Northeast economy had largely recovered from the depths of the Great Recession. Unemployment has fallen from a high of 9.6 percent in 2009 to 6.5 percent in 2013 and employment is now close to pre-recession levels. Personal income per capita also continued to grow—both in nominal and real terms—for each of the above geographies.

[1] The Northeast region is defined as Aitkin, Carlton, Cook, Itasca, Koochiching, Lake and St. Louis Counties.

[2] The Duluth MSA is comprised of St. Louis and Carlton County, Minnesota and Douglas County, Wisconsin. In some cases, local data is only available at the metropolitan area.

The three largest regional industries, health care and social assistance, retail trade and accommodation and food services employed nearly half of all workers. Goods producing industries accounted for around 14 percent of the total employment (See Table 2 for additional detail).

OCCUPATIONAL EMPLOYMENT IN NORTHEAST

Wages in Northeast Minnesota are generally below state and national averages—likely due to a generally lower cost of living and occupation mix. Figures from the Bureau of Labor Statistics (BLS) show median wages of $16.34 in the beginning of 2014 compared to state and U.S. median wages of $18.15 and $17.04, respectively. However, in some industries, wages met or exceeded state and national averages.

Occupations related to the energy-intensive goods producing domain offer some of the highest wages in the region. Construction and extraction ($25.57), installation, maintenance, and repair ($22.44) and production ($19.07) offer hourly rates above the regional median ($16.34) and outpace state and nation wide averages for their occupational groups. In the case of construction and extraction, these wages are nearly 30 percent above the U.S. average, primarily due to high quality mining jobs.

TABLE 2: OCCUPATIONAL EMPLOYMENT IN NORTHEAST MINNESOTA, Q1 2014

	Employment, 2013 Q2	Median Hourly Wage		
SOC Title	NE Minnesota	NE Minnesota	MN	US
Total, All Occupations	141,020	$16.34	$18.15	$17.04
Office and Administrative Support	20,540	$15.14	$16.87	$15.58
Food Preparation and Serving Related	14,060	$8.94	$9.07	$9.22
Sales and Related	13,430	$10.42	$12.73	$12.20
Healthcare Practitioners and Technical	10,520	$27.61	$31.30	$29.72
Transportation and Material Moving	8,170	$15.87	$15.88	$14.22
Education, Training, and Library	8,130	$20.94	$21.96	$22.45
Production	7,620	$19.07	$16.49	$15.28
Installation, Maintenance, and Repair	6,830	$22.44	$21.21	$20.27
Healthcare Support	6,550	$12.22	$13.09	$12.64
Personal Care and Service	6,360	$10.39	$10.88	$10.18
Management	6,300	$36.36	$46.38	$46.31
Construction and Extraction	6,200	$25.57	$24.26	$19.78

Source: Occupational Employment Statistics, BLS, 2014 via Labor Market Information Office, DEED

The three lowest paying occupation groups, food preparation and serving ($8.94), sales ($10.42), and personal care ($10.39) are all in the low-skill service industries. These jobs tend to be part-time with benefits and often cater to tourists. Even with tipped income, these

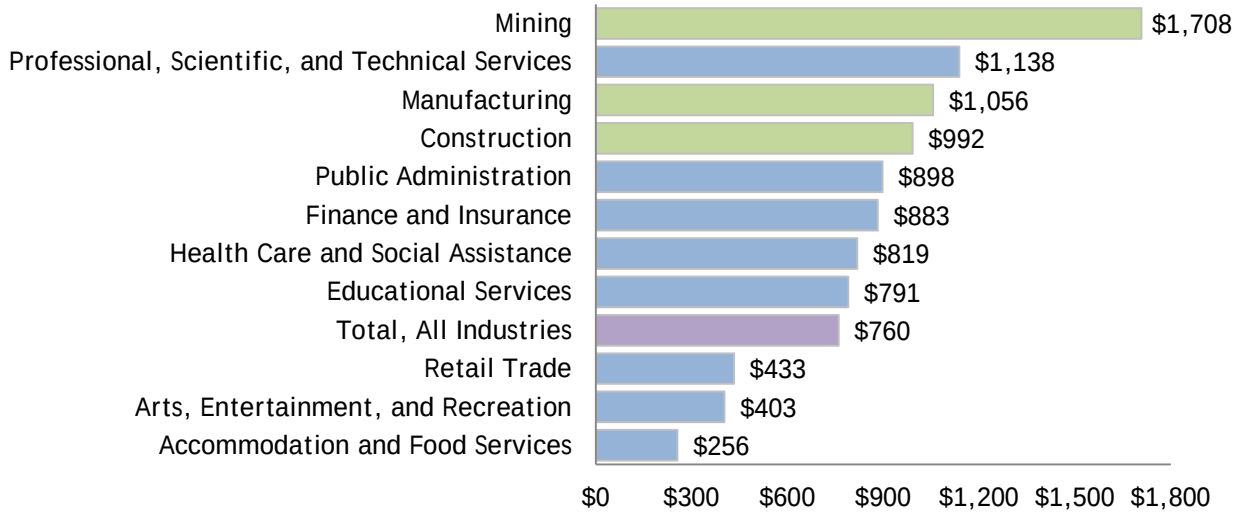
occupations are close to the estimated $9.03 needed to cover annual expenses for a single 19-50 year old Northeast Minnesota resident with no children.[3]

INDUSTRY EMPLOYMENT

Businesses in the Northeast region have recovered more slowly from the Great Recession than the state at large. By 2013, the state overall had recovered all of its pre-recession employment while Northeast was still two thousand jobs short of 2008 annual levels. [4] Between 2010 and 2013, employment grew 2.1 percent in Northeast Minnesota, while state employment grew 5 percent.

Medium to high-skill, service-orientated industries, such as health care and social assistance (32,771 jobs) and professional, scientific, and technical services (3,999 jobs), were the only sectors to add positions over both the three and five year period. These industries tend to pay high wages ($1,138 and $819 per week in 2013, respectively) and increasingly represent a larger share of the overall regional payroll. Unfortunately, this recent growth still lagged behind the statewide average in the industries.

TABLE 3: AVERAGE WEEKLY WAGES IN NORTHEAST MINNESOTA BY INDUSTRY, 2013



Source: QCEW, BLS, 2014. Goods producing industries are in green. Service providing industries are in blue.

[3] Cost of Living Calculator. (2014). Labor Market Information, Department of Employment and Economic Development. Retrieved from: http://mn.gov/deed/data/data-tools/col/.

[4] The BLS QCEW collects data from establishments reporting under the Unemployment Insurance (UI) program. These results encompass approximately 97 percent of all wages and salary civilians. Major exclusions for UI coverage include self-employed workers, most agricultural workers on small farms, small nonprofits, and employees of railroads. In this case, it is particularly problematic in logging because most loggers are self-employed or contractors and likely unreported in QCEW. The IRS reports there are 1,017 logging proprietorships or partnerships in Minnesota in 2012.

Employment in 2013 in traditional regional strengths, such as manufacturing (8,905 jobs) and construction (6,056 jobs), were still well below 2008 employment levels. Between 2010 and 2013, however, results are more encouraging. Mining, construction, and manufacturing each experienced at least a 7.3 percent increase in employment, the three fastest rates of the 20 BLS sectors. Mining, in particular, grew at a rapid 17.6 percent. As discussed in the occupational employment section, these industries tend to be high paying. Employees averaged weekly wages of $1,708 in mining, $992 in construction and $1,056 in manufacturing—well above the average regional weekly wage of $760.

Retail trade (17,574 jobs) and accommodation and food services (14,372 jobs) were the second and third largest regional employers. Along with arts, entertainment and recreation (AER; 3,673 jobs), they are generally the sectors most associated with the tourism. Like goods producing industries, they have had tepid growth over the last five years, but have not bounced back as quickly over the last three years. These tourism-related industries support critical jobs in the local economy, but tend to be low-wage, part-time positions. Accommodation and food services ($256) had the lowest wages of any sector while retail trade ($433) and AER ($403) paid wages well below the regional average.

TABLE 4: EMPLOYMENT IN SELECTED NORTHEAST INDUSTRIES, 2008-2013

	Employment NE MN			NE MN Change		MN Change	
Industry	**2008**	**2010**	**2013**	**3 year**	**5year**	**MN3yr**	**MN5yr**
Total, All Industries	142,368	137,438	140,327	2.1%	-1.4%	5.0%	0.4%
Health Care and Social Assistance	31,402	32,649	32,771	0.4%	4.4%	6.4%	9.2%
Retail Trade	17,954	17,277	17,574	1.7%	-2.1%	3.0%	-2.7%
Accommodation and Food Services	14,445	14,189	14,372	1.3%	-0.5%	6.3%	2.1%
Educational Services	11,829	11,669	11,674	0.0%	-1.3%	1.5%	3.5%
Public Administration	10,479	10,606	10,615	0.1%	1.3%	-1.2%	-0.4%
Manufacturing	10,461	8,299	8,905	7.3%	-14.9%	5.1%	-8.4%
Construction	6,454	5,616	6,056	7.8%	-6.2%	12.8%	-8.7%
Finance and Insurance	5,083	4,699	4,824	2.7%	-5.1%	3.9%	1.5%
Mining	3,925	3,825	4,498	17.6%	14.6%	19.1%	12.9%
Professional, Scientific, and Tech Services	3,907	3,752	3,999	6.6%	2.4%	9.5%	2.7%
Arts, Entertainment, and Recreation	3,614	3,753	3,673	-2.1%	1.6%	1.0%	-1.6%

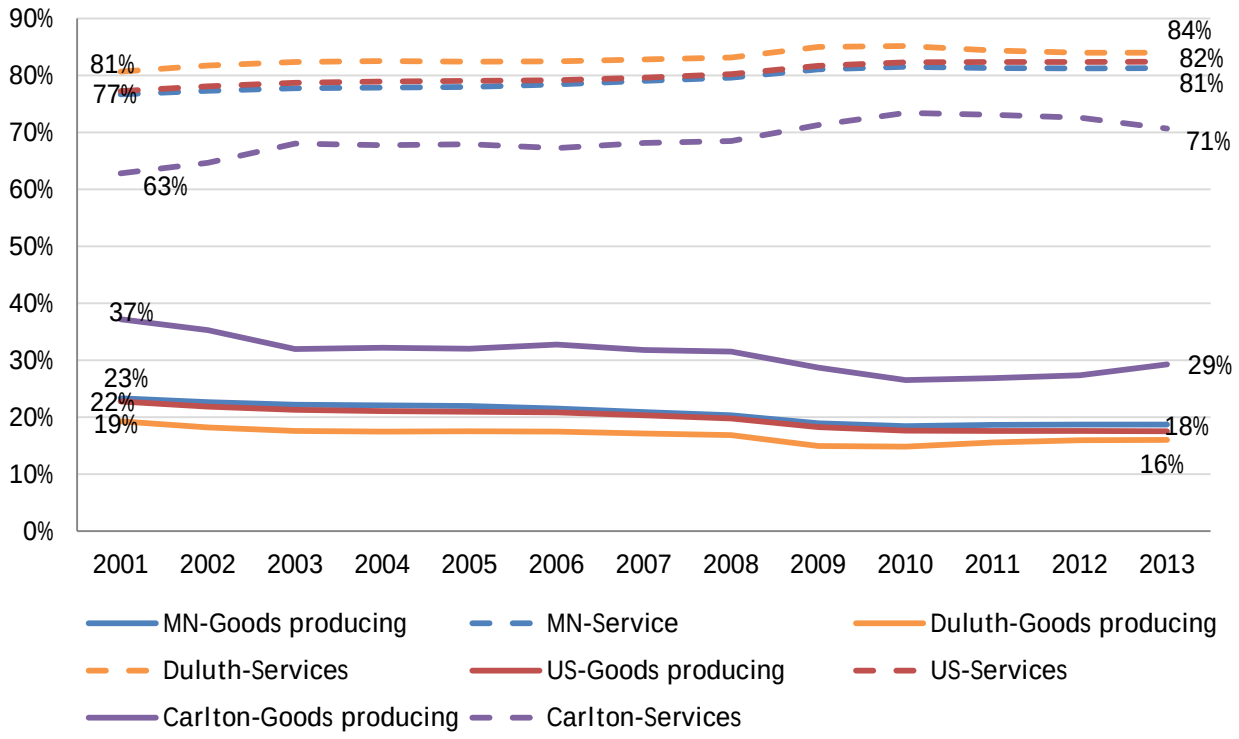
Source: QCEW, BLS, 2014. Goods producing industries are in green. Service providing industries are in blue.

CHANGING EMPLOYMENT MIX

Research commissioned by the Fond Du Lac Band highlights the change in employment mix for Carlton County and the Northeast region.[5] Over the last few decades, employment has declined in traditional export industries (manufacturing, mining, and logging) and risen in service related industries (professional, technical, food preparation, childcare, etc.). This trend, however, is not unique to the region. Well-noted forces (globalization, technology, demographics, and consumer preferences) have had profound influences on how nations, regions, localities, and individuals compete.

Figure 1 compares ramifications of these macroeconomic trends at the national, state and sub-state level. Even over a relatively short ten-year period, the percent of overall private employment in goods producing has declined across all geographies. The Duluth MSA, in spite of an overall increase in absolute number of goods producing jobs, saw the share of service employment increase from 81 to 84 percent. Minnesota saw goods producing employment drop from 22 to 18 percent, nearly identical to the U.S. overall (23 to 18 percent).

FIGURE 1: CHANGE EMPLOYMENT IN PRIVATE GOODS AND SERVICE DOMAINS, 2001-2013



Source: QCEW, BLS, 2014

[5] Power, T. and Power, D. (2012). *The Economic Impact of Class I Air Quality Redesignation for the Fond du Lac Reservation, Minnesota.* Retrieved from: http://bit.ly/101WDfN

Carlton Country had a much higher ratio of employment in goods producing jobs (37 percent) in the early 2000's than the other geographies. Since that time, employment fell to 27 percent in 2010, with losses concentrated in manufacturing and construction, before rebounding to 29 percent by 2013. Overall, the good producing domain in Carlton had a steeper decline than the state and nation, but remained well above the two on a percentage basis at the end of the period.

This national and regional shuffling of industry employment does not necessarily mean a decline in the importance of goods producing employment. These jobs still represent a significant share of employment in each of these regions and pay some of the highest wages. It also appears that the industry is hiring fewer individuals, but actually producing more goods. In the Duluth MSA, gross product (inflation adjusted 2009-chained dollars) from goods producing industries increased 37 percent from $2.14 billion in 2001 to $2.93 billion in 2013. [6] This production brings in money through exports and supports a range of industries and jobs throughout the broader economy.

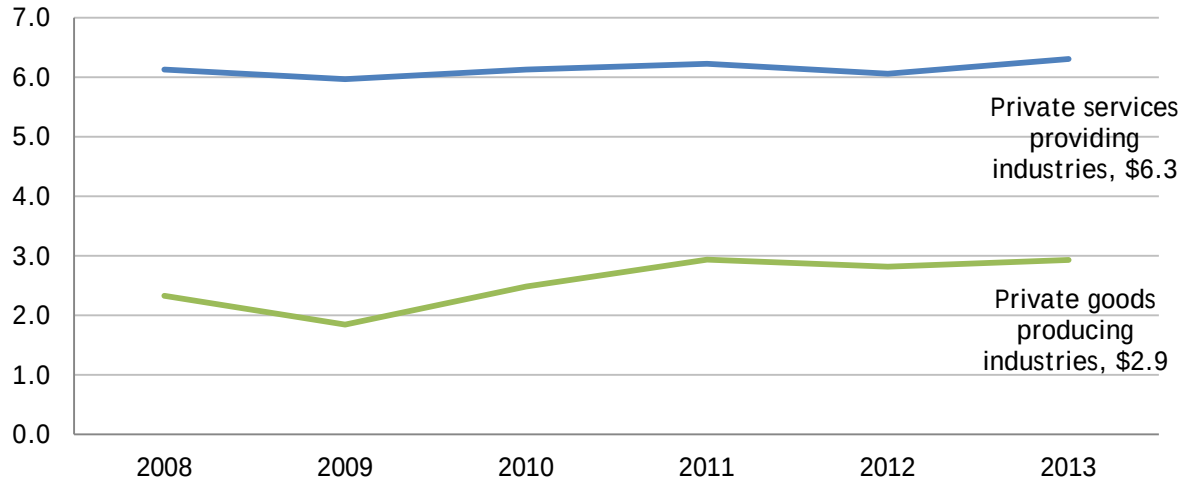
INDUSTRY GROSS PRODUCT

In addition to producing large shares of employment and relatively high-wages, the goods producing domain represents a large share of regional domestic product. In 2013, goods producing industries produced 32 percent of private sector Duluth MSA GDP. Over time, their share of regional GDP has increased rapidly—up from 28 percent in 2008.

Much of this expansion is from the natural resources and mining and transportation and utility sectors. Since 2009 (the first year data is available), Duluth's real regional product in natural resources and mining has grown 144 percent from 598 million to $1.46 billion in 2013 (in chained 2009 dollars). Transportation and utilities gross product, at least in part due to their supporting role for natural resources and mining, has grown 19.2 percent. Overall, private goods producing industries in the Duluth-MSA saw their product increase 58.6 percent from 2009 to 2013. Services-providing industries increased 5.7 percent.

[6] Bureau of Economic Analysis. (2014). Regional Data: GDP and Personal Income. U.S. Department of Commerce. Retrieved from: http://www.bea.gov/itable/ ; Similar data at the county or regional level is unavailable.

FIGURE 2: PRIVATE SECTOR SOURCES OF DULUTH MSA (BILLIONS OF CHAINED 2009 DOLALRS), 2008-2013



Source: QCEW, BLS, 2014

REGIONAL INDUSTRY PROJECTIONS

DEED's Labor Market Information (LMI) Office biannually releases a 10-year employment outlook for the state and its six planning regions. This forecast combines BLS national projections and regression analysis to help businesses, education institutions and policy makers plan for future industrial and occupational needs.

The model anticipates goods producing employment will expand by 15.7 percent from 2010 to 2020.[7] Of the industries in this domain, the construction industry has the fastest anticipated growth (33.4 percent) as it recovers from the depths of the great recession. Natural resources and mining and manufacturing are also anticipated to have increases of greater than 8.5 percent. The LMI office estimates trade, transportation and utilities—service industries highly dependent on manufacturing and mining—will increase employment by 6.3 percent.

The projections expect the service-providing domain to expand at a strong, but slightly slower, 12.1 percent pace. Within the services industry, medium to high skill industries have a wide variation of anticipated growth from 23 percent in professional and business services to 4.9 percent in the information sector. Education and health services have the fastest projected increase (31.5 percent) for the overall domain. Lower-skill leisure and hospitality (7 percent) and other services (i.e. auto repair, personal care, civic organizations; 5.9 percent) are expected to grow more slowly.

[7] Labor Market Information. (2012). *Employment Outlook.* Minnesota Department of Employment and Economic Development. Retrieved from: https://apps.deed.state.mn.us/lmi/projections/

Public administration, which falls in neither domain, is the only sector expected to decline. This is notable because it employed a much larger portion of the regional jobs (7.6 percent) than the state average (4.6 percent) in 2013.

TABLE 5: NORTHEAST MINNESOTA JOB PROJECTIONS, 2010-2020

Industry	Estimated Employment, 2010	Projected Employment 2020	Percent Change, 2010 - 2020
Northeast, Total All Industries	155,501	175,851	13.1%
Goods Producing Domain	**19,195**	**22,201**	**15.7%**
Natural Resources and Mining	5,583	6,110	9.4%
Construction	5,309	7,081	33.4%
Manufacturing	8,303	9,010	8.5%
Service Providing Domain	**125,020**	**140,131**	**12.1%**
Trade, Transportation and Utilities	25,354	26,957	6.3%
Information	1,949	2,044	4.9%
Financial Activities	6,033	6,370	5.6%
Professional and Business Services	8,534	10,496	23%
Education and Health Services	31,656	41,625	31.5%
Leisure and Hospitality	17,599	18,830	7%
Other Services	6,262	6,634	5.90%
Public Administration	27,633	27,175	-1.70%

Source: Employment Outlook, LMI, DEED, 2014

MULTIPLIER EFFECTS OF GOOD PRODUCING INDUSTRIES

The anticipated hiring in goods producing industries in Northeast Minnesota is positive not only for those employees directly hired, but also by the broader community. When an employee is hired, their wages ripple through the entire community. The size of these ripples can vary by industry.

Economic impacts are comprised of three different effects: direct, indirect and induced. Direct effects are the initial change in final demand, for example due to an expansion in employment. Indirect effects are impacts on suppliers, whose goods and services provide inputs for the expanding company. Induced effects are the impacts from increased spending of wages earned due to the expansion in a local economy. The three effects (direct + indirect + induced) equal are total effect.

Table 5 demonstrates the scale of these impacts with the hypothetical scenario that an industry hires ten new workers at the average industry wage. For example, if a paper mill added ten additional workers, businesses in the region are expected to add an additional 31.2 total jobs. In other words, ten direct jobs in paper mills and 21.2 jobs in other industries). These jobs would also increase labor income (wages, compensation and proprietor income) $2

million and add $4.7 million in value added (gross product) for the region. For the mining nonferrous metals industry, ten new jobs would produce 30.1 regional jobs, $3.1 million in labor income and $3.9 million in value added.

Put together, this equals the multiplier effect of an industry. The multiplier effect of one new job in truck transport is 1.6 total jobs in the overall economy. Put another way, the hiring of one additional truck driver means firms will create 0.6 jobs elsewhere in Northeast Minnesota. Employment multipliers for goods producing domain tend be much higher than the service industry. This makes sense as these industries require many intermediate supplies from producers (indirect effects) and typically have high wages and profits (induced effects). In the relevant selected examples below, the employment multiplier for goods producing industries ranged from 1.5 in plastics packaging materials manufacturing to 8.5 in forestry. For service-providing industries, they ranged from 1.2 in food services and drinking places to 1.6 in truck transport and hospitals. This analysis highlights that, all else equal, a region will likely have larger impacts from attracting one job in goods producing industries than one job in service producing industries.

TABLE 6: TOTAL ECONOMIC IMPACT OF 10 ADDITIONAL INDUSTRY WORKERS ON NORTHEAST MINNESOTA

Industry	**Employment**	**Labor Income (In $M)**	**Value Added (In $M)**	**Employment Multiplier**
Forestry	84.7	2.4	2.3	8.5
Paper Mills	31.2	2.0	4.6	3.1
Mining Nonferrous Metals	30.1	3.1	3.9	3.0
Electric Power Generation and Transmission	28.4	2.0	5.6	2.8
Mining Ferrous Metals	25.7	1.9	4.9	2.6
Fabricated Metal Structure Mfg.	17.7	0.9	1.5	1.8
Truck Transport	15.8	0.7	1.0	1.6
Private Hospitals	15.7	0.9	1.2	1.6
Plastics Packaging Materials Mfg.	15.1	0.7	1.3	1.5
Hotels and Motels	14	0.3	0.8	1.4
Amusement Parks, Arcades and Gambling Industries	12.7	0.3	0.6	1.3
Retail Stores- General Merchandise	12	0.3	0.6	1.2
Food Services and Drinking Places	11.8	0.2	0.4	1.2

Source: IMPLAN V3.1, 2013; Analysis by DEED Economic Analysis Unit, 2014. The analysis was completed for the seven county region of Northeast Minnesota.

CONCLUSION

A healthy goods producing domain is vital for a robust Northeast Minnesota economy. These industries produce a significant portion of the overall regional product, employ individuals in high wage positions, and have larger than average multiplier effects in the broader regional economy. Since the Great Recession, goods producing industries have been one of the catalysts for the larger regional revival.

Service producing industries play a key role in regional health and stability and increasingly represent a larger share of employment. Any future increases in employment in these areas will be vital to the regional economy. However, this sector is often incapable of reproducing the high-wages and export potential of goods producing industries.

Fortunately, the future prospects for the goods producing domain in the region are strong. With new mineral extraction projects and increased manufacturing, the region should expect to see increasing employment in these areas. Moreover, the additional spending will have positive impacts on other supporting industries.

In a larger sense, this is not just a discussion on the merits of goods producing versus service providing industries. It is a much broader conversation on regional identity and competition in a global market place. Perhaps the most famous modern researcher on regional competiveness, Michael Porter, once noted, "Endowments create a foundation for prosperity, but true prosperity is created by productivity in the use."[8] Northeast's two greatest endowments are the natural beauty of the area and the natural resources that lay below it. The ability of the region to create an inclusive economic strategy that strikes a balance between the two may be the key to a prosperous future.

