Mining in Michigan: A focus on nonferrous mineral extraction

Resource Guide, Timelines, Process Map, and Contact Information



A December 2011 photo from the Kennecott Eagle Minerals Co. shows the entrance (large metal tube) to the nickel and copper mine the company began drilling in Michigan in September 2011.

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State Departments

Office of the Governor

Governor Rick Snyder's Northern Michigan office, located in Marquette, has contributed and provided guidance in the development of this document.

Michigan Economic Development Corporation (MEDC)

The MEDC is a public-private partnership serving as the state's marketing arm and lead agency for business, talent, and jobs, tourism, film and digital incentives, arts and cultural grants, and overall economic growth. The MEDC offers a number of business assistance services and capital programs for business attraction and acceleration, economic gardening, entrepreneurship, strategic partnerships, talent enhancement, and urban and community development. The MEDC, founded in 1999, also developed and manages the state's popular Pure Michigan brand.

Michigan Department of Environmental Quality (MDEQ)

The MDEQ promotes wise management of Michigan's air, land, and water resources to support a sustainable environment, healthy communities, and vibrant economy.

Michigan Department of Natural Resources (MDNR)

The MDNR is committed to the conservation, protection, management, and use and enjoyment of the state's natural and cultural resources for current and future generations.

Michigan Department of Transportation (MDOT)

The MDOT provides the highest-quality integrated transportation services for economic benefit and improved quality of life.

Michigan Public Service Commission (MPSC)

The MPSC is an Agency within the Department of Licensing and Regulatory Affairs (LARA) that administers policies and regulations including rate setting, to ensure that energy, communications, and transportation services are provided in an efficient, reliable, and safe manner to adequately meet the needs of Michigan residents.

State Historic Preservation Office (SHPO)

The SHPO is a program administered through the Michigan State Housing Development Authority that works to protect Michigan's history and archaeology.

Divisions within the MDEQ

Division	Responsibilities
Office of Environmental Assistance (OEA)	Provides pollution prevention and technical assistance, information, environmental education, and financial assistance to further improve environmental quality. The OEA emphasizes "green" technology, including pollution prevention, public infrastructure improvements, environmental restoration and protection, and compliance assistance.
Water Resources Division (WRD)	Establishes water quality standards, assesses water quality, provides regulatory oversight for all public water supplies, issue permits to regulate the discharge of industrial and municipal wastewaters, monitors State water resources for water quality, the quantity and quality of aquatic habitat, the health of aquatic communities, and compliance with state laws.
Office of the Great Lakes (OGL)	Policy development and implements programs to protect, restore, and sustain the world's premier freshwater lakes. The OGL collaborates with partners to support the sustainable use of coastal resources, coordinates restoration of severely degraded areas, manages water quality and quantity, prevents aquatic invasive species, and engages in emerging issues.
Air Quality Division (AQD)	Ensures that Michigan's air remains clean by regulating sources of air pollutants to minimize adverse impact on human health and the environment. Goals of the AQD are to meet and maintain air quality standards, limit emissions of hazardous and toxic pollutants, and inform the public about current air conditions.
Office of Oil, Gas, and Minerals (OOGM)	Promotes the best use of Michigan's non-renewable geological resources for their social and economic benefits, while protecting associated resource values, property rights, the environment, and public health and safety.
Office of Waste Management and Radiological Protection (OWMRP)	Issues permits and licenses and oversees the operation of hazardous and solid waste disposal areas, and regulates activities involving handling, storage, treatment, and disposal of waste. The radiological protection programs handle issues involving radioactive materials.
Office of Drinking Water and Municipal Assistance (ODWMA)	Responsible for program areas that deal with drinking water, environmental health, operator certification and training, campgrounds, swimming pools, and on-site wastewater.
Remediation and Redevelopment Division (RRD)	Administers programs that facilitate the cleanup and redevelopment of sites of environmental contamination statewide, providing for a cleaner, safer, and more productive environment.

Mining History and Metals Resources

Michigan's copper resources were first mined by Native Americans around 3000 B.C. Michigan's iron mining began when the Marquette Range opened in 1845, followed by the Menominee Range with their first shipment of ore dating 1877, and finally the Gogebic Range in 1883. In the early 1870s, Michigan's ore production passed the 1 million ton mark with production peaking in 1920. Today, two iron mines remain active in Michigan's Upper Peninsula—the Tilden Mine and the Empire Mine, both in the Marquette Range. Industrial copper mining began in the 1860s. During the earlier years of the copper mining era, Michigan produced up to 90 percent of the nation's copper. Copper ranges opening in the west caused competition for the Michigan mines and in 1916, copper mining reached its peak in the Upper Peninsula with the production of almost 267 million pounds of copper.

Recently, Michigan has seen an increase in mining interest for nonferrous minerals. This shift is due to new technology and higher metal prices. Currently, there are multiple exploration efforts underway in the Upper Peninsula. These efforts are focused on the discovery of major copper, nickel, gold, zinc, platinum, palladium, uranium, and cobalt ore bodies.

Community and Tribal Involvement

Companies who plan to make the major investments required for successful development of mining operations should work in advance with tribal and local communities to align their interest and plans. Although the formal permitting process requires opportunities for public comment, the most successful engagement of local and regional stakeholders begins well before formal permitting activities start. Those invested in mining development include tribal and local leaders, environmental groups and authorities, cultural advocates, and neighbors. Active and voluntary engagement, combined with information exchange, build a wider understanding of the environmental, economic, and social impacts of proposed investments. This will provide the best potential for avoiding issues that can lead to major permitting and project delays.

