

The Environmental Track Record of Taconite Mining: The Facts Exposing the False Premise that Iron Ore Mining is Safe.

To justify gutting environmental laws for itself, Gogebic Taconite and its proponents claim that iron mining ***“has been done on both sides of us, in Minnesota and Michigan, for more than a century, without the kind of problems some people are concerned about,”*** Bill Williams, President, Gogebic Taconite (GTac)¹ Supporters like Wisconsin Manufacturers and Commerce state ***“Iron mining is a clean industry...”***² and the Wisconsin Mining Association states: ***“The Wisconsin Mining Association believes that facts matter.”***³

GTac and its supporters claim taconite mining in neighboring Minnesota and Michigan have clean track records and Wisconsin’s mining laws should be changed to reflect our neighboring state’s laws. These claims are being used to justify weakening Wisconsin mining law. ***These claims are false.***

All Ten Taconite Mines and Ore Producers are Polluters

The evidence from neighboring states demonstrates that all taconite mines are polluters. Nine taconite mines and related production facilities plus a new company reprocessing old taconite tailings in Minnesota and Michigan account for nearly all U.S. iron ore production.⁴ A survey of compliance records from 2004-2012, shows that these ten modern taconite mines and processors are chronic polluters with fines and stipulations of over **\$2.1 million**. See chart on page 3.

In 2011, the Milwaukee Journal Sentinel independently verified more than \$700,000 in fines alone since 1994.⁵ Since then, additional fines have been levied and the updated chart below shows dozens of air and water quality violations resulting in cleanup orders and more than \$1.3 million in fines and stipulations of more than \$830,000 totaling over \$2.1 million from 2004-2012. When combined with cleanup orders, the total rises to more than \$10.5 million in less than 10 years.

Magnetation opened in 2009 and immediately became a polluter

Minnesota’s newest taconite producer, Magnetation LLC, began operations in 2009 at Keewatin, on what was a promising new effort: the re-processing or re-mining of old taconite tailings with iron left behind. Re-mining old tailings holds potential to help reduce new mining of virgin ore and to clean up waste tailings abandoned as non-economic. Yet Magnetation began causing air quality issues from excessive dust emissions three months after opening in 2009 and was cited in 2010 and 2011.⁶ For those citations, Magnetation was fined \$40,000 and required to control the dust. Magnetation was also cited and fined \$10,000 for water quality violations at the Mesabi Chief tailings basin in 2011.

Taconite mining and processing causes widespread regional impacts

The track record of regional taconite mining instructs Wisconsin on what should be expected if a mine is permitted here. Air and water quality in northern Wisconsin would be harmed by mining waste dust from tailings, waste rock, ore transportation and ore processing, which produce contaminants such as mercury, arsenic, and other heavy metals, sulfates, sulfur dioxide and nitrogen oxides. These

last two contaminants combine to help form acid rain, while high concentrations of sulfates harm native wild rice. In Minnesota, current and historic mining are a major source of sulfates damaging waterways.

A Minnesota DNR report in 2003 found that taconite mining is the 2nd largest source of mercury emissions after coal power plants. The study also reported that no suitable technology has been found to curtail taconite mercury emissions.⁷ A taconite mine here will be a new source of mercury that will only further contaminate and poison our fish and wildlife when our lakes are already under advisories against consuming mercury contaminated fish.

Transporting taconite ore causes pollution too. One example is the Duluth Missabe and Iron Range Railway in Minnesota which has been cited for multiple violations of hazardous waste restrictions and air quality and fined \$138,770 for violations occurring in 2005 and 2009.⁸

Historic iron mining has caused acid mine drainage pollution

GTac's claim that iron ore mining does not cause acid mine drainage from mining in sulfide minerals is false. There have been serious acid mine drainage issues with at least two nearby iron ore mines: the Dunka Pit in Minnesota where uncontrolled acid drainage has been discharging into streams leading to Birch Bay since the 1960's. The Dober and Buck mines in Michigan killed aquatic life in 7 miles of the Iron River and damaged 10.5 miles of the Brule River. The Hanna Corporation was fined \$368,000 for the damage there in 1997.⁹

Acid-causing pyrite is at the Penokee site in large quantities

GTac and proponents of its proposal also claim that the taconite ore there does not contain sulfides in pyrite minerals which can cause significant environmental damage to water supplies. This claim is also false. The U. S. Geological Survey identifies the Tyler Shale Formation, the layer of rock over the iron ore in the Penokees, as **black pyritic shale and slate** (emphasis added).¹⁰ And independent geological studies have confirmed that there are significant sulfides in pyrite in the Tyler Shale adjacent to the ore.¹¹ Pyrite breaks down when exposed to air and water to form sulfuric acid which causes acid mine drainage of dissolved toxic metals. Huge amounts of these sulfide-bearing minerals must be extracted just to get to the deposit and would be discarded as waste.

While the U.S. Geological Survey has identified the presence of pyrite, WI State Geologist, Jamie Robertson has commented about the acid potential for this ore, *"We know very little about the details of the iron ore, of the immediately adjacent waste rock, of the sampling that was done years ago."*¹² GTac has yet to release any scientific studies or borehole records to prove pyrite is not a mineral of concern; instead GTac worked to change mining laws based on false claims.