[8] Porter, Michael E. (2012). *Regional Competiveness and the Role of Business.* Presenting at Encuentro de Comisiones Regionales de Competitividad. April 26, 2012. Retrieved from: http://hbs.me/1thOKNL

Mining Tax Guide

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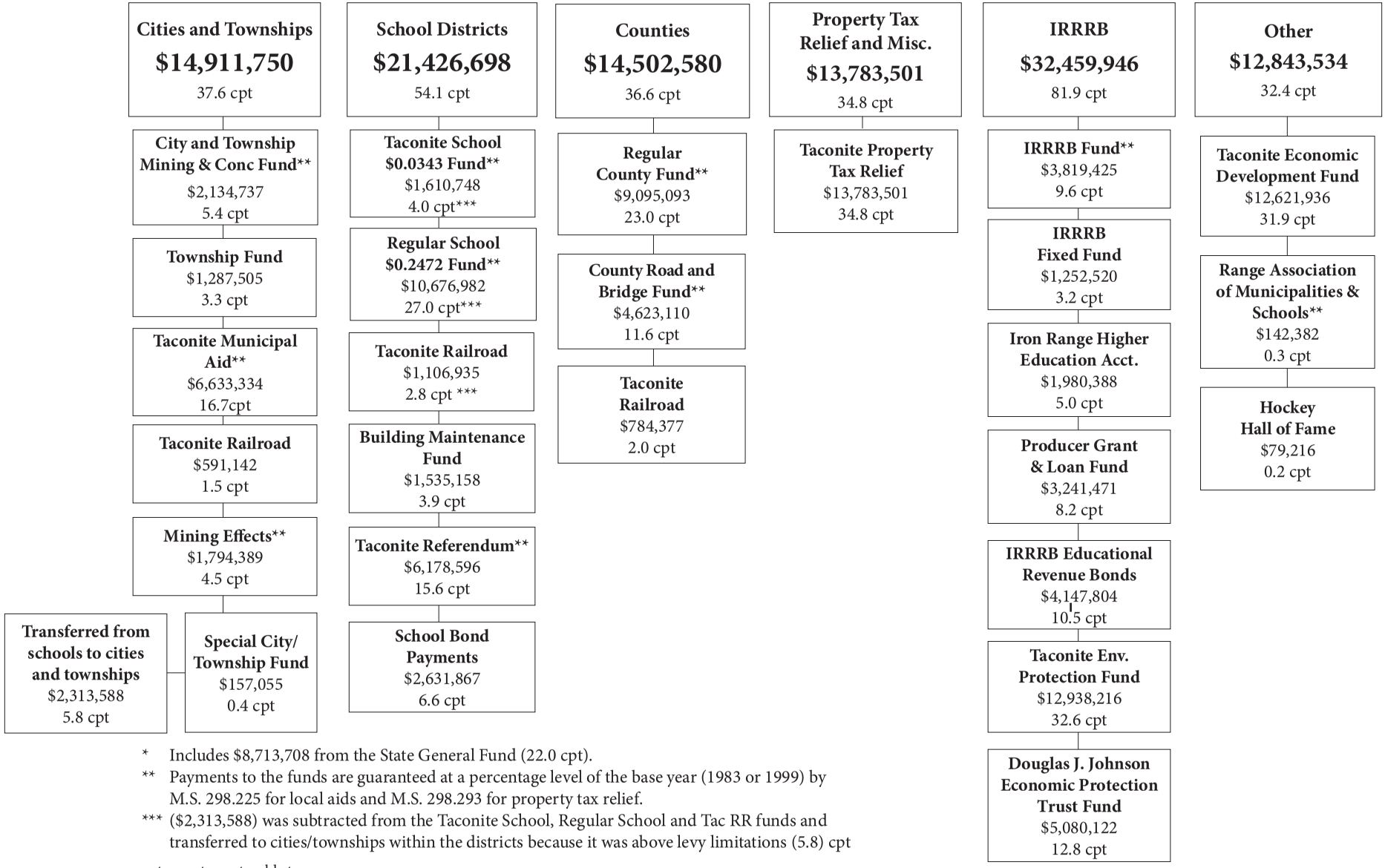
2014 Distribution of Taconite Production Tax

(Based on 2013 Production Year)

Total Taconite Production Tax — $109,928,009*

Production tax per taxable ton – $2.560. Taxable tonnage – 39,607,765 tons.



* Includes $8,713,708 from the State General Fund (22.0 cpt).

** Payments to the funds are guaranteed at a percentage level of the base year (1983 or 1999) by M.S. 298.225 for local aids and M.S. 298.293 for property tax relief.

*** ($2,313,588) was subtracted from the Taconite School, Regular School and Tac RR funds and transferred to cities/townships within the districts because it was above levy limitations (5.8) cpt

cpt = cents per taxable ton

Table of Contents

Data Charts

Minerals and Mining Agencies

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Terry O'Neil , Inspector of Mines

More mining data coming to our website in 2015!

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Overview

The *Minnesota Mining Tax Guide* is published to identify all Minnesota mining-related taxes paid by the mining industry. This book strives to simplify the complicated tax statutes using language that is easy to understand and non-technical narratives, tables, graphs and flowcharts.

Taconite Production Tax

The taconite production tax is the largest tax paid by the iron mining industry. It is a major source of revenue to the counties, municipalities and school districts within the taconite assistance area.

The production tax distributed in 2014 is the tax due for the 2013 production year. The taconite production tax rate for concentrates and pellets produced in 2013 was $2.560 per taxable ton. An additional tax of three cents per ton is imposed for each 1 percent that the iron content exceeds 72 percent. The taxable tonnage for 2013 is the average tonnage produced in 2011, 2012 and 2013. If this tax is imposed on other iron-bearing material, it is applied to the current-year production.

The inside front cover illustrates how the production tax is distributed. It shows both the cents per ton (cpt) distribution and the total amount distributed to various funds. The funds to which the production tax are distributed are explained on pages 7–11, *Distribution of Funds.*

State Taxes

Other major taxes paid by the mining industry are the occupation tax, similar to an income tax, pages 31 - 34, and sales and use tax, pages 37–38. These taxes are deposited in the State General Fund.

Aggregate Material Sales/Use Tax

An explanation of sales and use tax on aggregate material is found on page 39.

County Taxes

Other taconite and iron ore ad valorem (property) taxes are paid directly to the counties, pages 40–46. These are property taxes assessed on auxiliary mining lands, unmined taconite, unmined natural iron ore, taconite railroads and severed mineral interests.

Taxes on Other Minerals

Taxes on minerals other than taconite or iron ore, such as gold, silver, copper, nickel, lead and other nonferrous minerals are explained on page 47.

Figure 1

Iron Ore Production Comparison

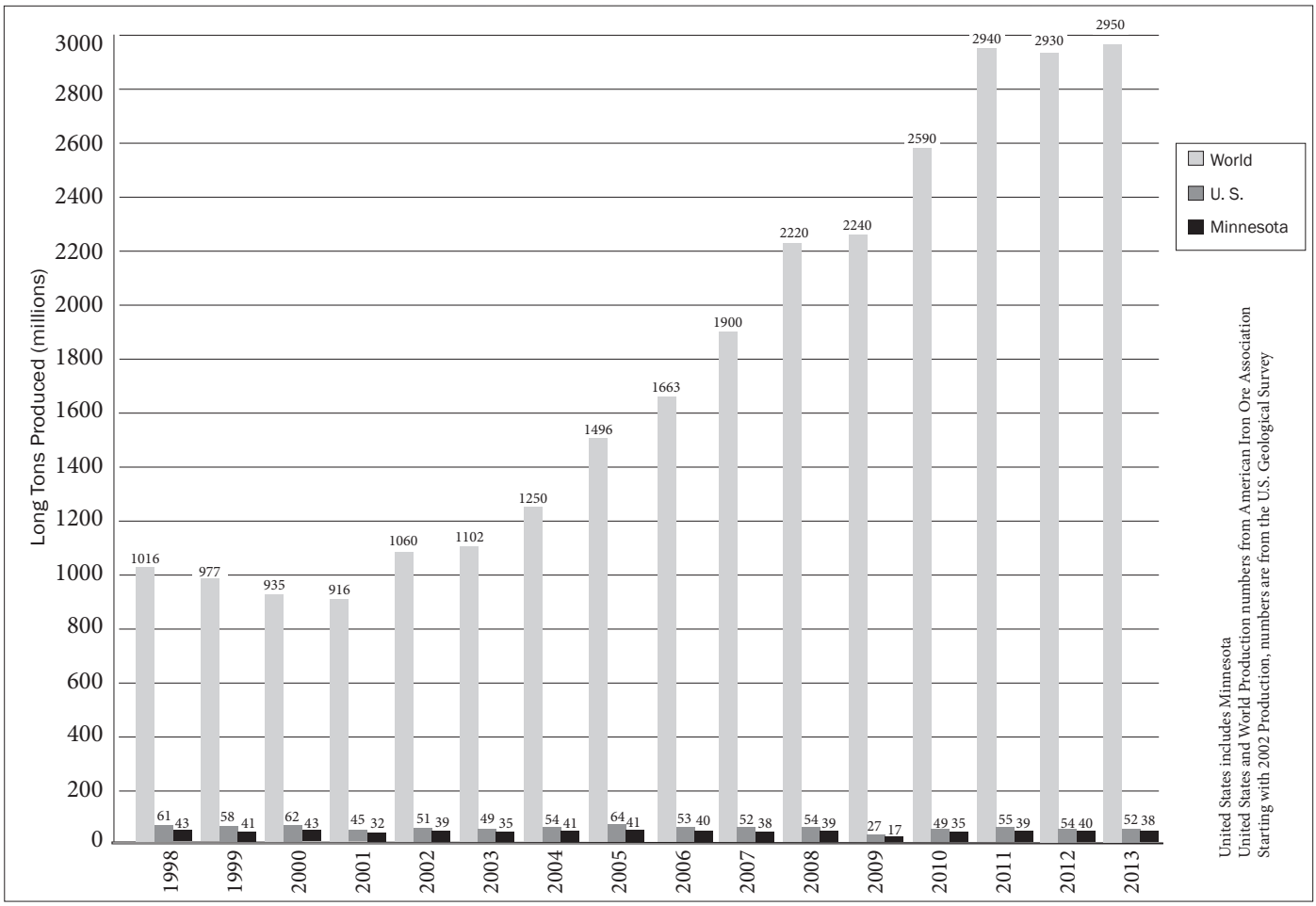


Figure 2

Distribution of Mining Taxes
Production year 2013 tax obligations - $151,563,702

$109,928,009*	$15,776,560	$232,427	$24,636,760	$989,946**	None
Taconite production tax	**Occupation tax**	**Income tax (withholding) on mining royalties**	**Sales and use tax**	**Various ad valorem and property taxes**	**Net proceeds tax**
Cities and townships	State General Fund 50%	State General Fund 100%	State General Fund 100%	Cities and townships	Within Taconite Tax Relief Area Distribution to local governments, schools and IRRRB funds similar to the taconite production tax
School districts	Elementary and secondary education 40%			School districts	Outside the Taconite Tax Relief Area State General Fund 100%
Counties	University of Minnesota 10%			Counties	No minerals subject to this tax are currently mined.
IRRRB				Indian Affairs Council	
Miscellaneous					

These taxes are related to "property tax." They are paid to the county in which the property is located and then distributed proportionately among the counties, cities, townships and school districts.

**Taxes included:

-Tax on unmined taconite	$279,594
-Ad valorem tax on natural iron ore	110,800
-Ad valorem tax on taconite railroads	34,082
-Tax on severed mineral interests	565,470
	$989,946

Payable 2014, except severed minerals are payable 2013

* Includes $8,713,708 appropriation from the State of Minnesota General Fund.

Figure 3

Minnesota Taconite Production Summary (1950–2013)

	Butler[1]	Eveleth	Hibbing Taconite	Inland	Erie/LTV[2]	National	Reserve[3]	U.S. Steel–Minntac	Total
1950-59	–	–	–	–	8,698,109	–	19,505,772	3,844,384	**32,048,265**
1960-69	6,563,140	7,044,287	–	–	84,781,306	3,596,325	85,868,508	17,114,580	**204,968,146**
1970-79	24,252,403	27,977,804	14,112,865	4,396,278	96,017,018	30,997,498	92,258,522	108,033,775	**398,046,163**
1980-89	9,310,164	42,496,916	64,376,577	20,019,655	55,458,801	37,585,214	23,114,810	93,151,913	**345,514,050**
							Cyprus/ Northshore		
1990-94	–	19,349,520	39,391,327	11,627,818	36,182,510	19,149,095	12,605,743	64,514,640	**202,820,653**
							Northshore		
1995-02	–	36,278,954	59,316,864	20,677,968	42,417,328	40,691,180	30,353,690	103,671,262	**333,407,246**
		United Taconite				**U.S. Steel–Keewatin Taconite**			
2003	–	1,630,242	7,769,999	2,657,673	–	4,376,891	4,683,657	13,231,018	**34,349,480**
2004	–	4,030,871	8,101,948	2,693,971	–	5,343,915	4,912,594	14,327,728	**39,411,027**
2005	–	4,836,140	8,147,611	2,558,197	–	5,196,512	4,799,887	13,996,412	**39,534,759**
				Mittal Steel USA					
2006	–	4,207,096	8,125,923	2,707,562	–	5,234,336	4,970,526	13,702,701	**38,948,144**
				Arcelor-Mittal					
2007	–	5,278,708	7,265,682	2,495,201	–	5,220,394	4,975,108	12,750,828	**37,985,921**
2008	–	4,986,395	8,058,366	2,571,803	–	4,663,703	5,299,304	13,588,239	**39,167,810**
2009	–	3,777,486	1,693,512	1,364,783	–	74,680	3,081,289	7,087,356	**17,079,106**
2010	–	5,028,482	5,697,457	2,604,162	–	4,883,724	4,599,796	12,226,427	**35,040,048**
2011	–	5,095,221	7,604,595	2,625,659	–	4,969,039	5,591,721	13,047,915	**38,934,150**
2012	–	5,220,491	7,753,828	2,658,023	–	5,144,477	5,140,985	13,063,450	**38,981,254**
2013	–	5,081,692	7,312,252	2,645,243	–	4,956,740	3,776,603	13,448,911	**37,221,441**
Total	**40,125,707**	**182,320,305**	**254,728,806**	**84,303,996**	**323,555,072**	**182,083,723**	**315,538,515**	**530,801,539**	**1,913,457,663**

[1] Butler closed in 1986.
[2] Erie sold to LTV in 1987. LTV closed in 2001.
[3] Reserve closed in 1987.

Note:
- Numbers after 1986 do not include flux.
- Beginning in 1990, all weights are dry.
- Taconite production tax report tonnages are used.

Figure 4

Minnesota Taxes Levied on Taconite

Production years	Unmined taconite tax	Use tax (net)[1]	Production tax	Occupation tax[2]	Royalty tax[3]	School bonds	Railroad gross earnings tax[4]	Total taxes	Total tons produced[5]	Total taxes per ton
1956-60	–	–	$2,457,832	$1,046,907	$1,730,615	$6,410,394	$2,570,566	$14,216,314	42,259,000	$.34
1961-65	–	–	4,884,757	6,830,282	1,926,246	8,372,662	5,843,668	27,857,615	81,923,000	.34
1966-70	$64,000	–	12,558,526	10,726,680	3,519,487	7,518,661	7,982,248	42,369,602	145,015,000	.29
1971-75	64,000	$7,214,111	65,013,384	44,909,601	9,262,076	3,841,750	12,321,573	142,626,495	192,013,000	.74
1976-80	471,966	45,967,313	324,497,931	78,350,978	18,142,273	852,437	14,733,733	483,016,631	214,883,632	2.25
1981-85	1,573,792	36,976,524	376,270,806	63,263,212	20,447,300	2,740,712	10,904,721	512,177,067	166,940,177	3.07
1986-90	1,850,555	42,451,323	308,322,812	16,989,611	9,581,602	3,935,120	4,739,807	387,870,830	178,831,169	2.17
1991-95	2,013,388	61,954,403	411,847,680	10,728,133	–	4,868,599	919,839	492,332, 042	205,300,201	2.40
1996-00	2,102,157	42,631,033	467,090,494	11,497,627	–	1,977,079	592,377	525,890,767	219,266,001	2.40
2001	316,140	(1,652,702)	72,842,808*	56,153	–	–	71,861	71,634,260	31,628,494	2.26
2002	317,033	844,287	74,814,128*	1,340,700	–	–	24,636	77,340,784	37,511,567	2.06
2003	300,173	1,197,577	72,497,652*	1,441,500	–	–	20,483	75,457,385	34,349,480	2.20
2004	273,601	8,514,814	79,262,806*	5,659,500	–	–	17,208	93,727,929	39,411,027	2.38
2005	261,687	7,825,884	78,544,450	6,650,000	–	–	14,287	93,296,308	39,534,759	2.36
2006	532,102	8,744,868	84,451,384	7,736,000	–	–	13,135	101,477,489	38,948,144	2.61
2007	495,033	6,603,598	85,644,627	10,358,000	–	–	12,275	103,113,533	37,985,921	2.71
2008	466,991	9,554,673	89,630,648	23,388,181	–	–	8,977	123,049,470	39,167,810	3.14
2009	238,274	(2,835,766)	74,255,473	340,000	–	–	9,612	72,007,593	17,079,106	4.22
2010	239,518	17,101,895	72,441,708	12,617,000	–	–	10,137	102,410,258	35,122,570**	2.92
2011	228,517	24,673,718	73,287,396	22,055,000	–	–	10,725	120,255,356	39,120,810**	3.07
2012	297,390	2,579,876	94,204,746	21,817,000	–	–	13,632	118,912,644	39,680,723	3.00
2013	**279,594**	**24,636,760**	**101,214,301**	**15,776,560**	**–**	**–**	**34,082**	**141,941,297**	**38,481,228**	**3.69**

Taxes often levied (assessed) for one year and paid in the following year

1 Total use tax less total refunds paid after 1990, see *Figure 33.*

2 Amount paid (unaudited).Does not include adjustments.

3 Repealed effective after December 31, 1989.

4 Repealed effective after December 31, 1988. Beginning with payable 1990, taconite railroads were taxed on an ad valorem basis.

5 Tons are without flux additive beginning in 1987. Beginning in 1990, production tons are reported dry.

* Full amount of tax levied. Does not include bankruptcy adjustments.

** Includes tonnage produced by Mesabi Nugget but not taxed under production tax.

Taconite Production Tax

(M.S. 298.24, 298.27 and 298.28)

Definition

The taconite production tax is a severance tax paid on concentrates or pellets produced by the taconite companies. It is paid in lieu of ad valorem (property) taxes on taconite and lands containing taconite. Land and structures used in the production of taconite are also excluded from property tax, with some exceptions (see pages 40 and 41). Electric power plants principally devoted to the generation of power for taconite mining and concentrating are considered to be used in the production of taconite (or direct reduced ore) and are covered by the *in lieu exemption* for property taxes. If part of the power is used for other purposes, that proportion of the power plant is subject to the general property tax. The power plant must be owned by a company subject to production tax to qualify for the exemptions.

Tax Rate

The taconite production tax rate for any given year is determined by multiplying the prior year's rate by the percentage change in the Gross Domestic Product Implicit Price Deflator (GDPIPD) from the fourth quarter of the second preceding year to the fourth quarter of the preceding year. The U.S. Department of Commerce publishes the GDPIPD monthly in *Survey of Current Business*. This escalator takes effect each year unless the rate is frozen or changed by the Minnesota State Legislature. The tax rate for the 2013 production year was $2.560 per taxable ton. For concentrates produced in 2014, the rate escalated to $2.597 per taxable ton.

Taxable Tons

The taconite production tax is levied on taxable tons, which are the average tons produced during the current year and the previous two production years. This eliminates the peaks and valleys of tax payments by the taconite producers and distribution to the tax recipients. The result is a more stable tax base resembling a property tax. The tax for a producer of other iron bearing material is based on the current year production.

Distribution

Under Minnesota law, taconite production tax revenues are distributed to various cities, townships, counties and school districts within the Taconite Assistance Area. This is an area comprising the present taconite mining areas plus areas where natural ore was formerly mined.

Funds are also allocated to the Iron Range Resources & Rehabilitation Board (IRRRB), which administers the Taconite Environmental Protection Fund (TEPF), the Douglas J. Johnson Economic Protection Trust Fund (DJJ), the Taconite Economic Development Fund (TEDF) (sometimes referred to as the Mining Reinvestment Fund), the Taconite Assistance Program and other loan and grant programs for both the range cities and townships and the taconite industry. More information about the IRRRB can be found on pages 27–30.

Payment Dates and Method

For taxes payable in 2004 and thereafter, the payments are due 50 percent on February 24 and 50 percent on August 24. The Department of Revenue must notify each taconite producer of its tax obligation for the year before February 15.

Each producer must make payments to six counties and the IRRRB on or before the due date. Payments are made to Aitkin, Cook, Crow Wing, Itasca, Lake and St. Louis Counties, and to the IRRRB. The county auditors then make payments to cities, townships, school districts, and other recipients.

Taconite Economic Development Fund (M.S. 298.227)

The Taconite Economic Development Fund (TEDF) was first created for production year 1992 at a rate of 10.4 cents per taxable ton.

No distribution is made under the TEDF in any year in which total industry production falls below 30 million tons. Any portion of the TEDF fund not released within one year of deposit is divided, with two-thirds to the Taconite Environmental Protection Fund and one-third to the Douglas J. Johnson Economic Protection Trust Fund. The 2001 legislature made the TEDF permanent at 30.1 cpt for distributions in 2002 and thereafter. The first 15.4 cents (of the 30.1 cents) did not require a matching investment by the company. A matching expenditure of at least 50 percent is required to qualify for the additional 14.7 cents per ton (above 15.4 cents). Beginning with distributions in 2014, a matching investment of the entire 30.1 cents is required. The legislature reduced the distributions to 25.1 cents beginning with 2015 distributions.

In addition, if a producer uses money from the fund to procure haulage trucks, mobile equipment, or mining shovels, and the producer removes the piece of equipment from the taconite tax relief area defined in M.S. 273.134 within ten years from the date of receipt of the money from the fund, a portion of the money granted from the fund must be repaid to the TEDF. The portion of the money to be repaid is 100 percent of the grant if the equipment is removed from the taconite tax relief area within 12 months after receipt of the money from the fund, declining by ten percent for each of the subsequent nine years during which the equipment remains within the Taconite Tax Relief Area.

Each producer has two potential sources of TEDF money:

1. **Acid or fluxed pellets** — The production tax amount credited to each producer's share of the TEDF is 30.1 cpt.
2. **Pellet chips and fines** — An amount equal to 50 percent of the tax for pellet chips and fines sold not exceeding 5/16-inch, is allocated to each company's share of the TEDF. The total amount may not exceed $700,000 for all companies. If the total claimed exceeds $700,000, each company's share will be prorated. The determination of this allocation is

Taconite Production Tax (cont.)

based on current production year **sales** of chips, fines and concentrate—not the three-year average of production. Sales of crushed pellets *do not* qualify for this credit. [M.S. 298.28, subd. 9a(b).]

Therefore, each company is eligible to receive 30.1 cents per taxable ton plus an additional amount based on current year tons of chips and fines sold. A list of TEDF-funded projects and yearly distributions is shown in *Figure 21*.

Fluxed Pellets

Fluxed pellets have limestone or other basic flux additives combined with the iron concentrates before pelletizing. Two companies, ArcelorMittal and USS, produce fluxed pellets, although all have experimented with them. United Taconite, Hibbing Taconite, Keewatin Taconite and Northshore are producing a partially fluxed pellet containing a low percentage of limestone additives.

M.S. 298.24, subd. 1 (f) allows the weight of flux added to be subtracted from the pellet weight for production tax purposes. All tables in the *Minnesota Mining Tax Guide* with production statistics use an equivalent or calculated weight for fluxed pellets. The taxable weight is the dry weight less the weight of the flux. The weight of the flux is determined by a metallurgical calculation based on the analyses of the finished pellet, the concentrate and the flux stone. Beginning in 1988 (1987 production year), a flux credit was allowed against production tax.

Occupation tax is based on iron units and uses the full weight including flux.

Pellet Weighing

Pellet tonnages are reported on a dry weight basis. This began with the 1990 production year.

Definition of Taconite Tax Relief Area

One common prerequisite exists for all taconite aids and grants; the recipient must be within the geographic confines of the Taconite Tax Relief Area or the Taconite Assistance Area. This is defined by state laws (M.S. 273.134 and M.S. 273.1341) as follows:

"Taconite Tax Relief Area" means the geographic area contained within the boundaries of a school district that meets the following qualifications:

(1) It is a school district in which the assessed valuation of unmined iron ore on May 1, 1941, was not less than 40 percent of the assessed valuation of all real property and whose boundaries are within 20 miles of a taconite mine or plant; or

(2) It is a school district in which, on Jan. 1, 1977, or the applicable assessment date, there is a taconite concentrating plant or where taconite is mined or quarried or where there is located an electric generating plant which qualifies as a taconite facility.