Working with the Tribes

Tribal authorities and state agencies work together under the water and climate Accords intergovernmental agreements that pledge support and cooperation to preserve, protect, restore, and enhance the Great Lakes' ecosystem. The state also works with the tribes through the Michigan Tribal Environmental Group and the (MEDC) business opportunity meetings. While mining companies are not required to interact or contact any tribe with respect to its plans, it is strongly encouraged by the state to promote cooperation amongst all parties. It should also be noted that the state is mandated to inform the tribal authorities of public hearings concerning permits for mines.

As part of engaging tribes, the state strongly recommends that mining companies work with the MDNR, the MDEQ, and the MEDC tribal liaisons early in the consideration of a project. These tribal liaisons can aid in identifying known tribal interests or concerns and issues associated with a proposed development or permit. Mining companies can acquire the appropriate tribal contacts and methods to initiate and maintain communication from the liaisons.

Environmental Stewardship

Most of Michigan's environmental regulations are referred to as "Part(s)" and are contained in the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA). Regulations for ferrous metal mining are established in Part 631, and nonferrous mining regulations are contained in Part 632. There are a number of statutes and regulations that apply to mining activities. This chart shows some sections of the NREPA that may be applicable to a mining operation. (This list is not meant to be all-inclusive.)

Part 31	Water Resources Protection	Discharge to surface water or groundwater, storm water control, construction in a floodplain
Part 35	Use of Water in Mining Low- Grade Iron Ore	Diversion of water for use in operation of a low- grade, iron-mining property
Part 55	Air Pollution Control	Air emissions
Part 91	Soil Erosion and Sedimentation Control	Earth-moving activity disturbing more than 1 acre or within 500 feet of water
Part 111	Hazardous Waste Management	Handling and disposal of hazardous waste
Part 115	Solid Waste Management	Handling and disposal of solid waste, excluding waste rock stockpiles and tailings basin
Part 201	Environmental Remediation	Cleanup and remediation of contamination and prevention of migration or exacerbation
Part 301	Inland Lakes and Streams	Dredging or depositing fill in a lake or stream
Part 303	Wetlands Protection	Disturbance of a wetland
Part 327	Great Lakes Preservation	Withdrawal of water from surface or groundwater
Part 625	Mineral Wells	Drilling of test wells or disposal wells
Part 631	Reclamation of Mining Lands	Surface mining of metallic (ferrous) minerals
Part 632	Nonferrous Metallic Mining Regulations	Regulation of nonferrous metals mining

Part 632 covers a number of issues including transportation, storage, treatment, and disposal of ore, waste rock, and other materials. A permit application under Part 632 must include an Environmental Impact Assessment (EIA) that describes baseline conditions, expected impacts to the mined area and affected surrounding areas, and alternative approaches. An application must also include a detailed plan for mining and reclamation that will minimize impacts of the proposed operation, with special emphasis on preventing and controlling acid-mine drainage, together with a contingency plan for dealing with any accidents or failures.

Part 632 provides extensive opportunities for public input, including a public meeting on the application, and a public hearing on a proposed permit decision. In accordance with the NREPA, a permit can only be granted if the applicant demonstrates that the mining operation will not pollute, impair, or destroy the air, water, or other natural resources of the public trust in those resources.

Upon completion of the mining project, the site and associated lands must be reclaimed to achieve a self-sustaining ecosystem that does not require perpetual care. Postclosure monitoring of water quality must be continued for at least 20 years, subject to modification after public review. Part 632 requires a mining company to maintain financial assurance throughout the mining operation and the post-closure monitoring period. The financial assurance must cover the cost for the MDEQ to conduct any necessary reclamation and remediation measures, and must be updated at least every three years.

Part 632 also contains detailed provisions on reporting of accidents, investigation of complaints, and appeals of MDEQ decisions. It also provides comprehensive enforcement tools, including suspension of mining operations, revocation of permits, and strict civil and criminal penalties. If a company fails to correct a problem that threatens the environment or public health, the MDEQ can take direct action to prevent and remediate any damage and pursue legal action to recover costs from the company.

The MDEQ has promulgated rules under Part 632 to provide details on permit requirements, environmental assessments, mining and reclamation plans, and financial assurance. The rules include standards for construction, operation, and closure of nonferrous metallic mines, set criteria for water monitoring and treatment, containment of ore and waste rock, and reporting. In addition to Part 632, the MDEQ still maintains Part 631 of NREPA that focuses on iron mining.

Companies can find more information in the *Michigan Guide for Environmental, Health, and Safety Regulations*, which consolidates Michigan's environmental and safety regulations into a multipurpose guidebook for Michigan facilities. The guidebook can be viewed and/or purchased at <u>http://www.michigan.gov/deq/0,1607,7-135-3310_4148-15820--,00.html</u>

State Land and Mineral Rights Leasing

The State of Michigan currently owns over 4.1 million acres of surface and mineral rights, and an additional 2.27 million acres of severed mineral rights. Mineral rights on more than 1 million of the Upper Peninsula's 7 million acres have been leased by companies prospecting for metals. The state currently has 128 metallic mineral leases covering 26,892 acres. An additional 28,000 acres are in various stages of the leasing process.

Use of state lands or mineral rights requires an application and approval by the MDNR's Minerals Management Section (MMS). Leasing procedures, leases, and forms are available on the MDNR website (<u>www.michigan.gov/mmlease</u>). If state forest lands are involved, a Surface Use Permit or Surface Use Lease (SUL) may also be required from the Forest Resource Division (FRD).