GTac's parent company is also a polluter

If existing taconite mining cannot be counted on for examples of safe mining, what about GTAC's track record? GTAC itself has never mined iron ore for taconite before but GTAC's owners- the Cline

Group-operates coal mines in Illinois. Cline has been cited 25 times for exceeding water quality standards at 4 mines including 19 times at the Deer Run Mine which opened only 3 years ago.¹³

All modern U.S. taconite mines have violations and fines since 2004 totaling more than \$2.1 million; with cleanups the total is over \$10.5 million.

State and mine	Owner	Incident/Violation	Fines/Action since 2004
Michigan Empire, Tilden	Cliffs Natural Resources	Unauthorized tailings discharge over 2 years.	\$55,329 fine plus agency costs, \$8.4 million spent for cleanup and repairs. ¹⁴
Michigan Empire, Tilden	Cliffs Natural Resources	High selenium levels in 7 lakes and streams since 2003.	MI DEQ and Cliffs are working to control releases from mine waste dumps, process water, and runoff. ¹⁵
Minnesota Northshore Mining	Cliffs Natural Resources	Numerous air, water quality & hazardous waste violations	6 fines totaling \$569,272 and corrective actions ordered, \$80,000 for new monitoring ordered. ¹⁶ \$50,000 SEP ¹⁷
Dunka pit	Cliffs Natural Resources	More than 300 water quality violations alleged	MPCA negotiated \$58,000 fine and cleanup consent decree in 2010. ¹⁸
Hibbing Taconite	Cliffs, Mittal Steel, U.S. Steel Canada	Multiple air quality violations	2 fines total \$39,250.
Cliffs Erie Ore Shipping	Cliffs Natural Resources	Unauthorized coal-ash leachate discharge to Lake Superior in 2005.	MPCA assessed civil fine of \$56,000.
United Taconite	Cliffs Natural Resources	Repeated air quality violations from 2004-10	Fines total \$136,250; upgrades and cleanups of \$642,000 ordered.
Minntac	U.S. Steel	Air quality & wastewater violations	3 fines totaling \$127,331 and corrective actions ordered
Keetac	U.S. Steel	Air quality & wastewater violations including sulfates	\$68,250 fine, \$60,000 equipment purchase ordered
Mesabi Nugget	Mesabi Nugget/Steel Dynamics	Effluent quality & quantity and reporting violations.	Fine of \$12,500.
Minorca Mine	ArcelorMittal	2006, 2009, 2012: Air and water quality permit violations	Fines of \$21,215 and ordered corrective actions.
Magnetation LLC Tailings Re-mining	Magnetation LLC	2009-2011 fugitive dust air quality and water quality violations	2 fines totaling \$50,000 fine plus ordered dust control

Research by the Sierra Club, Oct. 2011, updated Dec. 2012. More info can be found at: wisconsin.sierraclub.org/PenokeeMine.asp

¹ "Gogebic Taconite ready to drill test holes in northern Wisconsin", Duluth News Tribune, 4/18/11

² WMC Hails Creation of Senate Select Committee on Mining Jobs", WMC, 9/22/11

³ Wisconsin Mining Association: http://www.wimining.com/about_wma.php

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- ⁴ 2009 Minerals Yearbook, Iron Ore, U.S. Geological Survey
- ⁵ Minnesota mining fines total \$700,000 since 2004, Milwaukee Journal Sentinel, 10/11/11
- ⁶ MPCA Release, MPCA Cites Magnetation Mining Facility for Air Quality Violations, 5/2/12
- ⁷ Mercury and Mining in Minnesota, Minerals Coordinating Committee Final Report, MN DNR, 2003
- ⁸ Minnesota Pollution Control Agency enforcement records at: www.pca.state.mn.us/index.php/regulations/reporting-and-enforcement/enforcement/index.html
- ⁹ Michigan Department of Environmental Quality v M A Hanna Co, unpublished Consent Decree, CA# 94-77813-CE (Ingham Co, Cir Ct, Oct. 28, 1998)
- ¹⁰ ¹⁰ US Dept. of Interior, US Geological Survey, *The Gogebic Iron Range: A Sample of the Northern Margin of the Penokean Fold and Thrust Belt*, USGS Professional Paper 1730, William F. Cannon, Gene L. LaBerge, John S. Klasner, and Klaus J. Schulz, 2008
- ¹¹ Testimony of Geologist Jason Huberty and Geochemist Joseph Skulan to the Joint Committee on Finance, 2/17/12
- ¹² "Ferrous vs. nonferrous mining", Ashland Daily Press, 5/19/11
- ¹³ "Parent company 'not shirking' cleanup duties", Wisconsin State Journal, 10/11/11
- ¹⁴ Michigan DNRE Settlement Announcement, 9/30/10, <http://www.michigan.gov/deq/0,1607,7-135--244363--,00.html>
- ¹⁵ *An Assessment of Environmental Selenium Levels around Empire and Tilden Mines*, MI DEQ, June 2009
- ¹⁶ MPCA fines Northshore Mining \$240,175 for dust, Minneapolis Star Tribune, 2/16/12
- ¹⁷ MPCA Release, 10/29/12. \$50,000 Supplemental Environmental Project (SEP) for rebuilding hazardous waste facility
- ¹⁸ http://www.waterlegacy.org/dunka_pit; and: http://www.polymetmining.com/uploads/Jan_31__2010_Financial_Statements.pdf