Definition of Taconite Assistance Area

A "Taconite Assistance Area" means the geographic area that falls within the boundaries of a school district that contains a municipality in which the assessed valuation of unmined iron ore on May 1, 1941, was not less than 40 percent of the assessed valuation of all real property, or contains a municipality in which there was a taconite facility or taconite power plant on January 1, 1977. Any area within the Taconite Tax Relief Area is also considered to be within the Taconite Assistance Area.

State Appropriation (M.S. 298.285)

The Department of Revenue determines a state aid amount equal to a tax of 22 cents per taxable ton of iron ore concentrates. It is distributed under M.S. 298.28 as if the aid were production tax revenues. The aid is appropriated from the state's General Fund.

2014 Legislation

For 2013 production, distributable in 2014 only, a special fund was established to receive 18.84 cents per ton from the balance of the Taconite Property Tax Relief Account. The funds were allocated to 18 various public work and economic development projects.

For 2014 production and forward:

(1) The Iron Range school consolidation and cooperatively operated school account was created and will be administered by the IRRRB. It will receive distributions from the following:

- For production years 2014 through 2022, the fund will receive ten cents per ton from taconite production tax. This will be reduced to five cents per ton beginning with the 2023 production year.
- For production years 2014, 2015 and 2016, the fund will receive two-thirds of the amount generated by the increase in the tax rate due to the change in the GDPIPD. This amount is cumulative over the three years.
- Six cents per ton will be annually allocated to the fund from the occupation tax by May 15.

(2) For production years 2014, 2015 and 2016, the Douglas J. Johnson Economic Protection Trust Fund will receive the remaining one-third of the amount generated by the increase in the tax rate due to the change in the GDPIPD. This amount is cumulative over the three years.

(3) The escalation factor used for the township fund, 6.5 cent IRRRB fund, Taconite Property Tax Relief Account, and the Douglas J. Johnson Economic Protection Trust fund was frozen for the 2014, 2015 and 2016 production years.

(4) The distribution to the county fund was reduced by five cents per ton to 10.525 cents per ton.

(5) The M.S. 298.225 guarantee distribution to the county fund was reduced by five cents per ton.

(6) The distribution to the Taconite Economic Development Fund was reduced by five cents per ton to 25.1 cents per ton.

For 2016 production and forward, beginning the production year after a taconite school bond receives its last taconite payment, an amount equal to what the bond received from the 2012 (pay 2013) production year distributions will be added to the Iron Range school consolidation and cooperatively operated school account fund with the amount being deducted from the same sources as the original bond. (The 2016 production year is the first year this would apply.)

For 2023 production and forward:
(1) The distribution to the Iron Range school consolidation and cooperatively operated school account will be reduced from 10 cents per ton to five cents per ton.

(2) The five cents per ton distribution to the County road and bridge fund will be increased to 10 cents per ton.

2014 Distribution of Funds (M.S. 298.28)

Subd. 2 - Cities and Towns Where Mining & Production is located

(a) The Taconite Cities and Towns Fund allocates 4.5 cents per ton to cities and towns where taconite mining and concentrating occur. Fifty percent goes to cities and townships in which mining activity occurs. The remaining 50 percent goes to cities and townships in which concentrating taconite occurs. *Note: This is done on a company-by-company basis.*

If both mining and concentrating take place in a single taxing district, the entire 4.5 cents is allocated there. If mining occurs in more than one city or town, the revenue (2.25 cpt) is divided based on either a percentage of taconite reserves or a four-year production average. Most taconite mines have mining in two or more areas.

If concentrating is split between two or more cities or towns, the revenue (2.25 cpt) is divided by the percentage of hours worked in each. The primary crusher is considered the first stage of concentration. The only current examples are Northshore (Babbitt, Beaver Bay Township and Silver Bay), former LTV (Hoyt Lakes and Schroeder Township-LTV power plant), and United Taconite (Eveleth, Fayal Township, and McDavitt Township). Beaver Bay Township qualifies due to the location of the tailing basin that is part of the concentrating process. Distribution detail is shown in *Figure 10*.

(b) Mining Effects — Four cents per taxable ton is allocated to cities and organized townships affected by mining because their boundaries are within three miles of a taconite mine pit that was actively mined in at least one of the prior three years. If a city or town is located near more than one mine meeting the criteria, it is eligible to receive aid calculated from only the mine producing the largest taxable tonnage. When more than one municipality qualifies for aid based on one company's production, the aid must be apportioned among the municipalities in proportion to their populations. The money must be used for infrastructure improvement projects.

(c) If there are excess distributions from the 3.43 cent, 24.72 cent, and taconite railroad school funds after covering the levy reduction in M.S. 126C.48, subd. 8, then the excess money must be distributed to the cities and townships within the school district in the proportion that their taxable net tax capacity within the school district bears to the net tax capacity of the school district for property taxes payable in the year prior to distribution.

Subd. 3 - Taconite Municipal Aid Account

(a) The Taconite Municipal Aid is funded at 12.5 cents per taxable ton. The Kinney-White allocation (par. b and c) and the 0.3 cent Range Association of Municipalities and Schools (RAMS) allocation in subd. 8 are subtracted from it. The payment is made on September 15. Each city or township first receives the amount it was entitled to receive in 1975 from the occupation tax. The amount is then reduced according to the percentage aid guarantee provisions in M.S. 298.225. For example, if production levels mandate a 90 percent aid guarantee, then the occupation tax grandfather amount is also reduced to 90 percent. The remainder of the aid is distributed according to a complex formula using levies, valuation, population and fiscal need factors.

The first step in this formula is to determine the fiscal need factor (FNF). The FNF is a three-year average of the sum of the local government aid (LGA), local levy and production tax revenues received by the community. Next, the local effort tax capacity rate equals the fiscal need factor per capita (FNFPC) divided by 17. If the FNFPC is greater than 350, the local effort tax capacity rate (LETCR) is 350 divided by 17 plus the excess over 350 divided by 15. The minimum allowable LETCR is 8.16. The final step in this formula is to compute the distribution index (DI). The DI for a community equals its FNF minus LETCR times the adjusted net tax capacity divided by 100.

$$\text{If FNFPC} \leq 350, \text{LETCR} = \frac{\text{FNFPC}}{17}$$

$$\text{If FNFPC} > 350, \text{LETCR*} = \frac{350}{17} + \frac{(\text{FNFPC} - 350)}{15}$$

$$\text{DI} = (\text{FNF minus LETCR*}) \times \frac{\text{Adjusted Net Tax capacity}}{100}$$

* Minimum allowable LETCR = 8.16

A DI is determined for all eligible communities. A percentage is determined by comparing the DI of a particular community to the total of distribution indexes for all eligible communities. This percentage is then multiplied

Taconite Production Tax (cont.)

by the amount of available municipal aid to determine an amount for each community. Prior to this calculation, the occupation tax grandfather amounts and special aid for the city of Kinney and township of White are subtracted from the total available to the Taconite Municipal Aid Fund.

The conditions necessary for a municipality to qualify for this aid are identical to the qualifications for the 66 percent taconite property tax relief listed under subd. 6 (see page 9). The state laws governing Taconite Municipal Aid are M.S. 273.134, 298.28, subd. 1, Clause 2, and 298.282. Distribution detail is shown in *Figure 10*.

(b) and (c) - Additional money is allocated to cities and townships if more than 75 percent of the city's assessed valuation consisted of iron ore as of Jan. 2, 1980, or if more than 75 percent of the township's assessed valuation consisted of iron ore on Jan. 2, 1982. The distribution is calculated using certified levies, net tax capacities and population. Currently, only White Township and the city of Kinney qualify.

(d) The Township Fund was funded at 3 cents per ton for townships located entirely within the Taconite Tax Relief Area for 2009 distributions. For distributions in 2010 and subsequent years, the 3 cents is escalated in the same proportion as the Implicit Price Deflator as provided in M.S. 298.24, subd. 1. The money is distributed to the townships on a per capita basis with a maximum of $50,000 per township. If a township would receive more than $50,000, the portion that exceeds $50,000 is redistributed among the townships under $50,000.

Subd. 4 - School Districts

(a) A total of 32.15 cents per taxable ton is allocated under (b) and (c), plus the amount in paragraph (d).

(b) (i) Taconite School Fund (3.43 cents)
A total of 3.43 cents per taxable ton for each taconite company is allocated to school districts in which mining and concentrating occurs. If the mining and concentrating take place in separate districts, 50 percent is allocated to the location of mining and 50 percent to concentrating. In addition, if the mining occurs in more than one school district, the 50 percent portion is further split based on either a four-year average of production or a percentage of taconite reserves. If the concentrating function of a company takes place in more than one school district, the 50 percent portion is further split according to hours worked in each district. The primary crusher, tailings basin and power plant owned by a taconite company are considered part of concentrating. When these are in different school districts from the plant, the hours-worked split is used. Distribution detail is shown in *Figure 11*.

(b) (ii) School Building Maintenance Fund (4 cents)
Four cents per taxable ton is allocated to specified school districts, based on proximity to a taconite facility, to be used for building maintenance and repairs. The money allocated from each taconite facility shall be apportioned between its recipient school districts based on pupil units.

a. Keewatin Taconite proceeds are allocated to the Coleraine and Nashwauk-Keewatin districts.
b. Hibbing Taconite proceeds are allocated to the Chisholm and Hibbing districts.
c. ArcelorMittal and Minntac proceeds are allocated to the Mountain Iron-Buhl, Virginia, Mesabi East and Eveleth-Gilbert districts.
d. Northshore Mining proceeds are allocated to the St. Louis County and Lake Superior districts.
e. United Taconite proceeds are allocated to the St. Louis County and Eveleth-Gilbert districts.

This additional money is not subject to the 95 percent levy limitations in M.S. 126C.48, subd. 8.

(c) Regular School Fund (24.72 cents)
A total of 24.72 cents per taxable ton is split among the 15 school districts in the Taconite Tax Relief Area. Each school district receives the amount it was entitled to receive in 1975 from the taconite occupation tax (under M.S. 298.32). This amount may be increased or reduced by the percentage aid guarantee provisions of M.S. 298.225. The remaining amount in the fund is distributed using an index based on pupil units and tax capacities. Generally, districts with larger tax capacities per pupil unit tend to receive a proportionately smaller amount of this fund. Eleven cents per ton of this distribution is not subject to the 95% levy limitation in M.S. 126C.48, subd. 8. Distribution detail is shown in *Figure 11*.

The index is calculated as follows: The pupil units for the prior school year are multiplied by the ratio of the average net tax capacity per pupil unit of all taconite districts to the adjusted net tax capacity per pupil unit of the district. Each district receives the portion of the distribution that its index bears to the sum of the indexes for all taconite school districts.

(d) Taconite Referendum Fund (21.3 cents)
The Taconite Referendum Fund (TRF) receives an allocation of 21.3 cents per taxable ton. Taconite school districts receive money from the fund on July 15 based on two calculations: (1) an additional $175 per pupil unit over and above state aids by passing a special levy referendum equal to 1.8 percent of net tax capacity. The pupil units used in the computation are the greater of the previous year or the 1983-84 school year units. The fund pays the difference between the local levy and $175 per pupil unit. (2) A second calculation equal to 22.5 percent of the amount obtained by subtracting 1.8 percent of the district's net tax capacity from the district's 2012 weighted average daily membership times the sum of (A) $415, plus (B) the district's fiscal year 2013 referedum allowance. If any money remains in the fund, it is distributed to the Taconite Environmental Protection Fund (two-thirds) and the Douglas J. Johnson Economic Protection Trust Fund (one-third). *Note: A district receiving money from the TRF*

must reserve the lesser of $25 or the amount received per pupil unit (of the $175 authorized) for early childhood programs or outcome-based learning programs. Distribution detail is in *Figure 11.*

(e) Each school district is entitled to receive the amount it received in 1975 under M.S. 298.32 (Occupation Tax Grandfather).

Subd. 5 - Counties

(a) The allocation of 26.05 cents per taxable ton to taconite counties (subject to adjustment by M.S. 298.225) is to be distributed under subd. 5(b) through (d). The amounts listed in (b) and (d) are the statutory amounts prior to any adjustment by M.S. 298.225. Distribution detail is shown in *Figure 13.*

(b) Taconite Counties with Mining or Concentrating
An amount of 15.525 cents per taxable ton is distributed to the county in which the taconite is mined or quarried or in which the concentrate is produced (split in the same manner as taconite cities and towns), less any amount distributed in subd. 5(c). Distribution detail is shown in *Figure 13.*

(c) Counties - Electric Power Plant
If an electric power plant owned by and providing the primary source of power for a taconite plant is located in a county other than the county in which the mining and concentrating processes are conducted, one cent per ton (for that company) is distributed to the county in which the power plant is located. *This one cent is not escalated but is subject to M.S. 298.225 adjustment with variable guarantee.*

Cook County continues to receive aid based on Minnesota Power's power plant, located in Taconite Harbor, due to the guarantee provided by M.S. 298.225. (Minnesota Power has owned and operated the power plant since purchasing it during LTV's bankruptcy in 2001.) For the 2013 production year, this amounted to $93,251. The one cent per ton distribution for the 1983 base year was figured on 9,793,639 tons. The current year M.S. 298.225 guarantee percentage is always applied.

$0.01 x 9,793,639 x 95.215530% = $93,251

There is also a transfer of $21,450 ({1983 base of $22,528} x 95.215530%) to the county fund covered in subd. 6(b). Therefore, Cook County receives a total of $114,701 due to the power plant.

(d) Taconite County Road and Bridge
Each county receives a portion of the aid that is deposited in the County Road and Bridge Fund in the same manner as taconite cities and towns. The basic allocation is 10.525 cents per taxable ton subject to adjustment as in M.S. 298.225. Distribution detail is shown in *Figure 13.*

Subd. 6 - Taconite Property Tax Relief

(a) Taconite Property Tax Relief
The amount sent to this fund was rebased by the 2013 legislature at 34.8 cents per taxable ton for the 2013 production year. The fund will resume indexing by using the Gross Domestic Product Implicit Price Deflator beginning with the 2017 production year. The qualifications and distribution of Taconite Property Tax Relief are described in the following paragraphs.

The *Taconite Homestead Credit* reduces the tax paid by owners of certain properties located on the Mesabi and Vermillion ranges located within the Taconite Tax Relief Area. The properties receiving this credit are owner-occupied homes and owner-occupied farms.

If an owner-occupied home or farm is located in a city or town that contained at least 40 percent of its valuation as iron ore on May 1, 1941, or which had a taconite mine, processing plant, or electric generating facility on January 1, 1977, or currently has a taconite mine, processing plant, or electric generating facility, the taconite credit is 66 percent of the tax, up to a maximum credit of $315.10 for taxes payable in 2014.

If the property is not located in such a city or town, but is located in a school district containing such a city or town, the taconite credit is 57 percent of the tax, up to a maximum credit of $289.80.

The total amount of taconite property tax relief paid in each county and school district is listed in *Figure 7.* An example of the calculation is shown in *Figure 8.*

State laws governing taconite property tax relief are contained in M.S. 273.134 to M.S. 273.136 and M.S. 298.28, subd. 6. This is guaranteed by the Douglas J. Johnson Economic Protection Trust Fund as stated in M.S. 298.293.

b) Electric Power Plant Aid from Property Tax Relief
For any electric power plant located in another county, as described in 5(c), 0.1875 cent per taxable ton (cpt) from the Taconite Property Tax Relief account is paid to the county. The distribution is subject to the M.S. 298.225 variable guarantee. For the 2013 production year, $21,450 was distributed, with the entire amount coming from the M.S. 298.225 guarantee (calculation details on page 9 under (c) counties).

(c) Electric Power Plant Aid from Property Tax Relief
This subdivision allocates 0.4541 cent per LTV's taxable tonnage to the Cook County school district due to LTV's power plant in Cook County. The distribution is subject to the M.S. 298.225 guarantee at 31.2 percent or the variable rate, whichever is less. For the 2013 production year, $21,087 was distributed. This is calculated by multiplying the 1983 base of $67,586 x .312 = $21,087.

Taconite Production Tax (cont.)

Subd. 7 — Iron Range Resources & Rehabilitation Board (IRRRB)

An amount of 6.5 cents per taxable ton escalated by the Gross National Product Implicit Price Deflator is allocated to the IRRRB (subject to M.S. 298.225 guarantee). The funds are used by the IRRRB for general operating expenses and community development grants.

Subd. 8 — Range Association of Municipalities & Schools (RAMS)

An amount equal to 0.3 cent per taxable ton (subject to M.S. 298.225 guarantee) is paid to the RAMS to provide an area-wide approach to problems that demand coordinated and cooperative actions. All cities, towns and schools in the taconite and iron ore mining area are included. This amount is subtracted from the Taconite Municipal Aid distribution in subd. 3.

Subd. 9 — Douglas J. Johnson Economic Protection Trust Fund (DJJ)

In addition to the amount provided in the remainder after all other distributions are completed, 3.35 cents per taxable ton is allocated to the DJJ for production year 1998 and thereafter.

Subd. 9a — Taconite Economic Development Fund

This subdivision is explained in detail on pages 5 and 29.

Subd. 9b — Producer Grants

Five cents per taxable ton must be paid to the Taconite Environmental Protection Fund (TEPF) for use under M.S. 298.2961, subd. 4.

Subd. 9c — City of Eveleth

The City of Eveleth shall receive 0.20 cents per taxable ton for support of the Hockey Hall of Fame provided that an equal amount of donations have been received. Any amount of the 0.20 cents per ton that exceeds the donations shall be distributed to the IRRRB.

Subd. 9d — Iron Range Higher Education Account

Five cents per taxable ton must be allocated to the IRRRB to be deposited in the Iron Range Higher Education account to be used for higher education programs conducted at educational institutions in the Taconite Assistance Area defined in M.S. 273.1341. The Iron Range Higher Education committee under M.S. 298.2214 and the IRRRB must approve all expenditures from the account.

Subd. 10 — Indexing

Beginning with distribution in 2000 (1999 production year), the amounts determined under subd. 6, paragraph (a), subd. 7 and subd. 9 are increased in the same proportion as the increase in the implicit price deflator as provided in M.S. 298.24, subd. 1.

Subd. 11— Remainder

(a) After calculating the initial distributions to the various funds and grandfathered amounts including (b) & (c) below, the remainder is distributed two-thirds to the TEPF and one-third to the DJJ. Any interest earned on money on deposit by the counties is sent to the IRRRB to be split into the two funds using the same two-thirds/one-third apportionment.

(b) Taconite Railroad
Until 1978, the taconite railroad gross earnings tax was distributed to local units of government based on a formula of 50 percent to school districts, 22 percent city or town, 22 percent county, and six percent state. The respective shares were further split based on miles of track in each government unit. Beginning in 1978, the distributions were frozen at the 1977 level and funded from production tax revenues. The total amount distributed in 2013 is $2,482,454. Taconite railroad aids are not subject to the percentage reduction mandated for other aids by M.S. 298.225 and so remain constant from year to year. Beginning with the 2002 production year, the taconite railroad distribution to schools was reduced to 62 percent of the 1977 amount.

(c) Occupation Tax Grandfather Amount to IRRRB
In 1978 and each year thereafter, the amount distributed to the IRRRB was the same as it received in 1977 from the distribution of the taconite and iron ore occupation taxes: $1,252,520.

Additional Payments

In Minnesota Laws 2013, Chapter 143, Article 11, Section 11, the legislature authorized the Commissioner of IRRRB to issue $38,000,000 in revenue bonds to make grants to school districts within the Taconite Assistance Area. The grants are to be used for various building projects with the exception of ISD 2142 which must use the grant for debt service reduction for a bond passed in 2009. The revenue bonds are paid from taconite production tax revenues prior to the calculation of the remainder under M.S. 298.28, subd. 11, with a maximum of 10 cents per ton. Any amount above 10 cents per ton will be paid by the DJJ fund.

Although the following payments are not included in M.S. 298.28 or its subdivisions, they are subtracted after dividing the remainder described in subd. 11.

These payments are listed in detail on page 21 and consist of school bond payments to school districts within the Taconite Tax Relief Area and Taconite Assistance Area. Most are funded 80 percent taconite and 20 percent local efforts.

In Minnesota Laws 2005, Chapter 152, Article 1, Section 39 the legislature authorized the Commissioner of IRRRB to issue $15,000,000 in revenue bonds to make grants to school districts in the Taconite Tax Relief Area or Taconite Assistance Area. The bonds are to be used by the school districts to pay for health, safety and maintenance improvements. The bonds are funded in equal shares from the TEPF and the DJJ. Minor amendments were made by the 2006 legislature.

Aid Guarantee (M.S. 298.225)

The recipients of the taconite production tax, provided in M.S. 298.28, subds. 2 to 5, subd. 6, paragraphs (b) and (c) and subds. 7 and 8, are guaranteed to receive distributions equal to the amount distributed to them with respect to the 1983 production year, provided that production is not less than 42 million taxable tons. If the production is less, the amount distributed from the fund is reduced proportionately by two percent per each 1,000,000 tons by which the taxable tons are less than 42 million tons. For example, if the taxable tonnage (three-year average) is 39.8 million then the proportionate reduction is 4.4 percent. This is calculated by multiplying two percent times 2.2 million tons.

This aid guarantee is funded equally from the initial current year distributions to the TEPF and the DJJ. If the initial distributions are insufficient to fund the difference, the Commissioner of the IRRRB makes the payments of any remaining difference from the capital of the TEPF and the DJJ in equal proportions.

The Commissioner of the Minnesota Department of Revenue determines the amounts. The aid payments covered by this variable guarantee are listed as follows:

1. 4.5 cents—Taconite Cities and Towns Fund
2. 12.2 cents—Taconite Municipal Aid Account
3. 21.3 cents— Taconite Referendum Fund
4. 6.5 cents—escalated to IRRRB
5. 0.3 cent—RAMS
6. 0.1875 cent—Electric Power Plant Aid is transferred from Taconite Property Tax Relief Account to Cook County
7. 4 cents - Mining Effects Fund (uses 1999 production year as base year)

The following funds are guaranteed at 75 percent or the variable guarantee, whichever is less:

1. 15.525 cents—Taconite County Fund
2. 10.525 cents—Taconite County Road and Bridge Fund

The following funds are guaranteed at 31.2 percent or the variable guarantee, whichever is less:

1. 24.72 cents—Regular School Fund
2. 3.43 cents—Taconite School Fund
3. 0.4541 cent—Electric Power Plant Aid is transferred from Taconite Property Tax Relief Account to School District 166, Cook County

The Taconite Property Tax Relief Account is not covered by M.S. 298.225, but is separately guaranteed by the DJJ, as stated in M.S. 298.293.

Taconite Production Tax (cont.)

Taconite Production Tax Distribution Calculation (M.S. 298.28)

The taconite mining companies make the production tax payments directly to six counties (Cook, Lake, St. Louis, Itasca, Crow Wing and Aitkin) and the IRRRB. Each county auditor is responsible for making the taconite aid payments to the various jurisdictions within the county. St. Louis County was designated as fiscal agent for the taconite property tax relief account and issues taconite property tax relief checks to the other counties. The State of Minnesota also makes a payment of 22 cents per taxable ton (payable 2014). This money was added to the amount available for distribution.

The Minnesota Department of Revenue makes all computations regarding the amount paid by the companies, state and the aid payments due to cities, schools, townships, counties and IRRRB. Interest earnings on undistributed funds are remitted by the counties to the IRRRB.

The proceeds of the 2013 taconite production tax (payable 2014) were distributed as follows:

M.S. 298.28	Payment Recipients	Cents per Taxable Ton
Subd. 2a	Taconite cities and towns	4.5
Subd. 2b	Taconite cities and towns (mining effects)	4.0
Subd. 3	Taconite municipal aid account	12.2
Subd. 3(d)	Township Fund	3.0*
Subd. 4	School districts	
	(b)(i) Taconite schools (mining and/or concentrating in the district)	3.43
	(b)(ii) School Building Maintenance Fund	4.0
	(c) Regular School Fund (distributed by formula)	24.72
	(d)Taconite Referendum Fund	(formula amount–see page 9)
Subd. 5	Counties	
	(b and c) Taconite counties (includes electric power plant)	15.525
	(d) Taconite county Road and Bridge	10.525
	Counties total	**26.05**
Subd. 6	Taconite property tax relief	
	(includes .6416 cents for Cook County and Cook County Schools)	34.8*
Subd. 7	IRRRB	6.5*
Subd. 8	Range Association of Municipalities and Schools	0.3
Subd. 9	Douglas J. Johnson Economic Protection Trust Fund	3.35*
Subd. 9a	Taconite Economic Development Fund	30.1
Subd. 9b	Taconite Environmental Fund for use in Producer Grants	5.0**
Subd. 9c	City of Eveleth (Hockey Hall of Fame)	0.2
Subd. 9d	Iron Range Higher Education Account	5.0
Subd. 10	Indexing provisions	-
Subd. 11	Distribution of remainder	-

* These funds are escalated using the Gross Domestic Product Implicit Price Deflator. After escalation, the cents per ton for Township fund was 3.25 cents, Taconite Property Tax Relief was 34.8 cents, IRRRB was 8.75 cents, and the Douglas J. Johnson Economic Protection Trust Fund was 4.44 cents.