Leasing and drilling activities require permitting and oversight by state agencies. Requirements vary depending on ownership of land and mineral rights:

Surface/Mineral Rights Ownership	Contact Prior to Use or Drilling
Privately-owned surface/Privately-owned mineral	MDEQ'S OOGM
rights	
Privately-owned surface/State-owned mineral rights	MDNR's MMS and MDEQ's OOGM
State-owned surface/State-owned mineral rights	MDNR's MMS and MDEQ's OOGM
Federally-owned surface/State-owned mineral rights	MDNR's MMS and MDEQ's OOGM
State-owned surface/Private-mineral rights	MDNR's FRD SUL and MDEQ's OOGM
State-owned surface/Federal-mineral rights	MDNR's FRD SUL and MDEQ's OOGM

The terms of the Metallic Mineral Lease are for an initial term of 10 years with an additional 10- year extension available on request. For the first five (5) years, the lessee pays a \$3.00 per acre bonus and an annual rental fee of \$3.00 per acre per year. For years six (6) through ten (10), the rental fee increases to \$6.00 per acre per year. Starting in year eleven (11), the state receives a minimum royalty of \$10.00 per year, which increases \$5.00 each year through the 20th year. The state metallic mineral royalty rate ranges from 2 percent to 10.5 percent, depending on the sales value per ton.

After receiving a completed lease application (nomination), the MDNR's MMS sends inquiries to other state agencies to determine how the parcels should be classified. Depending on the information collected, parcels may be classified as leasable development, leasable development with restriction, leasable non-development, or non-leasable. To determine if there are any specific areas of recorded archeological or cultural features, the State Archaeologist is included in this review. The review also includes areas of special surface use concerns and Threatened and Endangered species habitat. Prior to final leasing approval, public notices will be published in the newspaper of record in the county where leasing is proposed, and on the MDNR calendar.

Exploratory and Other Drilling Activity

Drilling activity on public lands requires an Exploration Plan to manage drill tailings, spoils, etc. On state-owned surface lands, a Surface Use Permit is also required. The state archaeologist will also review the Exploration Plan to determine if there is need for an Archaeological Plan and Survey to be conducted. If an Archaeological Plan and Survey is required, the completed report will be submitted to the state Archaeologist for review and approval, and must be updated and re-permitted each year. The state archaeologist will not issue the Archaeological Survey Permit until tribal authorities have been contacted about the proposed activity. The tribes currently have 30 days to respond to this inquiry.

Additional permits from the MDEQ'S OOGM may be required under Michigan's Mineral Well Regulations—Part 625, even when drilling is to be done on non-state lands. All information gathered by the MDEQ pertaining to exploration is considered proprietary under Part 625.

New permitting through the MDEQ's WRD will also be required if wetland or stream crossings are involved in exploration work. Plugging and reclamation activities will also require MDEQ oversight and approval. Several of these permits require annual renewal.

Mining Project Cycle

The mining process requires the coordination of various stakeholders and tribal authorities in compliance with government regulations and processes. A firm understanding of respective parties' roles and responsibilities are prerequisites for effective communication and decision making. This overview of the mining project cycle is intended to provide an overarching view of the processes, requirements, and participants at each stage of development. A more in-depth process can be found within the appendix of this document showing both an overall permitting process map and timeline. These diagrams are intended to portray mining, with the recognition that portions will be adapted to each project.



Exploration and Advanced Exploration

The State of Michigan has several resources and state agencies that can assist with high-level investigation of mining potential:

- The MDEQ's OOGM Web site at <u>www.michigan.gov/ogs</u> provides information on drilling and mining requirements, metallic mineral publications, details of Michigan's two geological repositories, and other useful information.
- Information on the MDEQ's Permit Coordination Program can be found at <u>http://www.michigan.gov/deq/0,1607,7-135-6830-89034--,00.html</u>, which provides expert guidance on permitting considerations.
- The MDNR's MMS is responsible for managing leasing of state lands and mineral rights. See <u>www.michigan.gov/mmlease</u>
- The Michigan Business One Stop Web site provides information on doing business in Michigan, and includes a simulator to provide a view of potential permitting requirements. See www.michigan.gov/business
- Since approximately 2002, Michigan's Upper Peninsula has experienced a resurgence of exploration activity. As a result, two significant ore bodies have been discovered and several historical sites are being evaluated for mineral potential.

Companies should also consider reaching out to local, cultural, and tribal interests to build relationships and learn more about local concerns and involvement.

Environmental Impact Assessment

The EIA adds an approximately two-year required block of time into the development process. Companies are required to follow this process and should plan their timeline accordingly. As companies develop their engineering and operational plans, engagement with federal, state, local, and tribal authorities will positively contribute to building successful plans that meet stakeholder and legal requirements. When reviewing a permit application, the MDEQ is required to consider the input of tribal authorities and other affected constituencies on the environmental assessment portion of the mining plans.

All Part 632 mine permit applications require an EIA which must include, in part:

- 1) An identification and description of the condition or feature as it currently exists within the mining and surrounding affected areas.
- An identification of the proposed mining activities that may impact the condition or feature, and the process or mechanism through which the impact may occur.
- An analysis of the potential impacts of proposed mining activities on the condition or feature and, where applicable, the effects of the condition or feature on the proposed mining activities.
- 4) A reference to the measures proposed to be taken under the mining, reclamation, and environmental protection plan to reduce or mitigate the potential impacts, and the predicted effects of those measures.

For species and abundance of aquatic and terrestrial flora and fauna, predicted variations in their occurrence must be based on **at least two (2) years of relevant information**. Relevant information may include records of pertinent data at other sites having documented similar conditions, or credible regional studies from acknowledged sources, but shall include at least one (1) year of site-specific data.

For surface water, groundwater, and meteorology, the required characterization of seasonal or long-term variations in the condition or feature shall be satisfied by a **combination of documented observations of pertinent data over a period of at least two (2) years at the monitoring site and records of pertinent data at other sites having documented similar conditions.** Credible regional studies from acknowledged sources may also be used. Seasonal and long-term variations at the monitoring site shall be predicted, where feasible, using statistical analysis demonstrating a confidence interval. The statistical analysis shall include an explanation of how the use of any data from other sites affects the confidence interval. Analysis of potential impacts shall incorporate credible extremes in the condition or feature based on the statistical analysis.