** Plus amount of revenue due to tax increase generated in pay 2005.

The full amount distributed, including escalation and M.S. 298.225 guarantees, is listed in Figure 9.

Taconite Environmental Protection Fund (TEPF) and Douglas J. Johnson Economic Protection Trust Fund (DJJ) (M.S. 298.223 and 298.291)

The TEPF and the DJJ (formerly known as Northeast Minnesota Economic Protection Trust Fund) were established by the 1977 Legislature. These two funds receive the remainder of the production tax revenues after all distributions are made according to M.S. 298.28. The remainder is split with one-third to the DJJ and two-thirds going to the TEPF.

The TEPF was created for the purpose of reclaiming, restoring and enhancing those areas of Minnesota that are adversely affected by environmentally damaging operations involved in mining and producing taconite and iron ore concentrate. The scope of activities includes local economic development projects. The IRRRB Commissioner administers the fund, and the board and the governor approve projects.

The DJJ is somewhat different in that only interest and dividends earned by the fund may be spent before January 1, 2028. Expenditures from the principal may be made with approval from the IRRRB for economic development projects.

Figure 5

DJJ and TEPF Fund Balances

Period Ending	DJJ Balance	TEPF Balance
June 30, 2005	$83,433,221	$15,691,497
June 30, 2006	80,394,959	9,234,489
June 30, 2007	84,478,169	9,659,460
June 30, 2008	88,971,850	8,332,921
June 30, 2009	91,327,362	10,849,252
June 30, 2010	95,098,257	17,047,396
June 30, 2011	83,749,720	16,816,569
June 30, 2012	85,974,981	14,686,541
June 30, 2013	89,788,626	10,802,916
June 30, 2014	**$66,697,130**	**$11,195,092**

DJJ Major Withdrawals

Feb. 2006	$6.49 million	Loan to Mesabi Nugget (LTV Lands)
May 2009	$6.04 million	Mesabi Nugget Loan repayment/transfer (M.S. 298.2931 and 298.223, subd. 1[6])
Oct. 2010	$8.7 million	Redemption of Giants Ridge Revenue Bonds
June 2011	$4 million	Loan to PolyMet Mining
June 2012	$250,000	Big Trout Lakes—Chisholm property
June 2013	($2 million)	GR Bond Redemption repayment
Nov. 2013	$5.04 million	Loan to Chisholm/Hibbing Airport
April 2014	$20 million	Loan to Segetis

Taconite Production Tax (cont.)

Taconite Property Tax Relief

The taconite homestead credits described on page 9 are administered by the county auditors. Distribution is determined by the formula described on page 15. The amounts do not equal the total production tax allocated for property tax relief shown in the tables as collections or payments. The difference is carried in the Taconite Property Tax Relief Fund balance with St. Louis County as fiscal agent. If the fund balance and production tax collections are not sufficient to make the payments, the deficit is made up from the Douglas J. Johnson Economic Protection Trust Fund. The last time this occurred was in 1989.

Figure 6

Taconite Property Tax Relief Fund Balance

Year Payable	Payments into Account[1]	Interest & Other	Payments Out (by formula)	Balance December 31
2005	$13,567,734[2]	$398,393	$11,254,494	$27,145,288
2006	14,449,177[2]	941,169	11,400,696	31,134,938
2007	14,753,800	1,336,342	22,435,332[3]	24,789,748
2008	16,347,135[2]	1,545,680	19,931,625[4]	22,750,938
2009	9,770,711[2]	520,872	11,506,130	21,536,391
2010	12,468,249	431,000	19,902,000[5]	14,534,000
2011	11,846,794	160,000	11,845,000	14,696,000
2012	12,801,910	27,200	11,546,000	15,979,000
2013	16,493,071	33,341	26,239,269[6]	6,265,724
2014	13,783,501			

1 Listed under year payable; for example, 2014 payments result from 2013 production.
2 Includes bankruptcy settlements of $49,173 from United Taconite in 2005; $729,423 from LTV in 2006; $1,312,081 from EVTAC in 2008; and $36,324 from EVTAC in 2009.
3 Includes $10,887,059 in public works and local economic development projects.
4 Includes $4,323,954 in public works and local economic development projects.
5 Includes $9,032,845 in public works and local economic development projects.
6 Includes $14,826,100 in public works and local economic development projects.

Figure 7

2013 Taconite Property Tax Relief Fund Distribution

Total by School District

	Mobile home	Real property
166 - Cook County	$1,278	$528,489
316 - Coleraine	2,418	839,325
319 - Nashwauk-Keewatin	819	402,097
381 - Lake Superior	675	1,409,315
695 - Chisholm	147	582,431
696 - Ely	346	561,973
701 - Hibbing	6,699	1,767,785
706 - Virginia	453	1,031,215
712 - Mt. Iron-Buhl	2,786	461,447
2142 - St. Louis County	1,443	1,965,295
2154 - Eveleth-Gilbert	707	935,218
2711 - Mesabi East	541	905,494
Total Payable 2013	**$18,312**	**$11,390,084**

Total by County

	Mobile home	Real property	Total
(69) St. Louis	$13,464	$8,471,826	$8,485,290
(31) Itasca	3,237	1,241,422	1,244,659
(38) Lake	330	1,143,642	1,143,972
(16) Cook	1,278	528,489	529,767
(36) Koochiching	3	4,705	4,708
Total Payable 2013	**$18,312**	**$11,390,084**	**$11,408,396**

Mobile homes are taxed differently from other real estate in that they are assessed and taxed in the same year.

The supplemental property tax relief paid from the State General Fund revenue to the Deer River (Itasca Co.), Floodwood (St. Louis Co.), Aitkin, Crosby-Ironton and Grand Rapids school districts is not included in any of the production tax tables.

Figure 8

Taconite Residential Homestead Credit Examples
Taxes payable 2014

Gross tax computation	66% Example 1	66% Example 2
1. Estimated Market Value [EMV]	$50,000.00	$100,000.00
2. Homestead Market Value Exclusion	$20,000.00	$28,240.00
3 Taxable Market Value [TMV] (1-2)	$30,000.00	$71,760.00
4. Class Rate	1.00%	1.00%
5. Net Tax Capacity [NTC]	$300.00	$717.60
6. Local Tax Rate	130.00%	130.00%
7. Net Tax Capacity Tax (5 x 6)	$390.00	$932.88
8. Referendum Tax Rate	0.09500%	0.09500%
9. Referendum Tax (8 x 1)	$47.50	$95.00
10. Gross Tax (7 + 9)	$437.50	$1,027.88
Net tax and taconite credit computation		
11. Taconite Credit (10 x 66%, $315.10 maximum)	$288.75	$315.10
12. Net Tax (10 - 11)	$148.75	$712.78

Gross tax computation	57% Example 1	57% Example 2
1. Estimated Market Value [EMV]	$50,000.00	$100,000.00
2. Homestead Market Value Exclusion	$20,000.00	$28,240.00
3 Taxable Market Value [TMV] (1-2)	$30,000.00	$71,760.00
4. Class Rate	1.00%	1.00%
5. Net Tax Capacity [NTC]	$300.00	$717.60
6. Local Tax Rate	130.00%	130.00%
7. Net Tax Capacity Tax (5 x 6)	$390.00	$932.88
8. Referendum Tax Rate	0.09500%	0.09500%
9. Referendum Tax (8 x 1)	$47.50	$95.00
10. Gross Tax (7 + 9)	$437.50	$1,027.88
Net tax and taconite credit computation		
11. Taconite Credit (10 x 57%, $289.80 maximum)	$249.38	$289.80
12. Net Tax (10 - 11)	$188.12	$738.08

Taconite Production Tax (cont.)

Figure 9

Taconite Production Tax Distribution*

Production Year	2009	2010	2011	2012	2013
City and township	$1,741,289	$1,707,978	$1,706,822	$2,066,752	2,134,737
Township Fund	961,848	938,421	949,390	1,223,128	1,287,505
Taconite municipal aid	5,361,555	5,234,627	5,223,462	6,355,475	6,633,334
Special City/Township Fund***	49,156	93,382	157,055	157,055	157,055
Mining effects	1,503,108	1,474,603	1,472,299	1,758,238	1,794,389
School district — regular	1,329,597	1,296,216	1,294,390	1,566,247	1,610,748
School district fund	5,823,744	5,670,746	5,662,383	6,908,326	10,676,982
School Building Maintenance Fund	1,256,439	1,217,160	1,214,044	1,506,072	1,535,158
Taconite Levy Shortfall Payment	501,635	807,218	–	–	–
Taconite Referendum Fund	3,067,031	2,974,743	3,077,212	3,091,236	6,178,596
County	8,861,655	8,862,567	8,866,377	9,000,065	9,095,093
County road and bridge	3,760,396	3,657,961	3,652,361	4,486,556	4,623,110
Taconite Property Tax Relief	3,435,404	11,846,794	12,801,910	16,493,071	13,783,501
IRRRB ($.03 Indexed)	2,881,831	2,811,548	2,840,686	3,636,468	3,819,425
Range Association of Municipalities and Schools	113,697	110,294	110,110	137,802	142,382
Taconite railroad (fixed)	2,482,454	2,482,454	2,482,454	2,482,454	2,482,454
IRRRB (fixed)	1,252,520	1,252,520	1,252,520	1,252,520	1,252,520
School bond payments	4,119,962	4,021,158	3,542,825	3,363,147	2,631,867
Taconite Environmental Protection Fund	13,200,509	6,386,643	6,897,113	13,318,892	12,938,216
Producer Grant & Loan Fund	2,831,630	2,782,967	2,780,307	3,176,600	3,241,471
Douglas J. Johnson Economic Protection Trust Fund	4,302,341	842,910	1,214,783	5,017,442	5,080,122
IRRRB Educational Revenue Bonds	1,407,525	1,408,725	1,408,525	1,411,925	4,147,804
Iron Range Higher Education Acct	1,570,547	1,521,884	1,519,224	1,915,517	1,980,388
Taconite Economic Development Fund	254,341	9,673,605	9,845,732	12,231,412	12,621,936
Hockey Hall of Fame	62,822	60,876	–	76,621	79,216
Transfer from schools to cities**	–	–	–	–	–
Public Works & Local Economic Development Fund	9,032,845	–	–	–	–
Excess School levy replacement money****	–	–	(309,725)	(1,742,074)	(2,313,588)
Levy replacement money to cities/townships****	–	–	309,725	1,742,074	2,313,588
Total	**$81,165,881**	**$79,138,000**	**$79,971,984**	**$102,633,021**	**$109,928,009**

* The production tax is collected and distributed in the year following production. For example, the 2013 production tax was collected and distributed during 2014.

** This is excess school levy reduction money that will be used to reduce levies of cities and townships within the school district.

*** Prior to 2009, this amount was included in the Taconite municipal aid amounts.

**** If the combined total of the school district fund, regular school fund and Taconite railroad exceeds the levy replacement amount, the excess is transferred to cities & townships within the district.

Figure 10

2014 Taconite Production Tax Distribution to Cities and Townships

(Based on 2013 production year tax revenues)

	4.5 cent mining & conc.	4.0 cent mining effects	M.S. 298.28 subd. 3(b)	3.0 cent township fund	Taconite railroad*	Taconite municipal aid	Transferred from schools	Total
AITKIN COUNTY								
Aitkin	–	–	–	–	–	–	$4,117	**$4,117**
Palisade	–	–	–	–	–	–	291	**291**
Aitkin Township	–	–	–	–	–	–	4,178	**4,178**
Farm Island Township	–	–	–	–	–	–	10,776	**10,776**
Fleming Township	–	–	–	–	–	–	3,883	**3,883**
Glen Township	–	–	–	–	–	–	4,478	**4,478**
Hazelton Township	–	–	–	–	–	–	8,005	**8,005**
Kimberly Township	–	–	–	–	–	–	1,263	**1,263**
Lakeside Township	–	–	–	–	–	–	428	**428**
Lee Township	–	–	–	–	–	–	190	**190**
Libby Township	–	–	–	–	–	–	480	**480**
Logan Township	–	–	–	–	–	–	915	**915**
Malmo Township	–	–	–	–	–	–	2,639	**2,639**
Morrison Township	–	–	–	–	–	–	855	**855**
Nordland Township	–	–	–	–	–	–	6,712	**6,712**
Spencer Township	–	–	–	–	–	–	2,046	**2,046**
Verdon Township	–	–	–	–	–	–	57	**57**
Waukenabo Township	–	–	–	–	–	–	3,112	**3,112**
Wealthwood Township	–	–	–	–	–	–	2,361	**2,361**
Workman Township	–	–	–	–	–	–	136	**136**
COOK COUNTY								
Grand Marais	–	–	–	–	–	–	7,570	**7,570**
Lutsen Township	–	–	–	$19,310	–	–	13,734	**33,044**
Schroeder Township	$8,457	–	–	9,609	47,700	0	5,695	**71,461**
Tofte Township	–	–	–	11,431	–	–	5,976	**17,407**
CROW WING COUNTY								
Crosby	–	–	–	–	–	236,041	3,331	**239,372**
Crosslake	–	–	–	–	–	–	279	**279**
Cuyuna	–	–	–	–	–	–	903	**903**
Deerwood	–	–	–	–	–	–	1,790	**1,790**
Emily	–	–	–	–	–	–	8,206	**8,206**
Ironton	–	–	–	–	–	56,286	742	**57,028**
Riverton	–	–	–	–	–	4,065	294	**4,359**
Trommald	–	–	–	–	–	3,263	240	**3,503**
Bay Lake Township	–	–	–	–	–	–	13,092	**13,092**
Center Township	–	–	–	–	–	–	1,915	**1,915**
Deerwood Township	–	–	–	–	–	–	7,155	**7,155**
Fairfield Township	–	–	–	–	–	–	2,320	**2,320**
Irondale Township	–	–	–	–	–	39,062	3,587	**42,649**
Lake Edward Township	–	–	–	–	–	–	3,231	**3,231**
Little Pine Township	–	–	–	–	–	–	801	**801**
Mission Township	–	–	–	–	–	–	9,071	**9,071**
Nokay Township	–	–	–	–	–	–	25	**25**
Oak Lawn Township	–	–	–	–	–	–	467	**467**
Pelican Township	–	–	–	–	–	–	1,639	**1,639**
Perry Township	–	–	–	–	–	–	1,452	**1,452**
Rabbitt Lake Township	–	–	–	–	–	0	1,940	**1,940**
Ross Lake Township	–	–	–	–	–	–	3,443	**3,443**
Wolford Township	–	–	–	–	–	21	2,196	**2,217**
ITASCA COUNTY								
Big Fork	–	–	–	–	–	–	965	**965**
Bovey	0	–	–	–	–	65,745	9,749	**75,494**
Calumet	–	–	–	–	–	33,260	4,590	**37,850**
Cohasset	–	–	–	–	–	0	49,744	**49,744**
Coleraine	–	–	–	–	–	90,993	43,702	**134,695**
Effie	–	–	–	–	–	–	260	**260**

Taconite Production Tax (cont.)

Figure 10

2014 Taconite Production Tax Distribution to Cities and Townships (cont.)

(Based on 2013 production year tax revenues)

	4.5 cent mining & conc.	4.0 cent mining effects	M.S. 298.28 subd. 3(b)	3.0 cent township fund	Taconite railroad*	Taconite municipal aid	Transferred from schools	Total
ITASCA COUNTY CONTINUED								
Grand Rapids	–	–	–	–	–	–	52,020	**52,020**
Keewatin	46,126	68,104	–	–	–	113,872	13,247	**241,349**
LaPrairie	–	–	–	–	–	–	19,203	**19,203**
Marble	–	–	–	–	–	49,506	7,339	**56,845**
Nashwauk	20,342	62,757	–	–	–	101,807	18,463	**203,369**
Squaw Lake	–	–	–	–	–	–	302	**302**
Taconite	30,640	–	–	–	–	28,554	18,155	**77,349**
Warba	–	–	–	–	–	–	611	**611**
Alvwood Township	–	–	–	–	–	–	392	**392**
Arbo Township	–	–	–	–	–	–	4,385	**4,385**
Ardenhurst Township	–	–	–	–	–	–	1,798	**1,798**
Balsam Township	–	–	–	–	–	–	8,139	**8,139**
Bearville Township	–	–	–	–	–	–	2,758	**2,758**
Big Fork Township	–	–	–	–	–	–	1,743	**1,743**
Blackberry Township	–	–	–	–	–	–	5,505	**5,505**
Carpenter Township	–	–	–	–	–	–	2,571	**2,571**
Feeley Township	–	–	–	–	–	–	3,632	**3,632**
Good Hope Township	–	–	–	–	–	–	919	**919**
Goodland Township	–	–	–	21,313	–	–	24,991	**46,304**
Grattan Township	–	–	–	–	–	–	264	**264**
Greenway Township	19,359	–	–	39,438	–	27,826	24,283	**110,906**
Harris Township	–	–	–	–	–	–	19,401	**19,401**
Kinghurst Township	–	–	–	–	–	–	926	**926**
Lawrence Township	–	–	–	19,901	–	–	19,301	**39,202**
Liberty Township	–	–	–	–	–	–	457	**457**
Lone Pine Township	5,744	25,650	–	18,353	–	2,685	29,476	**81,908**
Max Township	–	–	–	–	–	–	917	**917**
Moose Township	–	–	–	–	–	–	572	**572**
Nashwauk Township	93,055	44,426	–	31,788	–	17,737	27,485	**214,491**
Nore Township	–	–	–	–	–	–	435	**435**
Pomroy Township	–	–	–	–	–	–	285	**285**
Sago Township	–	–	–	–	–	–	1,800	**1,800**
Spang Township	–	–	–	–	–	–	2,146	**2,146**
Splithand Township	–	–	–	–	–	–	1,227	**1,227**
Stokes Township	–	–	–	–	–	–	1,224	**1,224**
Third River Township	–	–	–	–	–	–	590	**590**
Trout Lake Township	61	–	–	–	–	–	29,882	**29,943**
Wabana Township	–	–	–	–	–	–	6,560	**6,560**
Wawina Township	–	–	–	–	–	–	1,918	**1,918**
Wildwood Township	–	–	–	–	–	–	1,899	**1,899**
LAKE COUNTY								
Beaver Bay	–	–	–	–	–	–	2,733	**2,733**
Silver Bay	102,980	–	–	–	152,706	239,771	7,037	**502,494**
Two Harbors	–	–	–	–	–	–	13,157	**13,157**
Beaver Bay Township	2,517	–	–	21,541	12,565	0	9,570	**46,193**
Crystal Bay Township	–	–	–	21,359	6,951	–	3,329	**31,639**
Fall Lake Township	–	–	–	25,001	–	–	22,599	**47,600**
Silver Creek Township	–	–	–	50,000	20,612	–	19,814	**90,426**
Stony River Township	–	–	–	8,106	19,943	–	5,851	**33,900**

Figure 10

2014 Taconite Production Tax Distribution to Cities and Townships (cont.)

(Based on 2013 production year tax revenues)

	4.5 cent mining & conc.	4.0 cent mining effects	M.S. 298.28 subd. 3(b)	3.0 cent township fund	Taconite railroad*	Taconite municipal aid	Transferred from schools	Total
ST. LOUIS COUNTY								
Aurora	16,623	79,582	–	–	–	179,940	18,549	**294,694**
Babbitt	112,143	188,322	–	–	166,767	237,654	3,522	**708,408**
Biwabik	7,429	28,303	–	–	–	68,452	23,622	**127,806**
Brookston	–	–	–	–	–	–	315	**315**
Buhl	–	38,486	–	–	–	84,922	28,858	**152,266**
Chisholm	–	68,541	–	–	–	523,082	170,308	**761,931**
Cook	–	–	–	–	–	–	1,564	**1,564**
Ely	–	–	–	–	–	340,071	2,949	**343,020**
Eveleth	65,660	115,686	–	–	–	447,177	42,158	**670,681**
Gilbert	13,467	51,043	–	–	–	200,333	21,349	**286,192**
Hibbing	458,754	222,318	–	–	–	1,586,096	411,139	**2,678,307**
Hoyt Lakes	238,768	95,347	–	–	152,153	241,287	43,645	**771,200**
Iron Junction	–	–	–	–	–	–	1,468	**1,468**
Kinney	12,461	6,517	33,525	–	–	30,421	5,166	**88,090**
Leonidas	6,582	1,624	–	–	–	6,625	767	**15,598**
McKinley	–	3,634	–	–	–	11,234	1,358	**16,226**
Meadowlands	–	–	–	–	–	–	233	**233**
Mountain Iron	561,626	110,677	–	–	–	382,159	163,688	**1,218,150**
Orr	–	–	–	–	–	–	652	**652**
Tower	–	–	–	–	–	36,323	1,617	**37,940**
Virginia	46,761	334,538	–	–	–	917,716	170,287	**1,469,302**
Winton	–	–	–	–	–	–	128	**128**
Alango Township	–	–	–	11,613	–	–	953	**12,566**
Alborn Township	–	–	–	20,903	–	–	2,233	**23,136**
Alden Township	–	–	–	9,928	–	–	1,079	**11,007**
Angora Township	–	–	–	11,066	–	–	1,555	**12,621**
Arrowhead Township	–	–	–	–	–	–	4,419	**4,419**
Ault Township	–	–	–	5,146	–	–	1,762	**6,908**
Balkan Township	–	11,417	–	38,118	–	19,260	63,305	**132,100**
Bassett Township	–	5,135	–	1,822	11,745	–	1,236	**19,938**
Beatty Township	–	–	–	16,577	–	–	11,936	**28,513**
Biwabik Township	37,656	22,739	–	36,478	–	23,905	23,555	**144,333**
Breitung Township	–	–	–	27,187	–	0	6,124	**33,311**
Brevator Township	–	–	–	–	–	–	1,411	**1,411**
Camp 5 Township	–	–	–	1,594	–	–	712	**2,306**
Cedar Valley Township	–	–	–	8,881	–	–	4,732	**13,613**
Cherry Township	–	–	–	38,573	–	–	3,820	**42,393**
Clinton Township	–	31,661	–	46,178	–	–	7,529	**85,368**
Colvin Township	–	–	–	14,300	–	–	11,076	**25,376**
Cotton Township	–	–	–	19,901	–	–	3,179	**23,080**
Crane Lake Township	–	–	–	3,734	–	–	3,142	**6,876**
Culver Township	–	–	–	13,389	–	–	1,213	**14,602**
Duluth Township	–	–	–	50,000	–	–	13,266	**63,266**
Eagle's Nest Township	–	–	–	10,930	–	0	5,408	**16,338**
Ellsburg Township	–	–	–	9,928	–	–	2,549	**12,477**
Elmer Township	–	–	–	6,785	–	–	471	**7,256**
Embarrass Township	–	–	–	27,370	–	–	1,538	**28,908**
Fairbanks Township	–	–	–	3,051	–	–	1,270	**4,321**
Fayal Township	3,811	56,328	–	50,000	–	34,991	53,712	**198,842**
Field Township	–	–	–	18,034	–	–	1,771	**19,805**
French Township	–	–	–	25,183	–	–	75,187	**100,370**
Great Scott Township	20,472	15,194	–	17,943	–	17,314	41,023	**111,946**
Greenwood Township	–	–	–	42,717	–	–	23,166	**65,883**
Industrial Township	–	–	–	36,614	–	–	2,844	**39,458**

Taconite Production Tax (cont.)

Figure 10

2014 Taconite Production Tax Distribution to Cities and Townships (cont.)

(Based on 2013 production year tax revenues)

	4.5 cent mining & conc.	4.0 cent mining effects	M.S. 298.28 subd. 3(b)	3.0 cent township fund	Taconite railroad*	Taconite municipal aid	Transferred from schools	Total
ST. LOUIS COUNTY CONTINUED								
Kabetogama Township	–	–	–	6,057	–	–	3,057	**9,114**
Kelsey Township	–	–	–	6,239	–	–	749	**6,988**
Kugler Township	–	–	–	8,197	–	–	746	**8,943**
Lavell Township	–	–	–	13,799	–	–	5,656	**19,455**
Leiding Township	–	–	–	17,851	–	–	3,849	**21,700**
Linden Grove	–	–	–	6,649	–	–	640	**7,289**
McDavitt Township	107,907	–	–	20,812	–	18,073	1,870	**148,662**
Meadowlands Township	–	–	–	13,844	–	–	1,213	**15,057**
Morcom Township	–	–	–	4,236	–	–	494	**4,730**
Morse Township	–	–	–	50,000	–	–	7,677	**57,677**
Ness Township	–	–	–	2,914	–	–	515	**3,429**
New Independence Township	–	–	–	13,389	–	–	1,639	**15,028**
Northland Township	–	–	–	7,560	–	–	1,382	**8,942**
Owens Township	–	–	–	11,841	–	–	1,095	**12,936**
Pequaywan Township	–	–	–	5,693	–	–	2,898	**8,591**
Pike Township	–	–	–	18,808	–	–	12,359	**31,167**
Portage Township	–	–	–	7,650	–	–	2,118	**9,768**
Sandy Township	–	–	–	16,076	–	–	9,460	**25,536**
Stoney Brook Township	–	–	–	15,029	–	–	928	**15,957**
Sturgeon Township	–	–	–	6,467	–	–	654	**7,121**
Toivola Township	–	–	–	7,787	–	–	953	**8,740**
Vermillion Lake Township	–	–	–	12,341	–	–	2,502	**14,843**
Waasa Township	–	11,753	–	11,340	–	–	1,279	**24,372**
White Township	35,869	72,549	123,530	50,000	–	104,124	33,932	**420,004**
Willow Valley Township	–	–	–	5,783	–	–	546	**6,329**
Wuori Township	59,467	22,058	–	26,050	–	11,681	16,522	**135,778**
Total	**$2,134,737**	**$1,794,389**	**$157,055**	**$1,287,505**	**$591,142**	**$6,633,334**	**$2,313,588**	**$14,911,750**

— Indicates not eligible.
* Fixed amount based on 1977 Taconite railroad gross earnings tax distributions.
0 Indicates eligible, but no payment at current valuation and production.

Figure 11

2014 Taconite Production Tax Distribution to School Districts

School Districts		$.0343 Taconite School Fund	$.2472 Regular School Fund	Taconite Railroad	$.04 School Bldg Maintenance Fund	$.213 Taconite Referendum	Taconite Levy Replacement Transfer*	Total by School District
001	Aitkin	–	$294,476	–	–	$62,694	($60,670)	$296,500
166	Cook County	$21,087	61,241	$264,977	–	91,498	(32,975)	405,828
182	Crosby-Ironton	–	326,191	–	–	222,602	(64,371)	484,422
316	Greenway	56,775	1,011,171	–	$139,351	372,009	(202,954)	1,376,352
318	Grand Rapids	–	1,167,527	–	–	428,400	(168,638)	1,427,289
319	Nashwauk-Keewatin	143,283	331,116	–	61,586	268,675	(94,639)	710,021
381	Lake Superior	80,412	488,721	342,720	84,137	244,417	(105,242)	1,135,165
695	Chisholm	–	1,089,194	–	77,301	469,527	(232,536)	1,403,486
696	Ely	–	95,411	–	–	213,624	(10,754)	298,281
701	Hibbing	315,212	1,994,831	–	224,975	1,219,547	(494,275)	3,260,290
706	Virginia	86,887	1,093,646	–	203,825	728,472	(202,642)	1,910,188
712	Mtn. Iron-Buhl	447,268	527,905	–	96,435	349,776	(242,552)	1,178,832
2142	St. Louis County	167,728	552,021	284,841	244,234	429,452	(118,880)	1,559,396
2154	Eveleth-Gilbert	102,599	1,011,243	–	252,230	652,570	(136,026)	1,882,616
2711	Mesabi East	189,497	632,288	214,397	151,084	425,333	(146,434)	1,466,165
Total		**$1,610,748**	**$10,676,982**	**$1,106,935**	**$1,535,158**	**$6,178,596**	**($2,313,588)**	**$18,794,831**

* Money in excess of the Taconite Levy Replacement amount is transferred to cities and townships within the district.

Figure 12

Taconite Production Tax School Bond Payments

School Districts		Year Authorized[1]	Final Payment Year[2]	Payment[3]	Outstanding Balance[4]
166	Cook County[5]	1996	2016	$465,185	$1,347,500
316	Greenway	2000	2019	156,720	800,000
381	Lake Superior	2000	2022	383,942	2,732,199
695	Chisholm	2000	2020	300,307	1,823,539
696	Ely	1996	2015	63,760	128,000
706	Virginia	1996	2016	172,940	499,225
712	Mt. Iron-Buhl	1998	2017	284,520	1,104,000
2154	Eveleth-Gilbert	1996	2017	304,493	1,212,000
2711	Mesabi East	2008	2016	500,000	Annual Payment[6]
Total				**$2,631,867**	**$9,646,463**

1 Legislative year in which taconite funding was enacted.
2 Production year from which final bond payment will be deducted.
3 Payments made from 2013 pay 2014 tax distribution
4 Estimated portion of outstanding bond balance to be paid by taconite funds (not including interest).
5 All taconite bonds funded at 80 percent taconite, 20 percent local effort, unless otherwise noted: Cook County – 1996, 70 percent ; Mesabi East – 2008, $500,000.
6 Annual payment of $500,000 is authorized under 2008 Session Laws Chapter 154.

Taconite Production Tax (cont.)

Figure 13

2014 Taconite Production Tax Distribution to Counties

(Based on 2013 production year tax revenues)

County	Regular County 15.525 cents	Road and Bridge 10.525 cents	Taconite Railroad	Total by County
Cook	$114,701	–	$187,190	$301,891
Itasca	897,284	$455,467	–	1,352,751
Lake	627,892	246,744	243,034	1,117,670
St. Louis	7,455,216	3,920,899	354,153	11,730,268
Total	**$9,095,093**	**$4,623,110**	**$784,377**	**$14,502,580**

Figure 14

Taxable Taconite Production and Tax by Mine

(Based on 2013 production year tax revenues)

Producer	Production Tons	Taxable Tonnage*	Production Tax Rate	Tax Assessed
ArcelorMittal	2,645,243	2,642,975	$2.560	$6,766,016
Hibbing Taconite	7,312,252	7,556,892	2.560	19,345,644
Magnetation, LLC	958,627	958,627	2.560	2,454,085
Mesabi Nugget	210,573	179,602	1.549	278,203
Mining Resources	90,587	90,587	2.560	231,903
Northshore	3,776,603	4,836,436	2.560	12,381,276
U.S. Steel-Keewatin Taconite	4,956,740	5,023,419	2.560	12,859,953
U.S. Steel-Minntac	13,448,911	13,186,759	2.560	33,758,103
United Taconite	5,081,692	5,132,468	2.560	13,139,118
Total	**38,481,228**	**39,607,765**	**$2.560**	**$101,214,301**

* The taxable tonnage is the average production of the current year and previous two years. Magnetation and Mining Resources pay on current-year production only.

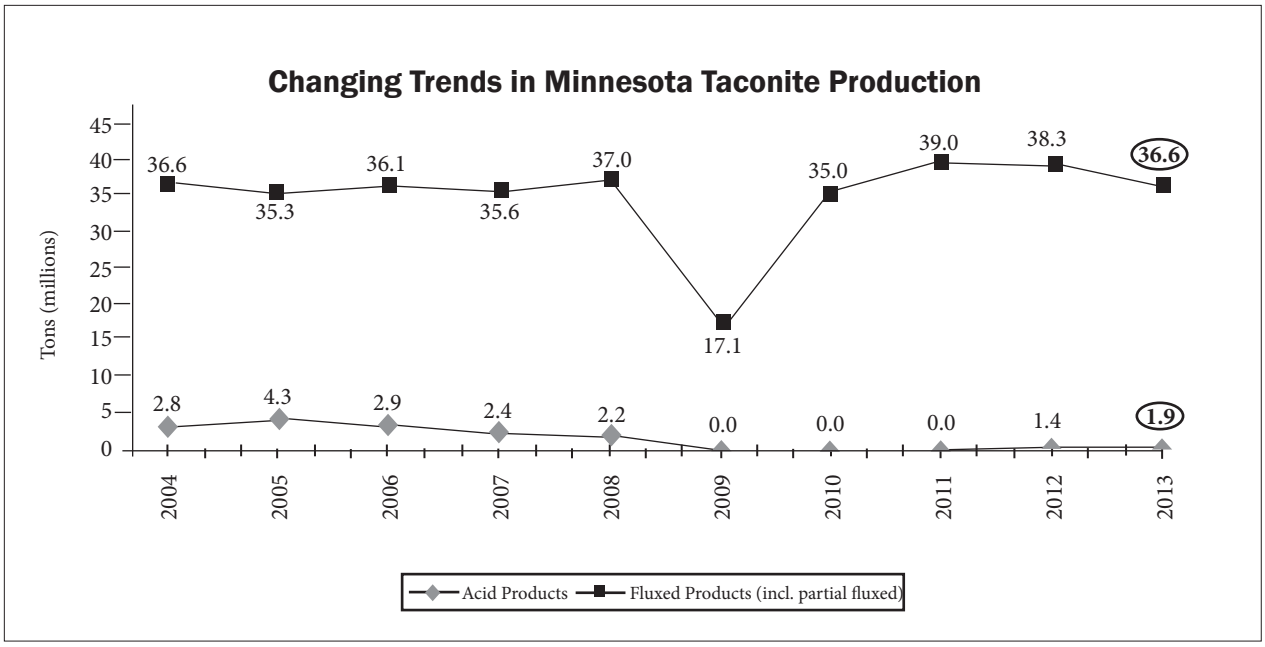
Figure 15

2013 Taxable Production by Product Type

Producer	Pellets			Chips and Fines			DRI	Total by Mine
	Acid	Fluxed	Partial Fluxed	Acid	Fluxed/ Partial Fluxed	Concentrate	Nuggets	
ArcelorMittal	–	2,611,632	–	–	33,611	–	–	2,645,243
Hibbing Taconite	–	–	7,312,252	–	–	–	–	7,312,252
Magnetation LLC	–	–	–	–	–	958,627	–	958,627
Mesabi Nugget	–	–	–	–	–	–	210,573	210,573
Mining Resources	–	–	–	–	–	90,587	–	90,587
Northshore	–	–	3,635,032	–	119,152	22,419	–	3,776,603
U.S. Steel-Keewatin Taconite	–	–	4,956,740	–	–	–	–	4,956,740
U.S. Steel-Minntac	659,148	12,789,763	–	–	–	–	–	13,448,911
United Taconite	–	–	5,007,452	–	74,240	–	–	5,081,692
Total	**659,148**	**15,401,395**	**20,911,476**	**0**	**227,003**	**1,071,633**	**210,573**	**38,481,228**

*Partially fluxed pellets contain less than 2 percent flux.

Figure 16



Taconite Production Tax (cont.)

Figure 17

Taconite Production Tax Rate History and Index Summary

Production Year	Statutory	Fe (iron)	Inflation	Total	TEDF
1941	5.0 cents	0.5 cents	None	5.5 cents	0
1969-70	11.5 cents	0.5 cents	0 (WPI*)	12.0 cents	0
1971	15.5 cents	0.5 cents	0.4 (WPI) cents	16.4 cents	0
1972	18.5 cents	0.5 cents	1.3 (WPI) cents	20.3 cents	0
1973	20.5 cents	1.0 cents	2.8 (WPI) cents	24.3 cents	0
1974	20.5 cents	1.0 cents	8.2 (WPI) cents	29.7 cents	0
1975	60.5 cents	1.0 cents	13.4 (WPI) cents	74.9 cents	0
1976	60.5 cents	1.0 cents	15.5 (WPI) cents	76.5 cents	0
1977	125.0 cents	4.5 cents	0 (SMPI**) cents	129.5 cents	0
1978	125.0 cents	6.0 cents	8.9 (SMPI) cents	139.9 cents	0
1979	125.0 cents	6.0 cents	28.8 (SMPI) cents	159.8 cents	0
1980	125.0 cents	6.0 cents	42.2 (SMPI) cents	173.3 cents	0
1981	125.0 cents	6.0 cents	60.6 (SMPI) cents	191.6 cents	0
1982	125.0 cents	6.0 cents	76.8 (SMPI) cents	207.8 cents	0
1983	125.0 cents	6.0 cents	73.7 (SMPI) cents	204.7 cents	0
1984	125.0 cents	6.0 cents	79.7 (SMPI) cents	210.7 cents	0
1985	125.0 cents	3.0 cents	76.8 (SMPI) cents	204.8 cents	0
1986 - 88	190.0 cents	0	Frozen (IPD***)	190.0 cents	0
1989	190.0 cents	0	7.5 (IPD) cents	197.5 cents	0
1990	197.5 cents	0	0 (IPD) cents	197.5 cents	0
1991	197.5 cents	0	7.9 (IPD) cents	205.4 cents	0
1992	205.4 cents	0	0 (IPD) cents	205.4 cents	10.4 cents
1993-95	205.4 cents	0	0 (IPD) cents	205.4 cents	15.4 cents
1996	205.4 cents	0	4.0 (IPD) cents	209.4 cents	15.4 cents
1997	205.4 cents	0	8.7 (IPD) cents	214.1 cents	15.4 cents
1998-99	214.1 cents	0	0 (IPD) cents	214.1 cents	15.4 cents
2000	214.1 cents	0	3.2 (IPD) cents	217.3 cents	15.4 cents
2001-03	210.3 cents	0	0 (IPD) cents	210.3 cents	30.1 cents
2004-05	210.3 cents	0	3.4 (IPD) cents	213.7 cents	30.1 cents
2006	210.3 cents	0	10.0 (IPD) cents	220.3 cents	30.1 cents
2007	210.3 cents	0	15.5 (IPD) cents	225.8 cents	20.1 cents
2008	210.3 cents	0	21.3 (IPD) cents	231.6 cents	30.1 cents
2009	210.3 cents	0	26.1 (IPD) cents	236.4 cents	30.1 cents
2010	210.3 cents	0	27.7 (IPD) cents	238.0 cents	30.1 cents
2011	210.3 cents	0	30.9 (IPD) cents	241.2 cents	30.1 cents
2012	210.3 cents	0	36.2 (IPD) cents	246.5 cents	30.1 cents
2013	256.0 cents****	0	0.0 (IPD) cents	256.0 cents	30.1 cents
2014	**256.0 cents**	**0**	**3.7 (IPD) cents**	**259.7 cents**	**25.1 cents**

* Wholesale price index
** Steel mill products index
*** Gross national product implicit price deflator, gross domestic implicit price deflator beginning in 2000.
**** The 2013 legislature changed the statutory rate to $2.560 per ton for the 2013 production year, with indexing to resume with the 2014 production year.

Figure 18

Taconite Produced and Taconite Production Tax Collected

Year	Production Tons (000s)	Taconite Production Tax (000s)	Collected Rate Per Production Ton	Taxable Tons* (000s)	Tax Rate Per Taxable Ton
1977	26,372	48,891	1.854	37,759	$1.295
1978	49,545	69,394	1.401	49,614	1.399
1979	55,333	88,485	1.599	55,373	1.598
1980	43,060	87,179	2.025	50,296	1.733
1981	49,369	99,018	2.006	51,799	1.916
1982	23,445	80,305	3.425	38,624	2.078
1983	25,173	67,341	2.675	33,302	2.047
1984	35,689	64,514	1.876	35,689	2.107
1985	33,265	65,092	1.957	34,477	2.048
1986	25,451	48,658	1.912	31,468	1.900
1987	32,043	51,184	1.597	29,039	1.900
1988	39,485	57,402	1.454	32,326	1.900
1989	39,375	72,149	1.832	36,968	1.975
1990	42,522	78,930	1.856	40,461	1.975
1991	39,922	82,411	2.064	40,606	2.054
1992	38,850	82,035	2.112	40,431	2.054
1993	39,850	80,196	2.012	39,541	2.054
1994	41,677	81,500	1.956	40,126	2.054
1995	45,001	85,705	1.904	42,176	2.054
1996	43,874	90,513	2.063	43,517	2.094
1997	44,816	94,705	2.113	44,563	2.141
1998	44,324	94,268	2.126	44,338	2.141
1999	41,293	93,064	2.254	43,468	2.141
2000	37,785	79,773	2.111	36,711	2.173
2001	31,628	62,288	1.969	34,638	2.103
2002	37,512	64,405	1.717	35,575	2.103
2003	34,349	65,546	1.908	31,302	2.103
2004	39,411	79,263	2.011	37,091	2.137
2005	39,535	78,544	1.987	36,755	2.137
2006	38,948	84,451	2.168	38,335	2.203
2007	37,986	85,645	2.255	37,929	2.258
2008	39,168	89,631	2.288	38,701	2.316
2009	17,079	74,255	4.348	31,411	2.364
2010	35,049	72,442	2.067	30,438	2.380
2011	38,968	73,287	1.881	30,384	2.412
2012	39,681	94,205	2.374	38,310	2.465
2013	**38,481**	**101,214**	**2.630**	**39,608**	**2.560**

* The 1977 law was the first to apply the production tax rate against *taxable tons*, the greater of the current year's production, or the three-year average of production tons. The taxable tonnage for 1984 was the current year only. The taxable tonnage for 1985 was the average tonnage for 1984 and 1985. A three-year average is used for 1986 and beyond, except for other iron-bearing material which uses the current year.

Taconite Production Tax (cont.)

Direct Reduced Iron (DRI)

Because it is subject to the taconite production tax, a DRI production plant and facilities is exempt from regular ad valorem (property) taxes. The taxable tonnage is based on a three-year production average. Pig iron is considered DRI for the purpose of production tax and incentives.

A steel plant would be subject to ad valorem (property) taxes as would any other business. If a steel plant were in conjunction with a DRI plant, the DRI portion would be subject to the taconite production tax, thus exempt from ad valorem (property) taxes.

Reduced Production Tax Rate for DRI

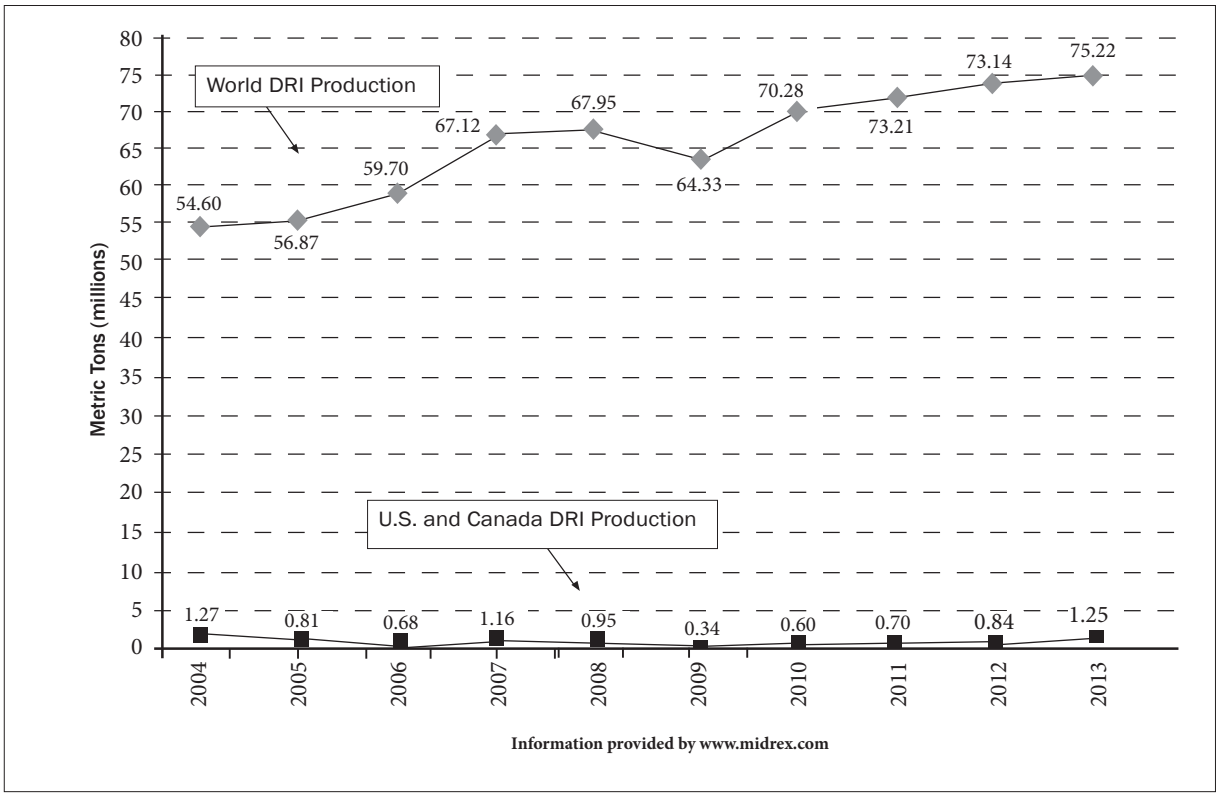
The first five years of a DRI plant's commercial production are subject to reduced tax rates if all environmental permits have been obtained and construction has begun before July 2, 2008. Commercial production is defined as more than 50,000 tons.

Years of operation	% of regular rate	Years of operation	% of regular rate
1	0%	4	50%
2	0%	5	75%
3	25%	6	100%

The taconite production tax rate for DRI is the regular rate plus an additional three cents per gross ton for each one percent that the iron content exceeds 72 percent when dried at 212 degrees Fahrenheit. Thus, at a base production tax rate for 2014 of $2.597 per ton, the tax rate for 90 percent iron DRI would be $3.137. The rate for 95 percent DRI would be $3.287.

Figure 19

World Direct Reduced Iron Production



Iron Range Resources & Rehabilitation Board

Introduction

Iron Range Resources & Rehabilitation Board (IRRRB) is a unique Minnesota state agency whose mission is to promote and invest in business, community and workforce development for the betterment of northeastern Minnesota – a 13,000 square mile service area defined by Minnesota Statute 273.1341.

Established in 1941, the IRRRB through business development seeks to create new jobs and economic development by supporting existing businesses' expansions and attracting new businesses. Agency community development programs are designed to prepare cities and townships for change and growth by investing in infrastructure and public works. To develop a well-trained workforce that meets the needs of existing and emerging industries, IRRRB partners with schools, colleges and industries in creating and implementing innovative educational programs.

IRRRB programs and operations are funded by a portion of the Taconite Production Tax, paid by mining companies in lieu of local property taxes on each ton of iron ore pellets produced.

Governance

A commissioner, appointed by the governor, oversees agency operations and programs. The commissioner is advised by a board comprised of the state senators and representatives elected from state senatorial or legislative districts in which one-third or more of the residents reside within the IRRRB service area. One additional state senator is appointed by the senate Subcommittee on Committees of the Committee on Rules and Administration.

Economic Development

While much of the agency's business support is for other industries and companies to diversify the regional economy, financial assistance provided by IRRRB also has helped leverage the development and construction of new large-scale mining projects. IRRRB support in creating new value-added products such as iron nuggets and iron unit reclamation, has created hundreds of construction and permanent jobs across the region.

Magnetation, Inc. plans to complete construction of a fourth iron ore concentrate plant on the Iron Range in the first quarter of 2015. Magnetation, which in 2009 began production at its first plant near Keewatin, is an iron unit reclamation company that uses a proprietary process to extract weakly magnetic particles from previously mined natural ore deposited years ago in tailings basins. The company's second plant near Bovey began production June 1, 2012. Magnetation and Steel Dynamics, Inc. are partners in a third plant, Mining Resources, LLC, near Chisholm. Mining Resources, LLC. provides feed to Mesabi Nugget's iron nugget plant near Aurora and Hoyt Lakes. In addition, Magnetation on November 9, 2011, began shipping 650,000 wet metric tons of concentrate per year to a steelmaker in Mexico

Essar Steel Minnesota is constructing a $1.8 billion state-of-the-art open pit mine and pellet plant. The first phase of the project, which will produce 4.1 million tons of iron ore pellets annually, is targeted to begin production in late 2015. Iron ore pellet production is forecast to expand to 7 million tons per year by mid-2016. At peak, more than 800 contractor employees will be employed to construct the project. Essar Steel Minnesota plans to recruit 300 permanent employees to operate the facility upon completion.

Beyond iron ore pellets, iron ore concentrate and steel production, IRRRB supports the development of a non-ferrous mining industry in northeastern Minnesota. The Duluth Complex, with an estimated 4 billion tons of crude, non-ferrous ore, is perhaps the largest deposit of base and platinum group metals in the United States.