Feasibility/Design and Permitting

Formal submission of a mining permit begins a process of both scientific and public plan reviews. Companies should ensure that they have undertaken sufficient development and engineering design prior to formal submission of the application, as any later need to amend the mining permit will trigger additional reviews and public hearings. The MDEQ's OOGM will carefully review the application, work closely with companies, stakeholders, tribal authorities, and coordinate with other state agencies as required.

For example, if State of Michigan lands are within the area of the mining permit, the MDNR's MMS will review the plan to determine whether it is in compliance with the lease agreement. The MDEQ's OOGM will work with the company to collect adequate information and address issues. When the MDEQ's OOGM determines that the application is administratively complete, the public noticing processes begin. The public notice process is a formal notification of a company's planned actions. By law, all affected parties in Michigan will be notified.

While the State of Michigan handles a majority of the permitting process, there is a possibility for federal authorities to become involved once the permit application has been submitted. Reasons for involvement may be as follows:

- The United States Environmental Protection Agency (U.S. EPA) may require a permit for special circumstances (i.e., Underground Injection Control for wastewater, Army Corps of Engineers' wetlands permit, etc.). The U.S. EPA also has oversight of, and veto power over, the state's wastewater, air, and wetland/inland lakes and streams programs. This gives the U.S. EPA and other federal agencies a role that they do not have under Part 632.
- If there is federal involvement, this could trigger the National Historic Preservation Act (NHPA), which then requires tribal consultation by that federal agency.
- If on nontribal lands, the SHPO becomes the consulting party advising and assisting the federal agency to carry out its NHPA responsibilities. If on tribal lands, the Tribal Historic Preservation Office assumes that role.
- The MDEQ, the SHPO, and the State Archaeologist will cross communicate to address gaps.

Operation, Closure and Monitoring

During the operation of the mine, the MDEQ will verify adherence to the permit requirements. In addition to environmental regulations, mining operations must adhere to the business licensing, taxation, worker safety, and other regulations established by federal and state laws.

When the mine prepares to close, the Reclamation Plan approved in the permit process is invoked. The MDEQ will continue to verify adherence to the Reclamation and Monitoring Plans. The verification process may last for upwards of 20 years, and require corresponding financial assurance. If state surface lands are involved that required an SUL, the closure and reclamation of the mining site will be done in accordance with the approved MDEQ permit requirements.

Taxation and Revenue Structure

In general, mining operations and mining property have been subject to the same state and local taxes applicable to other commercial ventures in Michigan. These taxes include income, sales, use, and *ad valorem* property taxes, among others. However, certain mining operations are subject to "specific" taxes in lieu of *ad valorem* taxes on the minerals, mineral-bearing land from which the minerals are mined, and property related to the mining operation. These specific taxes were levied in lieu of *ad valorem* taxes on the ore, the ore property, related ore activities, and additional property related to the mining operation. In Michigan, mining operations involving nonferrous metallic minerals are not currently subject to a specific tax. Instead, the mine property is assessed an *ad valorem* tax based on the true cash market value (as determined by the state geologist) of the mine property, mineral rights consisting of metallic resources, mineral stockpiles, and personal property that may be used in the operation or development of the mine property.

On December 31, 2012, Michigan enacted 2012 PA 409 relating to the taxation of nonferrous metallic minerals (minerals) extracted from the earth in Michigan and the beneficiation of those minerals. This legislation also provides various tax exemptions relating to minerals, mineral mining-related property and property involved in the beneficiation of minerals, and certain income derived from the minerals. For example, with the enactment of 2012 PA 409, a mineral (and any right, claim, lease, or option in or of a mineral) as well as any shaft, adit, or value of overburden stripping located at an "open mine" (i.e., a mine where the shaft, incline, or adit has been started or overburden has been stripped) is exempt from the ad valorem taxes levied under 1893 PA 206. However, surface property, rights in the surface property, surface improvements, or personal property located at an open mine, remain subject to ad valorem taxation under 1893 PA 206. Effective December 20, 2012, 2012 PA 409 exempts any "mineralproducing property" subject to the minerals severance tax under 2012 PA 410, Nonferrous Metallic Minerals Extraction Severance Tax Act, from the ad valorem taxes levied under 1893 PA 206. In general, "mineral-producing property" includes, but is not limited to: (i) real and personal property in Michigan that is part of a "producing mine" (or utilized directly in association with a producing mineral mine on a parcel on which the shaft, incline, or adit is located); (ii) mineral rights, leases, options, and mining rights in or on mineral-producing property and; (iii) certain property used for beneficiation of extracted minerals. In general, a "producing mine" is a mineral mine located in Michigan at which a taxpayer is producing one or more minerals.

The Nonferrous Metallic Minerals Extraction Severance Tax Act levies a specific "severance" tax on taxpayers that extract minerals from the earth in Michigan or that beneficiate such minerals (as well as taxpayers that remove such minerals to a location outside of Michigan prior to a sale or transfer). In general, the minerals severance tax is levied at a rate of 2.75 percent of the "taxable mineral value" computed at the time of sale or transfer of a "taxable mineral." However, in the first year that the minerals severance tax for that year is the greater of: (i) the tax previously described at the 2.75 percent rate, or (ii) the amount of *ad valorem* property taxes paid pursuant to 1893 PA 206 on the taxpayer's "mineral-producing property" for that year. For open mines which are opened at any time between January 1, 2011, and June 30, 2013, a credit may be claimed by taxpayers each year for the first five (5) years the open mine is a producing mine and

subject to the minerals severance tax. This credit may not exceed 20 percent of the amount of the *ad valorem* property tax levied on that open mine in 2012, attributable to those minerals valued by the state geologist in 2012, pursuant to 1893 PA 206. A taxpayer that purchases taxable minerals from another taxpayer may claim a credit against the minerals severance tax for the minerals severance tax paid by the seller or transferor for those minerals (as itemized on the invoice).

In addition to the exemptions from *ad valorem* taxes levied under 1893 PA 206, targeted exemptions are also available under 2012 PA 412, 2012 PA 413, and 2012 PA 414, with respect to: (i) Michigan Sales Tax pertaining to sales of tangible personal property to a qualifying taxpayer for use as or at mineral-producing property; (ii) Michigan Use Tax pertaining to the storage, use, or consumption of tangible personal property sold to a qualifying taxpayer for use as or at mineral-producing property; and (iii) Michigan individual and corporate income taxes pertaining to certain income derived from minerals.

This severance tax would be levied in lieu of the *ad valorem* property tax and possibly other taxes.

Infrastructure in Michigan's Upper Peninsula

Transportation Infrastructure

Most local roads are under the jurisdiction of local authorities. MDOT is prepared to work with local authorities to provide support for road and rail infrastructure that contributes to economic development and serves public needs. MDOT and local transportation authorities are also responsible for the permitting of oversized and overweight loads, and can provide assistance when transport needs arise.

Deep Water Ports

Michigan has 36 active ports which accommodate bulk cargoes moving throughout the Great Lakes and the St. Lawrence Seaway. Nineteen of these active ports support outbound commodity movements. As of 2008, the ports that produced the most outbound tonnage are Stoneport, Port of Marquette, Port Calcite, Port Inland, Port of Escanaba, Port of Alpena, Port Dolomite, Port of Charlevoix, Port Drummond, and the Port of Detroit.

In the Upper Peninsula, most of the port traffic at Escanaba and Marquette consists of outbound iron ore pellets. These are mined and processed in the Upper Peninsula and are destined for Great Lakes steel mills. Iron ore that is mined in Marquette County is moved from the mine by rail to the ports of Marquette and Escanaba. Almost 7 million tons of iron ore are transported to docks in Marquette to then be transported by water. Over 5 million tons of iron ore are transported by rail to Escanaba to be shipped by water to southern Lake Michigan steel industry facilities in neighboring states. More information on the deep water ports can be found at http://www.michigan.gov/documents/mdot/MDOT_Freight_TR_11-1-06_177429_7.pdf

Railroads

Michigan's freight rail system is part of a multi-modal transportation system with a diverse mix of facilities in both public and private ownership. Freight railroads play a key role in the national economy and the movement of a significant volume of commerce being conducted between Michigan and its neighbors in the Great Lakes' region.

According to the Federal Highway Administration's Freight Analysis Framework, 33 percent of Michigan's overall freight tonnage was moved by rail in 2009; this accounted for approximately \$41.4 billion in commodities in 2010. Major rail commodity shipments by tonnage include coal, metallic ores, chemical products, and transportation equipment.

The Upper Peninsula is also served by the east-west Canadian National Railway which includes an international border crossing in Sault Sainte Marie. This rail line serves traffic between Canada and the central and western United States. It also provides rail access for local customers located along the line and on several spurs throughout the Upper Peninsula.



The Michigan Transportation Economic Development Fund

The Michigan Transportation Economic Development Fund (MTEDF) program's mission is to fund transportation improvements that support private investment and create and retain Michigan jobs.

The Office of Economic Development (OECD) administers the MTEDF and coordinates extensively with the MEDC to provide necessary infrastructure improvements across the state. These investments are critical to the movement of people and products; getting workers to jobs, materials to growers and manufacturers, and finished goods to consumers. For further information, see www.michigan.gov/tedf

Electrical Infrastructure

Michigan's Upper Peninsula is serviced by seven utility companies: Alger Delta Cooperative, Cloverland Electric Cooperative, Xcel Energy (Northern States Power Company), Ontonagon REA, Upper Peninsula Power Company (UPPCO), Wisconsin Electric Power Company, and Wisconsin Public Service Corporation. Their service territories and company information are noted below:



Companies who are considering establishing a new operation should meet with the local utility to determine if adequate service is available, and if upgrades are needed. Each electric utility has a designated contact person and/or business construction team to assist the customer in preparing for new load plans. The utility will provide a quote on the costs to upgrade the system or build new transmission lines to meet the needs of their planned new electric service. If new transmission lines are required, construction plans will be developed in compliance with approved MPSC utility tariffs on construction rules to conform to electrical standards required in the state. In order to start the process, most utility companies require a financial deposit called a Contribution in Aid of Construction (CIAC). This CIAC covers the cost of new facilities, or constructing new

lines, and also reimburses the utility company for equipment with remaining useful life that must be removed or upgraded in the process.

In most cases the established utility serving the territory is able to serve the new load, and the process of choosing a utility is relatively simple. However, if the business's property straddles the territories of two different utilities, or if the load is large enough, the customer may be allowed to choose their electric provider. Utility selection may require MPSC review if the selected utility is outside the franchised area and the existing utility does not give up their right to serve the customer.

Upper Peninsula High Voltage Transmission

High voltage transmission lines in the Upper Peninsula are constructed by American Transmission Company (ATC). As the only transmission provider in the Upper Peninsula, business customers seeking high voltage transmission lines to service their business should contact ATC. Act 30 of 1995, Electric Transmission Line Certificate Act, requires that an electric utility with 50,000 residential customers or more obtain a certificate for a major transmission line (345 kilovolts or more) from the MPSC.