PolyMet Mining Corporation's NorthMet project near Hoyt Lakes and the Twin Metals Minnesota project near Babbitt and Ely, hold the potential to create hundreds of construction and permanent jobs and generate millions in new revenue to local units of government, the state and federal government. Additional non-ferrous projects are under exploration or in various stages of development in northeastern Minnesota. Copper, nickel and platinum group metals can be mined, processed and used in applications to help manufacture electronic components, electric-powered cars, catalytic converters, hospital equipment, jet engine fuel nozzles, piping, and in power transmission.

IRRRB also operates a Mineland Reclamation program, headquartered in Chisholm. The Mineland Reclamation program partners with communities and mining companies in undertaking safety, environmental and economic development projects on abandoned minelands.

Taconite Mining

IRRRB supports a healthy Minnesota mining industry. Since the Taconite Economic Development Fund (TEDF) was approved by the Minnesota Legislature in 1993, more than $186.3 million in Taconite Production Tax payments has been rebated to taconite producers for reinvestment in local facilities.

In addition to the TEDF, IRRRB has provided an additional $46.4 million since 1993 through its Taconite Assistance Program, Producer Grant Program and other assistance. Included is a $10 million appropriation from the Douglas J. Johnson Economic Protection Trust Fund, which in 1996 provided grants to taconite producers for environmentally unique reclamation projects and facility improvements.

From 1993-2014, IRRRB has reinvested approximately $232.7 million in the Minnesota iron ore industry through its programs.

Iron Range Resources and Rehabilitation Board (cont.)

Figure 20

FY 2015 Iron Range Resources & Rehabilitation Board Budget[1]

(as approved by the IRRRB on June 23, 2014)

Sources of Funds	All Funds	Board[2]	TEPF[3]	DJJ[4]	Supplemental Tax[5]	Iron Range School Collaboration[6]
Unobligated Operating Reserve In	$6,085,554	$810,653	$1,295,200	$3,979,701	-	-
Taconite Production Taxes	$21,251,632	$5,071,945	$16,179,687	-	-	-
Investment Earnings	550,116	143,820	144,785	261,511	-	-
Loan Revenues	2,772,094	418,028		2,354,067	-	-
Facilities Revenues	4,231,768	4,034,977	-	196,791	-	-
Occupation Tax Region III	594,116	-	-	-	594,116	-
Taconite Homestead Credit Transfer	2,574,505	-	2,574,505	-	-	-
Iron Range School Collaboration	7,213,634					7,213,634
Total Current Resources	**$39,187,865**	**$9,668,770**	**$18,898,977**	**$2,812,369**	**$594,116**	**$7,213,634**
Total Resources Available	**$45,273,419**	**$10,479,423**	**$20,194,177**	**$6,792,070**	**$594,116**	**$7,213,634**

Budgeted Uses of Funds	All Funds	Board	TEPF	DJJ	Supplemental Tax	Iron Range School Collaboration
Projects						
Development Projects	$9,050,000	-	$3,550,000	$5,500,000	-	-
Public Works	5,574,505	-	5,574,505	-	-	-
Programs						
Program Grants	4,595,000	250,000	4,345,000	-	-	-
Occupation Tax Region III	594,116	-	-	-	594,116	-
Iron Range School Collaboration	7,213,634	-	-	-	-	7,213,634
Facilities						
Giants Ridge Golf & Ski Resort	7,862,536	7,662,536	200,000	-	-	-
Operations & Development	6,099,179	2,526,272	2,558,565	1,014,342	-	-
Total Budgeted Uses of Funds	**$40,988,970**	**$10,438,808**	**$16,228,070**	**$6,514,342**	**$594,116**	**$7,213,634**
Unobligated Operating Reserve Out	**$4,284,449**	**$40,615**	**$3,966,107**	**$277,728**	**$0**	**$0**

1 FY 2015 is the period July 1, 2014 through June 30, 2015.
2 "Board" is an amount appropriated to the IRRRB from the Production Tax, pages 10 and 11, subd. 7 and subd. 11(c).
3 "TEPF" is the Taconite Area Environmental Protection Fund, page 13.
4 "DJJ" is the Douglas J. Johnson Economic Protection Fund, page 13.
5 "Supplemental Tax" is an amount appropriated from the Occupation Tax for Koochiching and Carlton Counties, page 33.
6 "Iron Range School Collaboration" is appropriated from the annual Production Tax and Occupation Tax, page X.

Figure 21

Taconite Economic Development Fund (TEDF) Distribution to Minnesota's Iron Ore Producers*

(as approved by the IRRRB on December 18, 2014)

	Total Project Investment	Individual Project Estimates	TEDF Distribution
ArcelorMittal Minorca Mine	$1,880,000		$818,240
Cobber Magnetic Separator Improvements		$780,000	
Process Gas Scrubber Stack Replacement		$1,100,000	
Hibbing Taconite	$5,000,000		$2,274,624
Guarding of Potential Hazards		$500,000	
Filtercake Reclaim Upgrade		$2,400,000	
Rebuild Plant Infrastructure		$500,000	
Albany Pumps and Pipeline Replacement		$1,600,000	
Magnetation, LLC	$4,011,500		$709,404
Plant 4, 17'x32' Gear Driven Ball Mill (Primary Mill)		$4,011,500	
Mesabi Nugget, LLC	$139,000		$54,060
Lime and Soda Ash Make-Up System		$139,000	
Mining Resources, LLC	$13,000,000		$88,460
Development of the Sherman Fine Tailings Basins		$13,000,000	
Northshore	$4,706,535		$1,600,862
Fine Crusher Assemblies		$2,469,000	
Direct Reduction (DR) Grade Pellets		$2,237,535	
United Taconite, LLC	$3,800,000		$1,595,023
Furnace Line 2 Cooler, Fairlane Plant		$3,800,000	
U. S. Steel–Keewatin Taconite	$3,900,000		$1,512,049
Fine Screening Upgrade		$2,400,000	
Tails Basin Reclamation and Dust Control		$550,000	
Carlz Pit Water Supply		$400,000	
Tailings Pipe Replacement		$400,000	
Potable Water Storage Tank		$150,000	
U. S. Steel–Minntac	$16,700,000		$3,969,214
Sulfate Compliance #6 Sump		$8,000,000	
Concentrator Finisher Upgrades		$5,000,000	
Agglomerator Step II Concentrate Reclaim Upgrade		$1,900,000	
Fine Screening Upgrade Line 16		$1,800,000	
Total	**$53,137,035**	**$53, 137,035**	**$12,621,936**

* Each company is eligible for a maximum grant that is equal to 30.1 cents per ton (cpt) based on each company's 2013 taxable taconite production tonnage as determined by the Minnesota Department of Revenue. Each company must match, at minimum, 100% of the grant amount. For example, to receive an $818,240 TEDF grant, ArcelorMittal-Minorca must provide at least $818,240 to complete a project costing at least $1,636,480.

Rate History (cpt=cents per ton)

10.4 cpt in 1993
15.4 cpt in 1994–1996
20.4 cpt in 1997
15.4 cpt in 1998–2001
30.1 cpt in 2002 - 2007
20.1 cpt in 2008
30.1 cpt in 2009
Only chips and fines in 2010
15.4 cpt in 2011
30.1 cpt in 2012–2014

Iron Range Resources and Rehabilitation Board (cont.)

Figure 22

Taconite Industry Investments 1993–2014

Total Investments – $232,694,955

	Taconite Assistance Program	TEDF[1]	Producer Grant Program	Other Assistance	Total
ArcelorMittal Minorca Mine (former Ispat Mining Company)	$2,000,000	$13,410,421	$1,328,226		$16,738,647
Hibbing Taconite Company	$2,000,000	$35,026,397	$4,026,531	$1,000,000	$42,052,928
LTV Steel Mining Company (Permanently closed in January 2001)	$2,000,000	$11,361,981	$2,675,966		$16,037,947
Magnetation, Inc.		$16,500			$16,500
Magnetation LLC		$1,314,213			$1,314,213
Mesabi Nugget		$94,399			$94,399
Mining Resources		$88,460			$88,460
Northshore Mining Company	$2,000,000	$21,341,367	$2,033,805		$25,375,172
United Taconite (former EVTAC Mining)	$2,000,000	$22,660,841	$2,263,294	$1,500,000	$28,424,135
U.S. Steel - Keewatin Taconite (former National Steel Pellet Company)	$2,000,000	$21,455,110	$2,327,192	$6,173,375	$31,955,677
U.S. Steel - Minntac	$2,000,000	$59,535,705	$6,811,172	$2,250,000	$70,596,877

1 TEDF is the Taconite Economic Development Fund.

Occupation Tax

(M.S. 298.01, 298.16 – 298.18)

Minnesota's occupation tax applies to the mining and producing of both ferrous and nonferrous minerals, including taconite and iron ore, and other minerals such as gold, silver, copper, nickel and titanium.

The occupation tax is paid in lieu of the corporate franchise tax on mining activities. Generally, it is determined in the same manner as Minnesota's corporate franchise tax under M.S. 290.02 but there are a few exceptions:

- The unitary provisions of the corporate franchise tax law do not apply to occupation tax.
- Mining companies may use percentage depletion.
- The alternative minimum tax (AMT) does not apply.
- All sales are Minnesota sales, so 100 percent of net income is assigned to Minnesota.
- The tax rate is 2.45 percent.

Ferrous Minerals

Gross income from mining or producing ferrous minerals is based on "mine value;" i.e., the value of the products produced *after* beneficiation or processing, but *prior* to any stockpiling, transportation, marketing and marine insurance, loading or unloading costs.

The procedure for determining a company's mine value was developed by the Minnesota Department of Revenue and representatives from the taconite industry in 1990. The department sets product values each year, which are generally based on the following:

1) Seventy-five percent of the change in the product value is based on the change in the Steel Mill Products Index (SMPI) from June of the previous year to June of the current year; and
2) Twenty-five percent of the change in product value is based on actual transaction prices of products sold in nonequity sales as reported by the mining companies.

When ferrous minerals, such as taconite pellets, chips or concentrate, are used by the producer or disposed of or sold in a **non-arms-length transaction,** the company must use the product values set by the department to determine the mine value for occupation tax.

Non-arms-length transactions include, but are not limited to, any sales or shipments to: 1) any steel producer having any ownership interest in the selling or shipping company, or 2) any steel producer affiliated or associated with any firm having any ownership or other financial interest in the selling or shipping company.

For **nonequity or arms-length transactions,** a company may choose to determine the mine value by using either 1) actual sales prices (f.o.b. mine) or 2) the product values set by the department. It must select one of these options the first time a nonequity sale is made. *Once it selects an option, however, it must continue to use that option for all nonequity sales in the future.* Requests to change the selected option must receive approval from the department.

Product Values

Acid Pellets: The value of acid pellets is based on the change in the SMPI from June of the previous year to June of the current year (75%), and actual sales prices of nonequity sales (25%).

Flux Pellets: The value of flux pellets is based on the acid pellet value, adjusted based on the amount of flux in the finished pellets.

- *Partial Flux (less than 2 percent flux):* Pellets with 1.99 percent or less flux are valued at $0.015 per Fe (iron) unit higher than the acid pellet value.
- *Flux:* Pellets with 2 percent or more flux are valued at $0.015 per Fe (iron) unit higher than the acid pellet value *per each 1 percent of flux* in the finished pellet.

2013 Product Values per Iron Unit

Value per Fe (iron) unit (per dry gross ton) for the period Jan. 1, 2013 – Dec. 31, 2013:

	Value
Acid pellets	$1.294 per iron unit
Pellet chips (fines) and concentrate	75% of acid or fluxed pellet price
Flux Pellets – partial flux (.1% – 1.99% flux)*	$1.294 + $0.015 = $1.309
Flux (2.00% and higher flux) *	$1.294 + $0.015 per iron unit for each 1% flux
Direct reduced iron (DRI)	$4.634 per iron unit

Example: Pellet with 4.8% flux in finished pellet: 4.0 × $0.015 = $0.060
Mine value: $1.294 + $0.060 = $1.354

Occupation Tax (cont.)

Chips, Fines and Concentrate: Acid chips (fines) and concentrate are valued at 75 percent of the acid pellet value. Flux chips and concentrate are valued at 75 percent of the flux pellet value.

Direct Reduced Iron (DRI): The value of DRI is based on the change in the SMPI from June of the previous year to June of the current year (100%). There are currently insufficient nonequity sales reported to determine a nonequity sales factor.

Acid Pellet and DRI Values 2009–2013		
	Acid Pellets (per iron unit)	**DRI** (per iron unit)
2009	0.880	N/A
2010	1.216	4.920
2011	1.378	5.273
2012	1.368	5.043
2013	1.294	4.634

Nonferrous Minerals

Gross income from mining or producing nonferrous minerals, such as copper, nickel, gold, etc., is calculated differently from the method used for ferrous minerals.

For **nonequity or arms-length transactions,** gross income is based on actual sales. Generally, for **non-arms-length transactions,** gross income is based on the average annual market price as published in the *Engineering and Mining Journal.*

Occupation Tax Distribution

All occupation tax revenue is deposited in the state's General Fund. Ten percent is used for the general support of the University of Minnesota and 40 percent for elementary and secondary schools. Fifty percent remains in the General Fund.

Of the amount remaining in the General Fund, the following appropriations are made based on taxable tonnage. For 2013, there were 39,607,765 taxable tons produced.

Region 3 Counties: An amount equal to 1.5 cents per taxable ton is appropriated to the IRRRB for counties in Region 3 not qualifying for taconite property tax relief. Only Carlton and Koochiching counties qualify. These funds must be used to provide economic or environmental loans or grants.

Region 3 Distributions			
2014	$594,116	2011	$456,565
2013	$574,655	2010	$267,284
2012	$455,767	2009	$580,509

Department of Natural Resources. An amount equal to 2.5 cents per taxable ton is appropriated to the Mining Environmental and Regulatory account managed by the Department of Natural Resources. These funds must be used for work on environmental issues and to provide regulatory services for ferrous and nonferrous mining operations in the state. The distribution is made on July 1 annually. The amount distributed in 2014 was $990,194.

Figure 23

Employment and Mine Value by Mine

Production Year 2013

	Employment 2012	Employment 2013	2013 Tons Produced	2013 Mine Value [1]
ArcelorMittal	349	352	2,806,418	$240,127,972
Hibbing Taconite	756	764	7,338,133	633,827,774
Northshore	670	572	3,837,073	323,232,478
U.S. Steel-Keewatin Taconite	416	422	4,977,691	424,535,020
U.S. Steel-Minntac	1,474	1,520	14,002,013	1,199,848,807
United Taconite	535	514	5,102,588	428,473,204
Total – Taconite	**4,200**	**4,144**	**38,063,916**	**$3,250,045,255**
Mesabi Nugget	117	135	210,573	$89,119,383
Total – DRI	**117**	**135**	**210,573**	**$89,119,383**
Magnetation	178	166	958,640	$60,007,988
Mining Resources	63	61	401,004	24,678,588
Total – Natural Ore	**241**	**227**	**1,359,644**	**$84,686,576**
Total – All	**4,558**	**4,506**	**39,634,133**	**$3,423,851,214**

1 The mine value is based on product values set by the Minnesota Dept. of Revenue. It does not represent actual sales by companies.

Figure 24

Occupation Tax by Company[1]

	2006 (000s)	2007 (000s)	2008 (000s)	2009 (000')	2010 (000s)	2011 (000s)	2012 (000s)	2013 (000s)
ArcelorMittal	$130	$680	$1,137	$0	$0	$50	$700	$250
Hibbing Taconite	2,175	2,260	5,420	0	300	4,550	4,360	3,165
Northshore	280	832	1,563	340	707	2,015	1,545	360
U.S. Steel	5,000	5,500	12,668	0	9,600	13,400	12,187	9,320
United Taconite	151	1,086	2,600	0	2,010	2,040	3,000	2,000
Total – Taconite	**$7,736**	**$10,358**	**$23,388**	**$340**	**$12,617**	**$22,055**	**$21,792**	**$15,095**
Mesabi Nugget	$0	$0	$0	$0	$0	$0	$0	$0
Total – DRI	$0	$0	$0	$0	$0	$0	$0	$0
Magnetation	$0	$0	$0	$0	$0	$0	$25	$682
Mining Resources	$0	$0	$0	$0	$0	$0	$0	0
Total – Natural Ore	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$25**	**$682**
Total	**$7,736**	**$10,358**	**$23,388**	**$340**	**$12,617**	**$22,055**	**$21,817**	**$15,777**

1 Amount paid by May 1 each year. Does not include adjustments.

Figure 25

Occupation Tax by Product Type[1]

(Iron Ore, Direct Reduced Ore, Taconite)

	Iron Ore		Direct Reduced Iron		Taconite		Total	
Year	Tons Produced (000s)	Occupation Tax (000s)	Tons Produced (000s)	Occupation Tax (000s)	Tons Produced** (000s)	Occupation Tax (000s)	Tons Produced (000s)	Occupation Tax (000s)
2006	0	0	-	-	39,668	7,736	39,668	7,736
2007	0	0	-	-	38,687	10,358	38,687	10,358
2008	0	0	-	-	39,927	23,388	39,927	23,388
2009	71	0	-	-	17,645	340	17,716	340
2010	90	0	74	0	35,984	12,617	36,148	12,617
2011	168	0	153	0	39,771	22,055	40,092	22,055
2012	704	25	175	0	39,873	21,792	40,752	21,817
2013	**1,360**	**682**	**211**	**0**	**38,064**	**15,095**	**39,635**	**15,777**

1 Amount paid by May 1 each year. Does not include adjustments.

Figure 26

Occupation Tax Averages – Taconite Only

Year	Tons produced (000s)	Average value[1]	Cost of beneficiation	Cost of mining	Development	Taconite & property tax paid	Sales and use tax paid	Admin. and misc. expense	Royalty	Taxable value of production	Occupation tax paid
2009	17,645	58.69	31.51	10.42	1.61	4.12	0.16	13.24	2.84	(5.21)	0.02
2010	35,984	80.31	29.31	10.40	1.54	1.87	0.22	4.54	3.31	29.12	0.35
2011	39,771	90.77	31.02	12.27	1.76	1.94	0.17	4.60	4.26	34.76	0.55
2012	39,873	90.18	30.78	13.31	1.59	2.63	0.21	3.91	3.90	33.83	0.55
2013	**38,064**	**85.38**	**32.66**	**13.57**	**1.64**	**2.50**	**0.27**	**5.15**	**3.73**	**25.87**	**0.40**

Cost of Beneficiation

Year	Tons Produced (000s)	Beneficiation Labor (000s)	Per Ton	Beneficiation Supplies (000s)	Per Ton	Beneficiation Depr. and Int. (000s)	Per Ton	Beneficiation Misc. Per Ton	Total Beneficiation Per Ton
2009	17,645	90,278	5.12	347,216	19.68	87,021	4.93	1.78	31.51
2010	35,984	145,487	4.04	764,173	21.24	82,209	2.28	1.75	29.31
2011	39,771	159,707	4.02	921,154	23.16	78,669	1.98	1.86	31.02
2012	39,873	174,099	4.37	912,601	22.89	61,823	1.55	1.97	30.78
2013	**38,064**	**192,824**	**5.07**	**911,656**	**23.95**	**60,179**	**1.58**	**2.06**	**32.66**

Cost of Mining

Year	Tons Produced (000s)	Mining Labor (000s)	Per Ton	Mining Supplies (000s)	Per Ton	Cost of Mining	Mining Depreciation (per ton)	Total Mining Costs Per Ton
2009	17,645	48,470	2.75	98,104	5.56	8.31	2.11	10.42
2010	35,984	94,968	2.64	234,066	6.50	9.14	1.26	10.40
2011	39,771	111,181	2.80	324,276	8.15	10.95	1.32	12.27
2012	39,873	133,369	3.34	352,359	8.84	12.18	1.13	13.31
2013	**38,064**	**134,025**	**3.52**	**344,632**	**9.05**	**12.57**	**1.00**	**13.57**

1 The average value may not match the values on *Figure 23* because this is an average of all taconite produced (acid, flux, chips, concentrate).
This information is provided by Minnesota mining companies and is not audited by the Minnesota Dept. of Revenue.

Income Tax Withholding on Mining and Exploration Royalties

(M.S. 290.923)

Minnesota law requires income tax withholding at a 6.25 percent rate on exploration and/or mining royalty payments. This section defines what a royalty is, identifies who must withhold the tax on the royalty, and outlines the statutory requirements of both the royalty payer and the royalty recipient. Also included is the royalty cost by mine per ton of pellets produced *(Figure 27)*.

Royalty is defined as any amount (in money or value of property) received by any person having any right, title or interest in or to any tract of land in Minnesota for permission to explore, mine, take out or remove ore. Ores subject to withholding include iron, taconite, and minerals (copper, nickel, gold, etc.) subject to the net proceeds tax. Royalties may include rents, bonus payments, and non-recoverable lease payments.

Withholding Income Tax on Royalties

All payers of royalties are required to withhold and remit to the department 6.25 percent of royalties paid for use of Minnesota lands. Note: This does not include royalties paid to Partnerships, S corporations and C corporations. Royalties paid to these entities should not have income tax withheld. See below for information on royalties paid to trusts.

Royalty payers have the option of reporting royalty withholding with their regular wage/salary withholding, or reporting it under a separate Minnesota tax ID number used for royalty withholding only. If you choose to report royalty withholding separately, you must first register for a separate ID number. Go to the department's website at www.revenue.state.mn.us and register for an ID number online or call 651-282-5225. Then, file your royalty withholding returns separately from your wage/salary withholding. All withholding returns must be filed electronically through the department's e-Services system. Go to the department's website for more information.

Royalty Recipients

Royalty recipients should claim amounts withheld as Minnesota income tax withheld when filing their Minnesota income tax return.

Individuals who had no Minnesota income tax liability in the preceding year and reasonably expect to have no liability for the current year can claim exemption from withholding tax. Nonresident individuals will not incur a Minnesota income tax liability for 2014 and are not required to file a Minnesota Individual Income Tax return if their Minnesota assignable gross income from royalties and all other Minnesota sources is less than $10,150.

To claim exemption from withholding, royalty recipients must complete State Form W-4MN. The royalty payer must send a copy to: Minnesota Revenue, Mail Station 6501, St. Paul, MN 55146-6501.

If tax is incorrectly withheld by the royalty payer, the royalty recipient must file a Minnesota income tax return to obtain a refund.

Federal Form 1099 MISC. Royalty payers must also provide each royalty recipient with a federal Form 1099 MISC by January 31 for royalties paid during the previous year. Follow the federal requirements to issue 1099s to persons to whom you made payments. Enter MN in the "State" space, and fill in the amount of Minnesota income tax withheld for that royalty recipient during the year.

Royalty payers must submit federal Form 1099 MISC to the department by February 28 each year. You can submit 1099 forms electronically using e-Services or mail to: Minnesota Revenue, Mail Station 1173, St. Paul, MN 55146-1173.

Magnetic Media Reporting. Royalty payers who are required to send federal Form 1099 information on magnetic media are required to submit that information to Minnesota on magnetic media as well. Use Social Security Administration (SSA) Publication (MMREF 1), IRS Publication 1220, and the department's Withholding Fact Sheet 2a to prepare your magnetic media for Minnesota. Minnesota accepts returns on magnetic media allowed by the federal government, except reel-to-reel tapes and cartridges.

Royalties Paid to Trusts

Simple trusts (i.e., trusts that distribute all royalty income to their beneficiaries) are exempt from withholding on royalties unless they elect to have tax withheld by the royalty payer. If the trust elects to have tax withheld, it must notify the royalty payer of its decision. If the trust chooses tax-exempt status, the trust becomes the "royalty payer" and is responsible for withholding tax from its beneficiaries as well as complying with all withholding tax requirements, including:

- Informing beneficiaries of the requirements to withhold tax;
- Providing beneficiaries with 1099 MISC forms each year by January 31 for royalties received the previous year; and
- Filing all required withholding returns electronically with the State of Minnesota.

Royalties on State-Managed Mineral Lands

Royalties paid to the state on state-managed mineral lands are not subject to withholding tax. These revenues are allocated by law primarily for educational purposes.

The Minnesota Department of Natural Resources manages state-owned mineral rights for the permanent school fund, permanent university fund, and taxing districts throughout the state. Interest and dividends from the permanent school fund are distributed to school districts throughout the state. Interest and dividends from the permanent university fund are split between a scholarship account for students at the University of Minnesota and for minerals research conducted by the Natural Resources Research Institute.

Revenue from mining on tax forfeited lands is split between the state's general fund (20 percent) and local taxing districts (80

Income Tax Withholding on Mining and Exploration Royalties (cont.)

percent). From the 80 percent distributed to local taxing districts, 3/9 of the revenue goes to the county, 4/9 to the school district and 2/9 to the township or city where the mining occurs.

For more information, contact the Transactions Section, Lands and Minerals Division, DNR, in St. Paul (see address and phone information before the table of contents).