Water Infrastructure

Access to water utilities will vary greatly, depending on the location of proposed operation. Contact and collaboration with local officials will be required. Large Quantity Withdrawals (LQWs) of water are regulated under Part 327. An LQW is defined as one or more withdrawals (either surface or groundwater) that supply a common distribution system with a cumulative capacity of 100,000 gallons per day or more. Proposed new or increased LQWs must be registered after using the on-line Water Withdrawal Assessment Tool (WWAT), <u>www.miwwat.org</u>. Registration and ensuing steps can only occur after a withdrawal has been determined unlikely to cause an adverse impact on nearby streams and rivers. A Part 327 permit may be required if the new or increased capacity is more than 2 million gallons per day, or if there is an increasingly likelihood of an adverse impact to streams or rivers occurring at an increased capacity of more than 1 million gallons per day.

Typically, the primary activities that require water at most mining operations are drilling, beneficiation, dust control, drinking water supply, and sanitation. Since there are significant variations between most mine operations, as well as variations in the hydrogeology, it is difficult to predict if an operation would require an offsite source.

Employer & Workforce Support

Michigan is equipped to provide extensive workforce development and support through the MEDC's Talent Enhancement Program and the Michigan Works! Association. In the Upper Peninsula, there are three Michigan Works! agencies that can assist employers and job seekers with pre-screening, skills determination, and recruitment assistance. MEDC's Talent Enhancement services are coordinated by a designated Talent Advisor who will work closely with the company leadership team to create and implement a custom Talent Enhancement strategy. The Talent Advisor will integrate a variety of services and programs to attract, train, and retain key talent for a successful business location. Major services include:

- Talent Identification: Job posting and talent outreach services are provided on the Michigan Job Portal, <u>www.mitalent.org</u>, with the ability to search thousands of highly-accomplished resumes and e-newsletters that reach 5000+ job seekers each week. Talent Screening: Talent Enhancement can screen candidates based on a company's specifications and screening questions in partnership with local Michigan Works! offices. Qualified candidates will be contacted and interviewed at a variety of local area office locations or at the company's workplace.
- Salary and Human Resources Consulting: Talent Enhancement can provide salary data and labor market information relevant to your industry.
- Training Grants: Talent Enhancement can work closely with companies to maximize utilization of worker training programs and funds that may be available for companies in Michigan. The training available ranges from highly-specialized, customized programs, to basic-skill development.
- Michigan possesses nearly 200 college and university campuses, with about onethird granting bachelor's degrees and 40 plus offering graduate degrees. More than 100,000 postsecondary degrees are awarded annually by Michigan colleges and universities. The Talent Enhancement Team can connect companies to the various business-serving institutes and continuing education centers at the postsecondary institutions. Additionally, 18 Michigan Technical Educational Centers (M-TEC) have been constructed throughout the Michigan community college system. M-TECs provide a comprehensive array of standardized and customized training, as well as workforce development programs for Michigan's businesses.

Contacts & Resources

State Resources

Resource	Need	Contact
Michigan Business One	Simulator, Permitting	www.michigan.gov/business
Stop	Checklist	
MDEQ, OOGM	Metallic Mineral Exploration	Melanie Humphrey
		HumphreyM@michigan.gov
		906-250-7564
MDEQ, OOGM	Permits Involving Part 632	Hal Fitch
	Of the INREPA (Nonierrous	FICHE WINCHIgan.gov
	Mineral Mining)	017-204-0023
		Makii3@michigan.gov
		906-250-4015
MDEQ, WRD	Permits involving rivers,	William Creal
	streams, lakes, wetlands	CrealW@michigan.gov
	and floodplains	517-284-5470
MDEQ, AQD	Permits involving air	Vince Hellwig
	emissions from mining	HellwigV@michigan.gov
	operations	517-284-6773
MDEQ	Tribal Liaison	Michael Beaulac
		BeaulacM@michigan.gov
		517-284-6701
		James D. Caadhaart
		James R. Goodnean
		517-284-6706
MDNR	Metallic Mineral Leasing on	Tom Hoane
	State-owned lands	HoaneT@michigan.gov
		517-284-5868
MDNR	Surface Use Leases on	Matt Fry
	State-owned lands	FryM1@michigan.gov
MDNR	Tribal Liaison	Dennis Knapp
		KnappDj@michigan.gov
GOV	Tribal Liaison	Dave Murley
		MurleyD@michigan.gov
		517-241-5630
MEDC	State's Business	Amy Banninga
	Ombudsman	BanningaA1@michigan.gov
MEDC	Tribal Liaison	Terri Fitzpatrick
		FitzpatrickT@michigan.org
		517-335-3357
MEDC	Tribal Liaison	Tom Durkee
		Durkee I @michigan.org
MEDC	Upper Peninsula Economic	
	Development Advisor	
		900-438-0231

MDOT	Infrastructure (roads, rail, deep water ports)	Stuart Lindsay LindsayS@michigan.gov 517-335-2974
MDOT	Roads, Rail, Ports	Matt Wiitala WiitalaM@michigan.gov
MPSC	Electric Service, transmission corridors, liaison with electric utility companies	Don Mazuchowski <u>MazuchowskiD@michigan.gov</u> 517-241-6134

Upper Peninsula Project Co	ontacts	
MDEQ, OOGM	Mine Permits	Joe Maki
		Makij3@michigan.gov
		906-250-4015
MDEQ, WRD	Water, Wastewater	Steve Casey
	Discharges, and Wetlands	CaseyS@michigan.gov
	-	906-346-8535

Additional Resources

Organization	Contact/Resource
Upper Peninsula Regional Economic	Amy Clickner
Development	906-226-9658
Michigan Small Business and Technology	Joel Schultz
Development Center	800-562-4808 Ext.237
	jschultz@jobforce.org

Upper Peninsula Electric Service Providers

UP Electric Company Information	Contacts
Alger Delta	Routine Service or Line Extension
Alger, Delta, Dickinson, Marquette,	(906) 428-4141
Menominee, and Schoolcraft counties	Major Service Upgrade
	General manager Tom Harrell
	tharrell@algerdelta.com
Cloverland Electric Cooperative	Member Service
Chippewa, Delta, Luce, Mackinac, and	1-800-562-4953
Schoolcraft counties.	
Xcel Energy (Northern States Power	Builder's Call Line
Company)	1-800-628-2121 opt. 2
Natural Gas and/or Electricity to the following	
cities:	
Bergland, Bessemer, Erwin, Ewen, Ironwood,	
Matchwood, Marenisco, McMillan,	
Ramsay,and Wakefield.	
Ontonagon County REA	Bill Lundberg
Houghton, Keweenaw, Baraga, and	Office: (800) 562-7128
Ontonagon counties.	Fax: (906) 884-6247
U	Cell: (906) 390-0330
	Email: bill@ontorea.com

UP Electric Company Information	Contacts
UPPCO	Business Solutions Center
Alger, Delta, Marquette, Schoolcraft, Baraga,	1-800-337-8445
Houghton, Iron, Ontonagon, and Keweenaw	
counties.	
We Energies (Wisconsin Electric Power	Bruce Sasman, Area Manager
Company) Baraga, Iron, Dickinson,	bruce.sasman@we-energies.com
Menominee, Delta, Alger, Ontonagon,	989-380-3345
Gogebic, Houghton, and Marquette	
Wisconsin Public Service Corporation	Business Solutions Center
Menominee	877-444-0888

Appendix A: Mining Decision Tree

Major State of Michigan Environmental Statutes and Time Lines Common to Nonferrous Metallic Minerals Mining

Applicable Michigan NREPA Provisions	Pre-Application Activity ~ 2 years	Post-submission De All review and decis	acision Process sion processes v	will take longer than noted if more information is requested, an amendment	tis added, or a step is repeated.	
Air Discharge, Permit To Install (Part 55)	Regular pre-application communication with DRQ is recommended to ensure a complete a pplication is submitted.	240 days to take fin (180 days <i>f</i> no publ If requested by the .	al action from d lic comment per applicant, the d	iate of receipt. The application may be resubmitted if the time frame cannot b tod) epartment may extend the processing period after a formal agreement is sign	ae met. ed by the applicant and the department.	
Wetlands, Lakes and Streams Joint	A pre-application meeting is recommended for all programs	the state of the s		cPublic Notice 180 days to decide		
Permit Application (Parts 31, 301, 303,	Environmental Assessment	completeness review	**	90 Days for U.S. EPA review and comment period	90 days for U.S. EPA to resolve any objections	
315, 323, 325)	and wetland delineations are required for Part 303	noife		The processing may be extended for up to 1 year under certain circumstances under a	di statutes.	
Wastewater Discharge (Part 31)	Hydrogeologic Study Frequired for groundwater permit	20-day administrativ 20-day administrativ completeness review surface or ground w	ve w for vater	Abblic Notice 180 Days to decide		
Mine Construction and Operation (Part 632)	Environmental Impact Assessment required	14-day administrative completeness review	< Public Notic	.e Approximately 180 days t	o decide	
	State Land Parcel nominated	Surface Lease		4-6 months to approve Surface Lease, includes site inspection		
Divik Land or Mineral Lease (Part 5)	tor Surface Use Lease undergoes field iclassification survey	Mining 1. Reclamation Plan	.20 days to deci	de on Mining Reclamation plan approval, s involved		
					GUIDE TO MICHIGAN PROVISIONS UNDER PUBLIC ACT ASI OF 1994 (INFEPA):	
	Regular pre-application	< 2 mgd, decision in 10 days			Part S. Department of Natural Resources Part S11 Wash Resources Protection (Ind Floodplains) Part S20, Hollu den Connet. Part S20, Holland Uders AStreams	
Water Withdrawal (Part 327)	communication with DEQ is recommended to ensure a complete application is submitted.	2+ mgd, 30-day adn completeness reviev	ninistrative w	ePublic Notice 120 days to decide	Part 3203: Wetlands Protection Part 315:Some Safety Part 325:Some Safety Part 325:Some takes Submerged Lands Part 325:Some takes Protection and Mangement Part 325:Some Toward Part Schement Minning	
		Consumptive water uses	> 5 million adions a	eer day i mudi are subject to review and approval by Great Lakes States and Provinces		

Please Note: These statutes are necessary for State of Michigan approval of mining activity. To achieve federal approval, applicants must contact the U.S. Army Corps of Engineers.

Appendix B: Joint Permit Review Process



JOINT PERMIT REVIEW PROCESS

Appendix C: NPDES and GW Discharge Permits



NPDES AND GROUNDWATER DISCHARGE PERMITS

Appendix D: Policy 09-021

		DE	
DEPARTMENT OF ENVIRONMENTAL QUALITY POLICY AND PROCEDURE			
Subject:	Coordination with Agencie for Existing and Future Mi	es, Divisions, and Offices ning Projects	Number: 09-021
Original Effective Date: November 5, 2013 Page 1 of 4			
Category:	Internal/Administrative	External/Non-Interpretive	External/Interpretive

A Department of Environmental Quality (DEQ) Policy and Procedure cannot establish regulatory requirements for parties outside of the DEQ. This document provides direction to DEQ staff regarding the implementation of rules and laws administered by the DEQ. It is merely explanatory; does not affect the rights of, or procedures and practices available to, the public; and does not have the force and effect of law.

PURPOSE:

Establish a DEQ Mining Project Coordinator to liaise with mining companies and applicable permit managers, assist in establishing a preapplication committee, develop a Scoping Environmental Impact Assessment (SEIA) document, and coordinate the review and processing of applications under the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), and the promulgated administrative rules.