Information and Assistance

An instruction booklet, *Minnesota Income Tax Withholding*, is available on the department's website. Although the booklet is designed for withholding on Minnesota wages, the general filing requirements also pertain to royalty withholding.

Website: www.revenue.state.mn.us
Email: withholding.tax@state.mn.us
Phone: 651-282-9999 or 1-800-657-3594

Figure 27

Average Royalty Cost Per Ton of Pellets Produced*

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Industry Production (millions of tons)	39.4	40.2	39.7	38.7	39.9	17.6	36.0	39.8	39.9	38.1
ArcelorMittal	1.298	1.819	1.73	2.11	2.91	2.33	3.10	5.77	4.95	4.12
Hibbing	1.631	2.045	1.92	2.19	2.31	5.32	2.90	2.78	2.87	2.64
Northshore**	2.659	5.481	5.08	5.02	6.95	4.45	6.08	7.42	6.02	5.83
United Taconite	1.333	1.724	1.84	2.16	2.72	2.34	3.68	3.99	3.49	3.46
U.S. Steel – Minntac	1.180	1.498	1.63	2.13	2.37	1.95	2.38	3.45	3.45	3.51
U.S. Steel – Keewatin	1.463	1.740	2.14	2.40	3.20	0.00	3.26	4.49	4.26	4.32
Industry Average –										
Weighted	1.516	2.169	2.22	2.55	3.15	2.84	3.31	4.25	3.89	3.72
Arithmetic	1.594	2.384	2.39	2.67	3.41	2.73	3.57	4.65	4.17	3.98

* This information is provided by Minnesota mining companies and is not audited by the Minnesota Dept. of Revenue.

** Northshore's royalty costs per ton are based primarily on shipments, not production.

Sales and Use Taxes

(M.S. Chapter 297A)

Minnesota has a 6.875 percent general sales tax rate. The sales tax applies to retail sales of taxable services and/or tangible personal property. A number of exemptions reduces the size of the sales tax base.

If you buy a taxable item for your own use without paying sales tax, you probably owe use tax. The tax rate is the same for both sales and use tax, and the same exemptions apply. Use tax is due on taxable items and services used in Minnesota if no sales tax was paid at the time of purchase.

All sales and use tax information must be filed electronically at the department's website www.revenue.state.mn.us or by phone at 1-800-570-3329.

Local Taxes

We currently administer and collect several local sales and use taxes. The general local taxes apply to the same items that are taxed by the Minnesota sales and use tax law. You must be registered for any locality if you do business there.

To figure the tax, combine the state tax rate and all applicable local rates. Apply the total combined rate to the taxable sales price and round to the nearest full cent. (Rate charts are available on our website.)

Local taxes are reported at the same time you report your Minnesota sales and use tax, but the figures are reported separately. You must be registered for each local tax you report. Call our office to register for local taxes if you file by phone. If you file by Internet, please add the applicable local taxes when you file your return.

Various local tax rates apply in the seven-county metropolitan area. Several localities outside the metropolitan area also impose local taxes.

Industrial Production Exemption

The industrial production exemption (M.S. 297A.68, subd. 2) allows industry to exempt items from sales and use tax that are used or consumed in the production of personal property intended to be sold ultimately at retail, whether or not the item used becomes an ingredient or constituent part of the property produced. Items included in the exemption are chemicals, fuels, petroleum products, lubricants, packaging materials, electricity, gas, and steam. Explosives, a major item for the mining industry, are exempt under the chemical classification. Sales Tax Fact Sheet 147, *Taconite and Iron Mining,* is available on the department's website.

The 1971 Minnesota legislature approved the production materials exemption (M.S. 297A.68, subd. 4) exclusively for the taconite mining industry. This statute allows an exemption from sales tax on grinding rods, grinding balls, and mill liners that are substantially consumed in the production of taconite. During the process, this material is added to, and becomes a part of, the product processed. For the purpose of the exemption, the term *mill* includes all facilities used to reduce and process ore.

In 1974, the Minnesota legislature amended the industrial production exemption (M.S. 297A.68, subd. 2) to cover accessory tools. The accessory tool exemption is available to all manufacturing-type businesses. The legislature, in defining what qualifies as an accessory tool, set three standards that must be met: 1) an item must be separate and detachable; 2) it must have a direct effect on the product; and 3) it must have a useful life of fewer than twelve months. In mining, shovel dipper teeth, shovel bucket lip and lower wing shrouds, cat and grader blade cutting edges, drill bits and reamers qualify for this exemption.

The 1994 legislature expanded the law to exempt materials, including chemicals, fuels and electricity purchased by persons engaged in industrial production to treat production process waste.

Mineral Production Facilities Exemption

The mineral production facilities exemption (M.S. 297A, subd. 14) exempts the purchase of materials to construct *any* of the following types of facilities. This includes materials to construct buildings to house the equipment even though the buildings, when completed, become real property.

- A value-added iron products plant that may be either a new plant or facilities incorporated into an existing facility that produces iron upgraded to a minimum of 75 percent iron content or any iron alloy with a minimum metallic content of 90 percent.
- A facility used for the manufacture of fluxed taconite pellets.
- A new capital project that has a total cost of more than $40 million that is directly related to production, cost or quality at an existing taconite facility that does not qualify under 1 or 2 above.
- A new mine or mineral processing plant for any mineral subject to the net proceeds tax.

Capital Equipment Refund

If you buy or lease qualifying capital equipment or replacement capital equipment for use in Minnesota, you are eligible for a refund of all, or a part of, the Minnesota and any local sales or use tax paid (M.S. 297A.68, subd. 5).

Capital equipment means machinery and equipment used by the purchaser or lessee primarily for manufacturing, fabricating, mining, or refining a product to be sold ultimately at retail. Both purchasers and lessees of capital equipment are eligible for a full refund of the sales or use tax.

Sales and Use Taxes (cont.)

Replacement capital equipment means machinery and equipment to replace qualifying capital equipment; repair and replacement parts, accessories and upgrades to qualifying equipment; foundations for qualifying equipment; and special purpose buildings. Beginning July 1, 1998, purchases or leases of replacement capital equipment are eligible for a full refund of the sales and use tax paid.

You must pay sales tax when you buy or lease capital or replacement capital equipment. If the seller does not charge sales tax, you must report and pay use tax on the equipment. To get a refund of sales or use tax paid, you must file a capital equipment refund claim on Form ST11. You may file no more than two capital equipment refund claims in a calendar year.

A claim must be filed within three and one-half years from the due date of the return, or within one year of the date of an order assessing liability (if the liability has been paid in full), whichever is longer.

Capital equipment is not the same as capitalized assets. Items capitalized for accounting purposes do not automatically qualify as capital equipment. Items expensed for accounting purposes, such as leased equipment, may be considered capital equipment for refund purposes.

Capital equipment does not include:

- Agriculture, aquaculture, and logging equipment; or
- Motor vehicles taxed under Minnesota Statutes 297B (vehicles for road use).

Labor–Repair and Maintenance for Business

From July 1, 2013 through April 1, 2014, the repair and maintenance of certain equipment and machinery for businesses was subject to the Minnesota sales and use tax. This included electronic and precision equipment, and commercial and industrial machinery and equipment. See Sales Tax Fact Sheet 152B on the department's website.

Mandatory Electronic Payments

You must generally pay all Minnesota business taxes electronically if you paid more than $10,000 of any business tax during the previous fiscal year (July 1 – June 30). Starting July 1, 2013, if you are required to pay business taxes electronically for one year, you must continue to do so for all future years.

June Accelerated Payment

If you had a sales and use tax liability of $250,000 or more in the state's prior fiscal year (July 1–June 30), you are required to make a June accelerated payment. Once you are required to make a June accelerated payment, you must continue making this payment until you receive further notice. The June accelerated payment is due two business days before June 30, and the remaining payment and return for June is due August 20. To avoid penalty, your June accelerated payment must be at least:

- 81.4 percent of your actual June liability, or
- 81.4 percent of your May liability, or
- 81.4 percent of your average monthly liability for the previous calendar year.

To avoid possible penalties and interest, it is important to review your account to ensure that you are filing and paying properly.

Claiming Exemptions and Refunds

- Industrial Production Exemption
- Taconite Production Material Exemption

File an exemption certificate (Form ST3) or direct pay permit with the vendor. No tax is collected.

- Capital Equipment Exemption
- Mineral Production Facilities Exemption

Pay the sales tax or self-assess use tax. File for 6.875% refund on Form ST11.

Figure 28

Use Tax Paid

Year	Use Tax	Refund Claims*	Net Use Tax
2009	16,040,963	18,876,729	(2,835,766)
2010	25,303,605	8,201,710	17,101,895
2011	32,704,326	8,030,608	24,673,718
2012	31,373,946	28,794,070	2,579,876
2013	**33,273,667**	**8,636,907**	**24,636,760**

* Capital equipment refund claims allowed, not including interest, for new or expanding businesses and for repair and replacement parts.

Sales and Use Tax—Aggregate Material

(M.S. Chapter 297A)

Aggregate material is nonmetallic natural mineral aggregate including, but not limited to: sand, silica sand, gravel, stone, boulders, and crushed and uncrushed rock, including landscape rock, rip-rap, crushed granite and crushed limestone.

Industrial Production Exemption

Aggregate producers may purchase certain items that are used or consumed in the production of tangible personal property intended to be sold ultimately at retail exempt from sales tax. This exemption includes chemicals, fuels, petroleum products, lubricants, gas and electricity. To purchase qualifying items exempt, the purchaser must provide the seller with a completed exemption certificate (ST3).

Capital Equipment

Capital equipment means machinery and equipment purchased or leased, and used in Minnesota by the purchaser or lessee primarily for manufacturing, fabricating, mining, or refining tangible personal property to be sold ultimately at retail if the machinery and equipment are essential to the integrated production process of manufacturing, fabricating, mining, or refining. Currently, capital equipment is taxable a the time of purchase. You may use Form ST11 to apply for a refund of tax paid on qualifying equipment.

On July 1, 2015, Minnesota will change to an upfront sales tax exemption on eligible capital equipment purchases. For purchases before that date, you must continue to pay sales or use tax and then request a refund on Form ST11. See Sales Tax Fact Sheet 103, *Capital Equipment,* for more information.

Aggregate Sales

Construction Contracts

Contracts that require the seller of aggregate to deliver and spread or place the aggregate, gravel, or similar materials in such a way that no further leveling or movement is required by the purchaser are improvements to real property. Contractors must pay sales or use tax on their cost of any taxable products or services used to complete the contract. Construction contracts are not taxable to the customer.

Retail Sales

If aggregate material is dumped in a pile, or if the contract does not require the seller to deposit the aggregate material in such a manner that no further leveling or movement is required, it is a sales of tangible personal property and the seller must charge sales tax on both the material and the delivery charges.

Delivery (hauling) of aggregate materials and concrete block is generally taxable, whether delivered by the seller or a third party hauler. Sales tax applied to the delivery charges even if the aggregate will be used to make an improvement to realty and regardless of how deposited at the delivery site. However, delivery of aggregate by a third party hauler is exempt if the aggregate is used for road construction. For more information, see Sales Tax Fact Sheet 128, *Contractors,* and 155, *Delivery Charges.*

Sales to Governments

Most sales to local governments are not taxable. For purposes of this exemption, "local governments" means statutory or home rule charter cities, counties, townships (towns), and qualifying cooperative agreements. This exemption applies to road-building materials and the delivery of aggregate materials. Sales to other non-qualifying areas of local government remain taxable. See Sales Tax Fact Sheet 176, *Local Governments,* for specific information.

Aggregate Pit Owned by a Government Unit

If a pit is owned or leased by a government unit, aggregate removed for its own use **is not taxable**. However, all aggregate sold to others is taxable, unless the purchaser provides an exemption certificate (ST3).

Aggregate Crushing and Screening

Screening and crushing of aggregate is fabrication labor subject to sales tax, unless the purchaser provides an exemption certificate (ST3). Fabrication labor is the making or creating of a new product or altering an existing product into a new or changed product, even when the customer provides the materials to be screened or crushed.

Ready-Mix Concrete Producers

The purchase of aggregate by a ready-mix concrete producer to be used in making the product is exempt from sales tax. The producer must give the seller a completed exemption certificate (ST3). to the aggregate seller.

Retail sales of ready-mix product are taxable unless the purchaser provides an exemption certificate (ST3).

Bituminous Producers

If the bituminous producer is primarily a contractor (makes and installs the product), then all purchases of aggregate are taxable.

If a bituminous producer is primarily a retailer (makes retail sales of bituminous and does not install the product), they may purchase the aggregate exempt from sales tax by giving the seller a completed exemption certificate (ST3).

Note: If the bituminous producer is a contractor-retailer, it must determine which function constitutes at least 50 percent of its business. If the producer is primarily a contractor, then it must pay sales or use tax on all purchases. If the producer is primarily a retailer, then it may purchase aggregate exempt from sales tax by giving the seller a completed exemption certificate (ST3).

Ad Valorem Tax on Auxiliary Mining Lands for Taconite Operations

(M.S. 272.01)

Lands and structures actively used for taconite production are exempt from the ad valorem tax and are subject to the production tax *in lieu* of property tax. Actively used lands include the plant site, mining pit, stockpiles, tailings pond and water reservoirs. Also included are lands stripped and ready for mining, but not lands merely cleared of trees. It is important to note that this exemption applies only to the ad valorem tax on the land and buildings and *not to the unmined taconite tax* described on the following page. Lands adjacent to these facilities, commonly referred to as auxiliary mining lands, are subject to assessment of ad valorem tax administered by the county.

The county assessor is responsible for estimating the market value of auxiliary mining lands and classifying them into one of several property classifications established by Minnesota law. The two most common property classifications used on auxiliary mining lands are industrial and rural vacant land. In general, lands in close proximity to active taconite operations are assigned the industrial classification while those further away are classified as rural vacant land. The classification of property is covered in M.S. 273.13.

Each property classification has a legislatively set percentage called the class rate that is multiplied by the property's taxable market value (TMV) to calculate tax capacity. For payable 2014 taxes, the class rate for rural vacant land is 1.00 percent of the estimated market value. For the industrial classification, there are two class rates: 1.50 percent for the first $150,000 of the TMV and 2.0 percent for the value over $150,000.

Property taxes are calculated by multiplying a property's tax capacity times the tax extension rate for the jurisdiction where it is located. Tax extension rates are determined by county, local government and school district spending. In St. Louis County within the mining area for taxes payable in 2014, they range from a low of approximately 86 percent to a high of approximately 342 percent. In addition, the market value times the referendum rate must be added to the tax determined above if there is a referendum in the taxing district. For industrial class property, the state general tax rate of 52.160 percent applies in addition to the local tax rate.

The following schedule provides for adjustments in both the valuations and classifications of auxiliary mining lands located on the iron formation versus off-formation lands as well as further refinements based on the proximity of these lands to active mining operations. It outlines valuation adjustments to be made on excess lands where they are located as market conditions and/or Minnesota statutes dictate (see below). This schedule was updated based on market conditions for the 2013 assessment.

St. Louis County Mining Land Assessment Schedule

1. Iron formation land	**Value ($/acre)**	**Classification**
A. Land within ¼ mile of active pit	$1000	Industrial
B. Excess land (more than ¼ mile from mining activity or outside 15-year pit limit).		
1. Undisturbed	Same as other private land	Rural Vacant Land or current use
2. Disturbed		
a. Stockpiles	75% of other private land	Rural Vacant Land or current use
b. Abandoned Pits	50% of other private land	Rural Vacant Land or current use
2. Off-formation land		
A. Land within ¼ mile of mining activity	$700	Industrial
B. Excess Land		
1. Undisturbed	Same as other private land	Rural Vacant Land or current use
2. Tailings Ponds		
a. Stockpiles	75% of other private land	Rural Vacant Land or current use
b. Tailings Ponds	30% of other private land	Rural Vacant Land or current use

Ad Valorem Tax on Unmined Taconite

(M.S. 298.26)

A tax not exceeding $15 per acre may be assessed on the taconite or iron sulfides in any 40-acre tract from which the production of iron ore concentrate is less than 1,000 tons.

The heading in the statute is somewhat misleading since it refers to a *Tax on Unmined Iron Ore or Iron Sulfides*. The tax clearly applies to unmined taconite and has been administered in that manner. The term "iron ore" does not refer to high-grade natural ore in this instance.

The tax, as presently administered, applies to all iron formation lands on the Mesabi Range. The statutory exemption administered by the county assessor provides that in any year in which at least 1,000 tons of iron ore concentrates are produced from a 40-acre tract or government lot, the tract or lot are exempt from the unmined taconite tax. The county assessors have also exempted actual platted townsites that are occupied.

The iron formation lands on the Mesabi Range are divided into two categories by the Minnesota Department of Revenue. This is done through the evaluation of exploration drill hole data submitted by the mining companies.

The categories are:

1) Lands that are underlain by magnetic taconite of sufficient quantity and grade to be currently economic: They are considered to be economic taconite and are given a market value of $500 per acre.

2) Lands either not believed or not known to be underlain by magnetic taconite of current economic quantity, quality and grade: They are considered to be uneconomic taconite and are given a market value of $25 per acre.

To be classified as economic taconite, category 1, the taconite must pass the following criteria:

— contain more than 16 percent magnetic iron with the Davis tube test;

— contain less than 10 percent concentrate silica (SiO_2) with the Davis tube test;

— have a 15- to 25-foot minimum mining thickness; and

— have a stripping ratio of less than four-to-one (waste/concentrate), calculated as follows:

A) Surface (ft.) x 1.5= Equiv. Ft. Surface

B) Rock (ft.) x 2.25 = Equiv. Ft. Waste

C) $\frac{\text{Ore (ft.) x 2.5}}{3}$ = Equiv. Ft. Concentrate

Stripping Ratio = $\frac{A + B}{C}$

If the material fails any of the above criteria, then it is considered to be *uneconomic* taconite and classified as category 2. Some lands may also be considered as uneconomic due to environmental restrictions.

For taxes payable in 2013, the tax is calculated by multiplying the market value for the parcel of land by the 2.00 percent class rate to obtain the tax capacity. The special rate on the first $150,000 of market value that applies to class 3 commercial/industrial property does not apply to class 5 unmined taconite. This is then multiplied by the local tax rate. *Note: Call your county auditor for more information.*

Figure 29

Unmined Taconite Tax Paid

(Year payable)

County	2007	2008	2009	2010	2011	2012	2013	2014
Itasca	$0	$0	$0	$0	$0	$0	$32,283	$32,468
St. Louis	532,102	495,033	466,991	238,274	239,518	228,517	265,107	247,126
Total	**$532,102**	**$495,033**	**$466,991**	**$238,274**	**$239,518**	**$228,517**	**$297,390**	**$279,594**

Ad Valorem Tax on Unmined Natural Iron Ore

(M.S. 272.03, 273.02, 273.12, 273.13, 273.165, 273.1104)

Since 1909, Minnesota's natural iron ore reserves have been estimated and assessed by the state for ad valorem tax purposes. The actual ad valorem tax levy is set by the county, the school district and the local township or municipality. The county auditor collects the tax levy.

A Minnesota Supreme Court decision in 1936 established the present worth of future profits method for valuing the iron ore reserves. This is accomplished through the use of a complex formula known as the Hoskold Formula. The formula takes into account ore prices and all the various cost factors in determining the value of the unmined ore.

Each year, the Minnesota Department of Revenue uses a five-year average for allowable costs taken from the occupation tax report. A five-year average of the Lake Erie iron ore market value is also used. These averages are used to help reduce fluctuation of value due to sudden cost/price changes.

The following expenses are allowed as deductions from the Lake Erie market value on the computation of present worth, which is known as the Hoskold Formula:

1a. Mining, normal costs
1b. Mining, special costs
2. Beneficiation
3. Miscellaneous (property tax, medical ins., etc.)
4. Development (future)
5. Plant and equipment (future)
6. Freight and marine insurance
7. Marketing expense
8. Social Security tax*
9. Ad valorem tax (by formula)
10. Occupation tax
11. Federal income tax
12. Interest on development and working capital

* Since 1987, Social Security tax has been included under miscellaneous.

These 12 allowable expense items are deducted from the Lake Erie market value to give the estimated future income (per ton). Note that although royalty is allowable as an occupation tax deduction, it is not allowable on Minnesota's ad valorem tax.

The present worth is then determined by multiplying the estimated future income (per ton) by the Hoskold Factor. The Minnesota Department of Revenue presently allows a 12 percent risk rate and six percent safe rate that yields the .33971 Hoskold factor when used with a 20-year life. A 20-year life has been used since 1968 as representative of the remaining life of Minnesota's natural iron ore reserves. The resulting value is considered the market value by the Minnesota Department of Revenue.

The term "class rate" was introduced for taxes payable in 1990. For 2002 and thereafter, this rate is reduced to 2.0 percent.

The tax capacity is the product of the class rate and the market value. The product of the market value and class rate must then be multiplied by the local tax rate plus the state general property tax rate to determine the tax. In addition, the market value times the referendum rate must be added if there is a referendum in the taxing district.

Local tax rates are a function of county, local government, and school district spending. In addition, a statewide general property tax levy applies to most types of property with the exception of agricultural and homestead properties. For example, for taxes payable in 2014, tax rates ranged from a low of approximately 86 percent to a high of approximately 342 percent (not including the state general property tax rate of 52.160 percent) in St. Louis County. The class rate from 2002–2014 has been 2 percent.

The special rate on the first $150,000 of market value that applies to class 3 commercial/industrial property does not apply to unmined iron ore that are class 5 properties.

The Minnesota Department of Revenue has tried to maintain all ores on the tax rolls, including the uneconomic, underground and unavailable classifications. A schedule of minimum rates was established in 1963 and revised in 1974, 1986, 1988, 1992 and 1999. The market values for iron ores that do not show a value with the Hoskold Formula are determined from the schedule of minimum rates. The table on the following page lists the current schedule of minimum rates. Most of the iron ore value remaining today was determined using the schedule of minimum rates.

Open pit ores with too high of a cost to show a value with the Hoskold Formula are assigned minimum values from the open pit classification. Underground and uneconomic ores with stripping ratios exceeding five-to-one are assigned minimum values from underground uneconomic classification.

Beginning with the 1999 assessment, the minimum rates for determining market values in Crow Wing County were reduced by 50 percent. This simply recognizes that the potential for mining iron ore is substantially less in Crow Wing County than on the Mesabi Range in St. Louis or Itasca counties.

A notice of the market value of unmined ore is sent to each person subject to the tax and to each taxing district affected on or before May 1 (M.S. 273.1104).

According to the provisions of M.S. 273.1104, a public hearing to review the valuations of unmined iron ore must be held on the first secular day following May 20. This hearing provides an opportunity for mining company and taxing district representatives to formally protest any of the ore estimates or valuation procedures they believe to be incorrect.

In addition, current conditions and future trends in the iron ore industry are discussed. Iron ore ad valorem taxes are expected to continue their long decline as remaining economic deposits are mined or allowed to go tax forfeit. Reserves in old flooded pits converted to recreational use are classified as underground, low-grade recreational.

Figure 30

Minimum Rates

Ore Classification	Market value/ton (cents)	
	Itasca and St. Louis Counties	Crow Wing County
Wash Ore Concentrate (OPC)	12.0	6.0
Heavy Media Concentrate (HMC)	9.0	4.5
Low Grade (OPPRC)	3.0	1.5
Underground Uneconomic (stripping ratio greater than 5 to 1)		
Underground Concentrate > 60% Fe (UGC)	2.4	1.2
Underground Concentrate < 60% Fe (UGC)	1.8	0.9
Underground Heavy Media (UGHM)	1.5	0.75
Low grade (UGPRC)	0.9	0.45
Low grade (UGR)	0.9	0.45

Figure 31

Iron Ore Ad Valorem Tax Payable

Year Assessed	Market Value	Payable Year	Estimated Tax Payable			Total
			Crow Wing	Itasca	St. Louis	
2005	$2,355,700	2006	$2,700	$13,300	$77,400	$93,400
2006	2,350,100	2007	2,500	12,700	79,100	94,300
2007	2,255,300	2008	2,300	11,600	68,400	82,300
2008	2,345,800	2009	2,200	11,400	70,100	83,700
2009	2,347,000	2010	2,200	12,200	71,500	85,900
2010	2,345,500	2011	2,400	12,700	76,400	91,500
2011	2,341,600	2012	2,600	14,300	87,400	104,300
2012	2,485,800	2013	2,700	13,900	93,200	109,800
2013	2,492,600	2014	2,800	14,100	93,900	110,800

Ad Valorem Tax on Taconite Railroads

(M.S. 270.80 - 270.88)

Beginning with the Jan. 2, 1989 assessment, taconite railroads have been included in the definitions of common carrier railroads and were assessed and taxed on an ad valorem basis according to Minnesota law. LTV and Northshore were the only railroads classified as taconite railroads. Since the 2003 assessment, Northshore Mining is the only operating railroad.

The Minnesota Department of Revenue developed rules governing the valuation of railroad operating property. The rules have been in effect since 1979 when common carrier railroads went off the gross earnings tax. Each railroad is required to file an annual report containing the necessary information.

The valuation process utilizes the unit value concept of appraisal. For taconite railroads, this involves calculating a weighted cost indicator of value allowing for depreciation and obsolescence. Personal property is then deducted from the net cost indicator to yield a Minnesota taxable value.

This value is then apportioned to the various taxing districts where the taconite railroad owns property. The amount of value each taxing district receives is based on an apportionment formula involving three factors: land, miles of track, and the cost of buildings over $10,000.

After the market value is apportioned to each taxing district, the value is equalized with the other commercial and industrial property on a county-wide basis using an estimated median commercial and industrial sales ratio. A commercial and industrial ratio is developed for each county and applied to that county's taconite railroad market values.

Figure 32

Taconite Railroad Ad Valorem Tax Assessed

Year Payable	Assessed	St. Louis County	Lake County	Total Tax
2005	2004	$3,896	$13,312	$17,208
2006	2005	3,366	10,921	14,287
2007	2006	3,054	10,081	13,135
2008	2007	3,212	9,063	12,275
2009	2008	2,562	6,415	8,977
2010	2009	2,319	7,293	9,612
2011	2010	2,514	7,623	10,137
2012	2011	2,460	8,265	10,725
2013	2012	2,981	10,651	13,632
2014	**2013**	**7,286**	**26,796**	**34,082**

Ad Valorem Tax on Severed Mineral Interests

(M.S. 272.039, 272.04, 273.165)

Definition

Severed mineral interests are those separately owned from the title to surface interests in real estate. Each year, severed mineral interests are taxed under Minnesota law at 40 cents per acre times the fractional interest owned. The minimum tax on any mineral interest (usually 40-acre tracts or government lots) regardless of the fractional interest owned, is $3.20 per tract. No tax is due on mineral interests taxed under other laws relating to the taxation of minerals, such as unmined taconite or iron ore, or mineral interests exempt from taxation under constitutional or related statutory provisions.

Ownership of a specific mineral or group of minerals, such as energy minerals or precious metals rather than an actual *fractional interest* of all the minerals, does not constitute a fractional interest. Thus, if one individual reserved all minerals except gas, oil and hydrocarbons, and a second entity reserved the hydrocarbons, each owner would be subject to the full 40 cents per acre tax.

The severed mineral tax is a property tax that is levied by local taxing authorities in the same manner as other local property taxes. Proceeds from the tax are distributed in this manner: 80 percent is returned by the county to local taxing districts where the property is located in the same proportion that the local tax rate of each taxing district bears to the total surface tax rate in the area; and 20 percent to the Indian Business Loan Account in the state treasury for business loans made to Indians by the Department of Employment and Economic Development.

The registration and taxation of severed mineral interests is a county function. Severed mineral interests are registered with the county recorder in the county where the interest is located. The county auditor sends a tax statement similar to any other real estate interest. The tax is normally collected in two increments payable in May and October. If the tax is less than $50, the taxpayer is required to pay in full with the May payment.

Nonpayment Penalty: Forfeiture

The eventual penalty for not paying the tax is forfeiture. Policies vary somewhat among counties. Specific questions about the tax, interest or penalties should be directed to the county recorder and auditor in the county where the minerals are located.

Tax Imposed

The tax on severed mineral interests was enacted in 1973 as part of an act that required owners to file a document with the county recorder where the interests were located describing the mineral interest and asserting an ownership claim to the minerals. The purpose of this requirement was to identify and clarify the obscure and divided ownership conditions of severed mineral interests in the state (M.S. 93.52). Failure to record severed mineral interests within time limits established by the law results in forfeiture to the state (M.S. 93.55).

History of Litigation

In 1979, the Minnesota Supreme Court ruled that the tax, the recording requirements and the penalty of forfeiture for failing to timely record were constitutional, but also ruled that forfeiture procedures were unconstitutional for lack of sufficient notice and opportunity for hearing. This decision is cited as *Contos, Burlington Northern, Inc. U.S. Steel, et al. v. Herbst, Commissioner of Natural Resources, Korda, St. Louis County Auditor, Roemer, Commissioner of Revenue, and the Minnesota Chippewa Tribe, et al., 278 N.W. 2d 732* (1979). The U.S. Supreme Court refused to hear an appeal requested by the plaintiffs. Shortly after this decision, the legislature amended the law to require notice to the last owner of record and a court hearing before a forfeiture for failure to timely record becomes complete. Under these requirements, court orders have been obtained by the state in several counties declaring the forfeiture of particular severed mineral interests to be complete and giving title to the state.

Figure 33

Tax Collection and Distribution

Period ending	80% retained by local government	20% payment to Indian Business Loan Account	Total collections of affected counties
Dec. 31, 2006	$341,884	$85,471	$427,355
Dec. 31, 2007	451,904	112,976	564,880
Dec. 31, 2008	433,578	108,395	541,973
Dec. 31, 2009	463,472	115,868	579,340
Dec. 31, 2010	448,864	112,216	561,080
Dec. 31, 2011	444,016	111,004	555,020
Dec. 31, 2012	487,096	121,774	608,870
Dec. 31, 2013	452,376	113,094	565,470

Ad Valorem Tax on Severed Mineral Interests (cont.)

In 1988, the legislature amended the law to allow the Commissioner of the Minnesota Department of Natural Resources (DNR)to lease unregistered severed mineral interests before entry of the court order determining the forfeiture to be complete. However, mining may not commence under such a lease until the court determines that the forfeiture is complete.

In a 1983 case, the Minnesota Supreme Court ruled that severed mineral interests owned by the Federal Land Bank of St. Paul were exempt from the state severed mineral tax under a federal law exempting Land Bank real estate from local property taxes. The U.S. Supreme Court denied a petition by the State of Minnesota to review the case.

DNR Lease

If someone buys a DNR mining lease of 3 or more years duration, the severed mineral interest tax of 40 cents per acre applies. Contact the DNR, Minerals Division, to determine the status of activities under any state metallic minerals lease.

Indian Business Loan Account

The 20 percent portion of the severed mineral interest tax that is allocated to the Indian Loan Program is reported by the county auditors on the *Severed Mineral Interest Return (SMI1)*. Normally, the form is submitted twice each year to correspond with payment of property taxes.

The money deposited in the severed mineral interest account is distributed to the Indian Loan Program at the end of each month.

Department of Revenue

The processing and payment of the severed mineral interest tax is handled by the Special Taxes Division of the Minnesota Department of Revenue, Mail Station 3331, St. Paul, MN 55146-3331. Phone 651-556-4721.

Loan Program

The Indian Business Loan Program is administered by the Department of Employment and Economic Development, 1st National Bank Building, 332 Minnesota Street, Suite E-200, St. Paul, MN 55101-1351. Phone: 651-259-7424.

Taxes on Other Mining and Exploration

Companies mining or exploring for nonferrous minerals or energy resources are also subject to Minnesota taxes. This includes mining or exploring for:

- Base metals, such as copper, nickel, lead, zinc, titanium, etc;
- Precious metals, such as gold, silver and platinum; and
- Energy resources, such as coal, oil, gas and uranium.

Companies conducting these activities are subject to the following taxes the same as companies that mine ferrous minerals:

- Occupation tax (see page 31)
- Income tax withholding on royalties (see page 35)
- Sales and use taxes (see page 37)
- Ad valorem tax on severed mineral interests (see page 45)

In addition, they are subject to ad valorem tax (property tax) in certain situations and a net proceeds tax.

Ad Valorem Tax (M.S. 272–273)

Companies mining or exploring for nonferrous minerals or energy resources are subject to property tax the same as other businesses.

For commercial and industrial property, the assessor's estimated market value is multiplied by a class rate to obtain gross tax capacity. The first $150,000 of market value is taxed at 1.5 percent, while a 2 percent rate applies to market value over $150,000. To determine the tax, the product of the market value and class rate must be multiplied by the local tax rate plus the 52.160 percent state general property tax rate for taxes payable in 2014. In St. Louis County, where the majority of Minnesota's mining industry is located, the local tax rates payable in 2014 varied from a low of 86 percent to a high of approximately 342 percent. If a referendum tax is passed, the referendum rate times the full market value must be added.

If a company is mining minerals or energy resources subject to the net proceeds tax under M.S. 298.015, then the following property is exempt:

- deposits of ores, metals, and minerals and the lands in which they are contained;
- all real and personal property used in mining, quarrying, producing, or refining ores, minerals, or metals, including lands occupied by or used in connection with the mining, quarrying, production, or ore refining facilities;
- and concentrate.

Net Proceeds Tax (M.S. 298.015–298.018)

The net proceeds tax applies to the mining or producing of nonferrous minerals and energy resources, i.e., all ores, metals and minerals mined, extracted, produced or refined within Minnesota, except for sand, silica sand, gravel, building stone, crushed rock, limestone, granite, dimension granite, dimension stone, horticultural peat, clay, soil, iron ore and taconite concentrates.

The tax is equal to 2 percent of the net proceeds from mining in Minnesota. Net proceeds are the gross proceeds from mining less allowable deductions. Gross income from mining or producing nonferrous minerals or energy resources is calculated differently from the method used for ferrous minerals.

For **non-equity or arms-length transactions,** gross income is based on actual sales. Generally, for **non-arms-length transactions,** gross income is based on the average annual market price as published in the *Engineering and Mining Journal*.

The net proceeds tax was designed to apply to mining and beneficiation, generally to the point of a saleable product. In the case of some hydrometallurgical processes, the saleable product may be a refined metal.

Deductions from the tax include only those expenses necessary to convert raw materials to marketable quality. Expenses such as transportation, stockpiling, marketing or marine insurance that are incurred after marketable ores are produced are not allowed, unless the expenses are included in gross proceeds.

Distribution of the tax. If the minerals or energy resources are mined *outside* the Taconite Assistance Area, the tax is deposited in the state's General Fund. If they are mined or extracted *within* the Taconite Assistance Area, the tax is distributed to:

- Cities and towns (5%), counties (20%), and school districts (10%) where the minerals or energy resources are mined or extracted, or where the concentrate is produced. If concentrating occurs in a different taxing district from where the mining occurs, 50 percent is distributed to the taxing districts where mined and the remainder to those districts where processed. In addition, counties must pay 1 percent of their proceeds to the Range Association of Municipalities and Schools.
- Regular School Fund (20%)
- Taconite Municipal Aid Account (10%).
- Taconite Property Tax Relief (20%), using St. Louis County as fiscal agent.
- IRRRB (5%).
- Douglas J. Johnson Economic Protection Trust Fund (5%).
- Taconite Environmental Protection Fund (5%).

Distributions are made annually on July 15; however, there are currently no companies subject to the net proceeds tax.

Glossary of Terms

Acid pellets — Taconite pellets comprised of iron, oxygen and silica held together by a binder such as bentonite (clay) or peridor (organic).

Agglomeration — The term describing the preparation and heat treatment used to prepare iron ore pellets or other iron ore products for shipment and use in a blast furnace.

Arms-length transaction — A sale of iron ore or pellets representing a true free market transaction when the buyer normally does not have an ownership or other special relationship with the seller.

Basic oxygen furnace (BOF) — A steel-making furnace invented in Austria. It replaced open hearth furnaces in the 1960s. It is currently the standard furnace used by the integrated steel producers in the United States.

Beneficiation — The process of improving the grade by removing impurities through concentrating or other preparation for smelting, such as drying, gravity, flotation or magnetic separation. In taconite operations, this includes the first stage of magnetic separation and converting the concentrate into taconite pellets for use in making steel.

Concentrate — The finely ground iron-bearing particles that remain after separation from silica and other impurities.

Douglas J. Johnson Economic Protection Trust Fund (DJJ) — A portion of taconite production tax revenues is allocated to this fund with the intent to use the funds to diversify and stabilize the long-range economy of the Iron Range.

Direct reduced iron (DRI) — A relatively pure form of iron (usually 90 percent + Fe), which is produced by heating iron ore in a furnace or kiln with a reducing agent such as certain gases or coal.

Dry weight — The weight of iron ore or pellets excluding moisture. For pellets, the dry weight is normally 1 to 2 percent less than the natural weight.

Electric Arc Furnace (EF or EAF) — A furnace in which an electric current is passed through the charge. These furnaces are much smaller than the conventional BOFs used by the integrated steel producers.

Fe unit — Commonly referred to as an iron unit. An iron unit is a term of measurement denoting one ton containing one percent iron. Iron ore and taconite produced in the United States is measured in long tons (see definition). One long ton of taconite containing 65 percent iron also contains 65 long ton iron units.

Historically, this measurement was and is used for the selling price quoted in cents per iron unit. One example is a currently published price of acid pellets FOB mine at 37.344 cents per dry gross ton iron unit *or* $.37344 per iron unit.

Fluxed pellets — Taconite pellets containing limestone or another basic flux additive. Fluxed pellets eliminate the need to add limestone in the blast furnace, improving productivity and quality. Adding flux reduces the iron content of a pellet. Fluxed pellets, as used in this guide, mean pellets containing two percent or more limestone or other flux.

Partially fluxed pellets — Fluxed pellets containing 1.99 percent or less limestone or other flux additive.

Gross Domestic Product Implicit Price Deflator (GDPIPD) — An index maintained by the U.S. Department of Commerce measuring inflation in the overall economy. The taconite production tax rate is adjusted annually based on the change in this index.

Integrated steel producer — Term used to describe steel companies that produce steel by starting with raw iron ore, reducing it to molten iron in a blast furnace, and producing steel with a BOF, open hearth, or electric furnace.

Lake Erie value — The traditional and quoted price of iron ore from the earliest days of iron ore mining in Minnesota and Michigan. This price per iron unit included delivery, mainly rail and lake transportation, from the mine to a Lake Erie port.

This was the starting point for occupation tax since its 1921 beginning. It was the standard method of pricing domestic iron ore and taconite for occupation tax until the mid-1980s (see Mine Value).

Long ton — The standard unit for weighing iron ore and taconite in the United States. A long ton equals 2,240 pounds.

M.S. 298.225 — A Minnesota statute (law) guaranteeing the taconite production tax aids received by municipalities, counties, schools and the IRRRB. The aid levels are adjusted according to a sliding scale based on production levels.

Metric ton — Standard unit for weighing iron ore and taconite in most areas of the world. A metric ton equals 1,000 kilograms or 2,204.62 pounds.

Mine value — The value of iron or pellets at the mine. This became the starting point for occupation tax in 1987. This value per iron unit does not include any rail or lake transportation beyond the mine.

Mini mill — A small steel mill using an electric furnace that produces steel from scrap iron.

Natural ore — Iron ore that can be fed to a blast furnace with less complicated processing than taconite requires. Natural ore typically contains 50 percent +Fe (iron) in its natural state.

Natural weight — The weight of iron ore or pellets including moisture.

Net proceeds tax — A tax equal to two percent of net proceeds from mining. Net proceeds are determined by subtracting certain basic deductions such as labor, equipment, supplies and depreciation from gross proceeds or sales.

Non-equity sales — See Arms-length transaction.

Pellet chip — Broken pellets often cannot be sold as pellets and instead are sold at a reduced price for sinter plants and other uses. For occupation tax purposes, chips are defined as individual shipments or stockpiles containing at least 85 percent of pellet chips smaller than one-fourth inch. Such chips cannot be shipped or commingled with regular pellets.

For occupation tax purposes, pellet chips are valued at 75 percent of the value of the unbroken pellets.

Percentage depletion — A taxable income deduction in the form of an allowance representing a return on capital investment on a wasting asset subject to a gradual reduction in reserves. This deduction applies to income derived from various mining or oil and gas properties. For iron ore, the deduction is a flat percentage of 15 percent of income from the iron ore only mined on a specific property. This deduction, however, cannot exceed 50 percent of taxable income from the property computed without the depletion deduction.

Range Association of Municipalities and Schools (RAMS) — An association representing Iron Range cities, towns and schools receiving any funding from the taconite production tax.

Region 3— Koochiching, Itasca, Aitkin, Carlton, St. Louis, Lake and Cook counties.

Royalty — A share of the product or profit reserved by the owner for permitting another to use the property. A lease by which the owner or lessor grants to the lessee the privilege of exploring, mining and operating the land in consideration of the payment of a certain stipulated royalty on the mineral produced.

Short ton — Standard for weighing many commodities in the United States. It equals 2,000 pounds.

Steel Mill Products Index (SMPI) — A United States government index tracking the actual selling price of all steel products in the United States. This index is published monthly by the U.S. Department of Labor. It is part of the formula used to determine a product value for occupation tax purposes each year.

Taconite — Ferruginous chert or ferruginous slate in the form of compact, siliceous rock in which the iron oxide is so finely disseminated that substantially all of the iron-bearing particles are smaller than 20 mesh.

It is not merchantable in its natural state, and it cannot be made merchantable by simple methods of beneficiation involving only crushing, screening, jigging, washing and drying or any combination thereof. (MS 298.001, subd. 4)

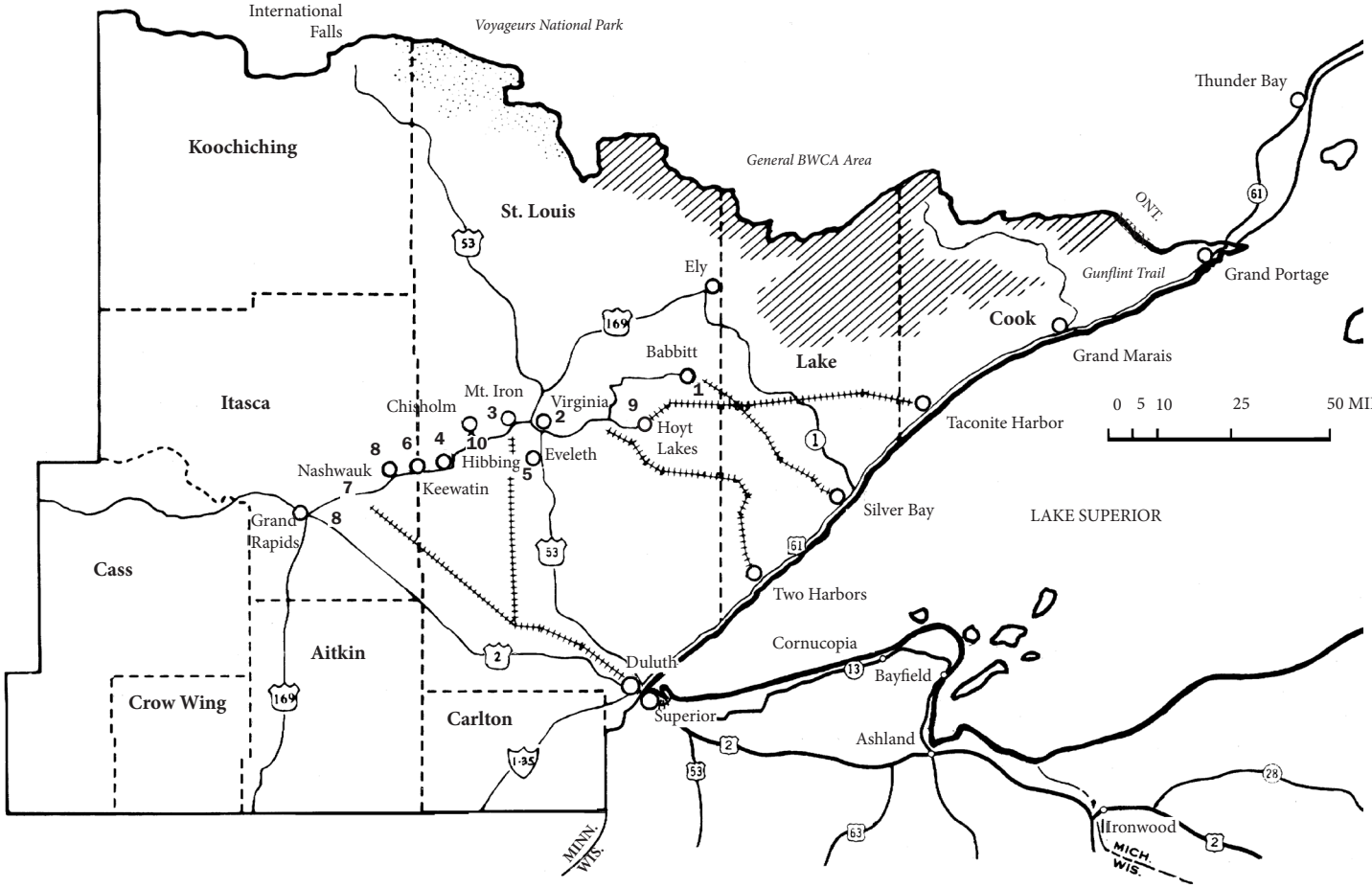
Tailing — Small rock particles containing little or no iron, which are separated during various stages of crushing, grinding, and concentration. Most of the separation is done with magnetic separators. Silica is the main mineral constituent of tailings.

Taxable tons — The three-year average of the current and prior two years production. The taconite production tax is based on taxable tons. The weight is on a dry basis without any flux additives. For other iron bearing material subject to the taconite production tax, only the current year is used.

Mining Industry Tax Calendar

January	February	March	April
– Ad Valorem Tax Reports mailed to companies – Ad valorem estimates submitted by companies (January - February) 14 Form MT-11, Taconite and Semi-Taconite Tax Report mailed to companies with memorandum	1 Taconite Production Tax Report due from companies 14 Taconite production tax determinations mailed to companies – Printout listing 50% production tax payments sent to county auditors – School bond payment schedule mailed to Cook, Itasca, Lake and St. Louis counties 24 Taconite production tax payment (50%) due in county offices by electronic funds transfer 25 Distribution of taconite production tax by counties (collected February 24)	1 Taconite Municipal Aid amounts mailed to cities or to RAMS – Occupation tax forms mailed to companies	1 Owner or lessee of mineral rights submits specific data on drill hole logs and lab tests during previous year for unmined taconite tax 15 Ad valorem tax present worth estimates mailed to companies
May	**June**	**July**	**August**
1 Occupation tax return (M30 series) and payment due 15 First half of property tax on taconite railroad property due to counties 20 Ad valorem tax hearing held on first business day after May 20th 25 Production Cost Summary Tax Report (M30-P) due	30 Ad valorem tax final adjustments to property equalization sheets mailed to county assessors	1 Commissioner of Revenue certifies amount of Taconite Municipal Aid to municipality 15 Taconite referendum distribution to school districts of taconite production tax made by the counties	1 Printout listing second-half production tax payments sent to counties 24 Taconite production tax payment (remaining 50%) due in county offices by electronic funds transfer 25 Distribution of taconite production tax by counties (collected August 24)
September	**October**	**November**	**December**
15 Taconite Municipal Aid account funds distributed by counties – October 10th estimate forms mailed to companies	10 Taconite production tax estimates due from companies 15 Second half of property tax on taconite railroad property due to counties		1 Unmined taconite tax reports submitted to county assessors 1 Production tax forms mailed to companies 1 Extended occupation tax return due

Mine Locations and Production Capacity



		Effective Capacity* (million tons)
1.	**Northshore Mining** Owner: Cliffs Natural Resources, Inc. (100%)	6.2
2.	**ArcelorMittal Minorca Mine** Owner: ArcelorMittal (100%)	2.8
3.	**U. S. Steel–Minntac** Owner: USS Corporation (100%)	16.0
4.	**Hibbing Taconite** Cliffs Natural Resources, Inc., Managing Agent Owners: ArcelorMittal (62.3%) Cliffs Natural Resources, Inc. (23%) U. S. Steel Canada (14.7%)	8.0
5.	**United Taconite LLC** Owners: Cliffs Natural Resources, Inc. (100%)	5.3
6.	**U. S. Steel–Keewatin Taconite** Owner: USS Corporation (100%)	6.0
7.	**Essar Steel Minnesota LLC** (under construction) Owner: Essar Resources Inc. (100%)	Unknown
8.	**Magnetation LLC** Owners: Magnetation, Inc. (50.1%) AK Steel (49.9%)	1.5
9.	**Mesabi Nugget LLC** Owners: Steel Dynamics, Inc (81%) Kobe Steel, Ltd (19%)	0.5
10.	**Mining Resources LLC** Owners: Steel Dynamics, Inc. (80%) Magnetation, Inc. (20%)	1.0

* Effective capacity is the annual production capacity in natural long tons (including flux) that can be sustained under normal operating conditions.

The ownership percentages shown are the ultimate percentages controlled by parent steel and mining companies. In some instances, various other partnerships and subsidiaries are listed on legal corporate documents.