DEFINITIONS:

"Application File" - A two-part file consisting of application materials kept at the appropriate divisions, offices, and agencies and an electronic file on a shared network drive that is accessible to designated staff.

"Mining Application Review Team" - A multidisciplinary team comprised of the Office of Oil, Gas, and Minerals (OOGM) Mining Specialist and any other technical specialists and contractors designated to review an application.

"Mining Application Review Team Coordinator" - The OOGM Mining Specialist, unless another person is designated by the OOGM Chief or DEQ Director. This position provides direction and guidance to the Mining Application Review Team.

"Mining Project Coordinator" - The OOGM Mining Specialist or the Mining Application Review Team Coordinator, unless another person is designated by the DEQ Director.

"Mining Specialist" - An OOGM geologist or mining engineer designated to oversee mining operations.

"**Preapplication Committee**" - A committee that consists of permit managers or their designees, the Mining Project Coordinator, the DEQ Tribal Liaison, and the DEQ Upper Peninsula District Coordinator.

EQ0105 (07/2013)

DEQ POLICY AND PROCEDURE

Subject: Coordination with Agencies, Divisions, and Offices for Existing and Future Mining Projects Number: 09-021

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"Scoping Environmental Impact Assessment" - A document describing the primary environmental issues to be addressed in the Environmental Impact Assessment. This document is not required by statute or rule; however, the DEQ will strongly recommend to a potential applicant to participate in its development.

POLICY:

All applications shall receive a rigorous and thorough review. The DEQ shall provide for and encourage effective public participation in the review and evaluation processes.

PREAPPLICATION COMMITTEE'S ROLES AND RESPONSIBILITIES:

A multi-division/office/agency Preapplication Committee will be established to serve two primary purposes. First, meet with prospective mine permit applicants to provide guidance regarding the multiple regulatory requirements for permitting a mine; and second, participate in developing an SEIA. In addition to the Preapplication Committee, interested representatives of Native American Tribes, U.S. Environmental Protection Agency (EPA) staff, and the potential applicant will participate in the development of the SEIA.

Members of a Preapplication Committee will be chosen based on specific expertise related to their regulatory programs and knowledge and experience with mining. Preapplication Committee members will be comprised of employees of the DEQ and other state agencies as appropriate. The Preapplication Committee may consult experts outside of the Preapplication Committee as necessary on specific aspects of the proposed project.

The Preapplication Committee shall operate under the direction and guidance of the Mining Project Coordinator. The Mining Project Coordinator is responsible for setting meeting schedules and assuring that each member of the Preapplication Committee provides input in accordance with the schedule as established by this policy and procedure. The Mining Project Coordinator also closely follows all permit review schedules to provide updates to the DEQ's Executive Division.

During the development of the SEIA, members of the Preapplication Committee will represent the positions of their respective divisions/offices or agencies in forming comments, recommendations, and draft documents and are responsible for raising any program issues for resolution through the chain of command within their respective divisions/offices or agencies within the time frames and deadlines under this procedure. Members of the Preapplication Committee will provide comments and recommendations verbally or in writing (including by e-mail) as appropriate and as determined by agreement between the Mining Project Coordinator and Preapplication Committee members or by agreements to be reached between agencies. The Mining Project Coordinator will represent the comments and recommendations of the team members in communications with DEQ management and will provide an opportunity for review by committee members of all comments and recommendations of the team by either circulating a draft document or placing the draft document in an electronic file (the Application File) for review by committee members.

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PURPOSE OF AN SEIA:

An SEIA is a document that presents the primary environmental issues identified through a coordinated effort by the Preapplication Committee, Tribal representatives, the EPA, and the potential applicant. The SEIA can then be used to guide the potential applicant during the development of the EIA required under Part 632, Nonferrous Metallic Mineral Mining, of the NREPA, and potentially reduce data gaps and redundancies.

PROCEDURES:

Step	Who	Does What
1	OOGM Mining Specialist	Upon learning of a potential mining project, notifies the OOGM Chief of the potential application and other anticipated permits required under the NREPA. Encourages potential applicant to schedule a preapplication meeting with the Preapplication Committee and participate in developing an SEIA.
2	OOGM Chief	Notifies the DEQ Deputy Director and DEQ Director of potential mining project and advises them on establishing a Mining Project Coordinator and Preapplication Committee.
3	OOGM Chief	Directs OOGM Chief's Management Assistant to establish an Application File.
4	OOGM Chief's Management Assistant	Establishes the Application File. Transfers all documents in the preapplication file to the Application File.
5	DEQ Director	In consultation with the DEQ Senior Management Team, designates staff members for participation on the Preapplication Committee. Contacts directors of other agencies for designation of their staff members for participation as deemed necessary.
6	DEQ Division/Office Managers and other involved agencies	Assign staff participation on the Preapplication Committee as designated by the DEQ Director.
7	DEQ Director	Directs DEQ Tribal Liaison to contact Tribal representatives to participate in the development of an SEIA.
8	DEQ Tribal Liaison	Invites Tribal representatives to participate in the development of an SEIA.
9	OOGM Chief	Requests a representative from the EPA to participate in the development of an SEIA.
10	Mining Project Coordinator	Establishes a time and place to hold the first meeting with the potential applicant and the Preapplication Committee. During the first meeting, the frequency of future meetings will be determined.

DEQ POLICY AND PROCEDURE

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Step	Who	Does What
11	Mining Project Coordinator	Establishes a time and place to hold the first meeting with the potential applicant and the Preapplication Committee, interested Tribal representatives, and the EPA to develop the SEIA. During the first meeting, the frequency of future meetings and a time line for completing the SEIA will be developed. In addition, meeting and communication protocols will be developed.
Approv	ed: Dan Wyant, Dir	Dy t





PART 55 AIR USE PERMIT TO INSTALL



Appendix F: Timeline Process Map

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