

## *Mining Information Sheet*

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### **The Permitting Process for a Metallic Mineral Mine**

When a mining company has completed exploration drilling of a metallic mineral deposit and has determined that the prospect contains economic amounts of recoverable minerals, the company must decide whether to initiate the formal metallic mining permitting process. This process, established in statutes and regulations, can involve application for two dozen or more permits, licenses, and approvals from the Department of Natural Resources. The Department's review of the permitting documents and environmental analyses submitted by the applicant and the Department's preparation of an Environmental Impact Statement can take five or more years to complete. The applicant is responsible for all of the Department's costs for the project review. Therefore, the decision to initiate a metallic mine permitting process can be formidable for a mining company.

#### *Notice of Intent*

Once a mining company decides to pursue development of a mine and apply for the necessary permits required for mining, it must notify the Wisconsin Department of Natural Resources, prior to collecting any data, by issuing a ***Notice of Intent***. This document is an indication that the company is interested in developing a mine, and will be collecting data to support a mining permit application. The ***Notice of Intent*** is required to contain the following preliminary information:

- the expected submittal date of the mining permit application;
- the ore body size, shape, and mineralogical composition (what minerals are present);
- the location of the ore body and expected project facilities;
- an estimate of the project schedule;
- the anticipated mining and ore processing techniques;
- the types of wastes to be generated; and
- other pertinent information as requested by the Department.

Normally the applicant must collect background environmental data for a **minimum of 12 months**, though 15 to 18 months of data collection may be necessary to adequately support the mining permit application. In addition, the company may submit a ***Scope of Study*** for public and Department comment. The ***Scope of Study*** details the proposed environmental studies that will be conducted as part of the permitting process.

The Department must hold a public informational hearing, typically in the county where the proposed project is to be located, no less than 45 days and not greater than 90 days after the ***Notice of Intent*** is received. The purpose of the hearing is to solicit public comments about the project on

the following issues:

- anticipated environmental impacts;
- important environmental resources and socioeconomic issues unique to the area;
- information and data needed for the permit application and impacts analysis;
- verification procedures employed by the Department and quality assurance procedures employed by the applicant;
- desired baseline studies that should be conducted by the applicant or the Department; and
- anticipated state, federal, and local permits, approvals, certifications, and licenses required.

The public hearing also will be used to identify individuals or groups who need or desire further notification of any future Department actions regarding the proposed mining project.

### ***Mining Permit Application***

Following the initial phase of data collection, a period of approximately 14 to 18, the company would submit to the Department a ***Mining Permit Application***, an ***Environmental Impact Report***, a ***Feasibility Report*** for any mining waste facility, and other necessary permit applications.

The ***Mining Permit Application*** must contain the following components:

- a Mining Plan;
- a Reclamation Plan;
- a Monitoring and Quality Assurance Plan;
- a Risk Assessment;
- a Demonstration of compliance with s. 293.50, Stats. (Mining Moratorium Law); and
- an Irrevocable Trust Agreement Proposal.

In addition, the applicant must indicate which local zoning ordinance approvals and federal permits or approvals are being sought.

The **Mining Plan** must include a detailed map of the proposed mining site, the mining operation sequence, and handling of overburden or waste rock material. Tailings and waste rock production, handling, and final disposal methods are critical items that must be discussed in considerable detail. Ore processing, if any is to occur, as well as the storage, loading, and transportation of the ore or metal concentrates (final products) must be described. Ground and surface water collection and treatment techniques, soil erosion controls, and wastewater and runoff discharge locations must be identified. The application also must include information as to whether the site is suitable for surface mining and describe lands contiguous to the proposed mining site which the applicant owns, leases, or has an option to purchase.

In the **Mining Plan**, the applicant must describe the site selection process for any proposed waste storage or disposal facilities, particularly for those viable sites resulting in the least overall adverse environmental impact. This is important information because the Department has been directed by

the Legislature to assure that mining activities, given the constraints imposed by ore body location, result in a minimization of overall environmental impact, specifically including disturbance to wetlands. For example, the applicant must evaluate all of the following wetland functions and values when describing the potential impacts on wetlands:

- biological functions;
- watershed functions (hydrologic support, groundwater, storm and flood water storage, shoreline protection, and others, including nutrient loading or release);
- recreational, cultural, and economic value; and
- scarcity of wetland type.

A **Reclamation Plan** for the mining site must provide detailed information describing the manner, location, sequence, and anticipated duration of reclamation activities and procedures. For example, proposed interim and final topography and slope stabilization techniques must be described. Information on the proposed final (post-mining) land use, and its relationship to surrounding land and land use(s) is needed. Other important elements are applicant provisions for long-term maintenance and monitoring for all of the surface and sub-surface facilities. The applicant must provide detailed cost estimates for completion of reclamation based on third party completion of the reclamation plan. This information is used to determine the amount of the reclamation bond posted before mining activities begin.

The Reclamation Plan would also include proposed criteria for determining when reclamation would be considered complete. At a minimum, the total duration for operator responsibility for monitoring and care of the mining site is 24 years. Long-term care of reclaimed mining waste disposal facilities is treated somewhat differently under the statutes and regulations. Mining waste facilities must be maintained and monitored following reclamation by the mining company for a minimum period of 40 years. Environmental monitoring would focus on groundwater, surface water, final cover stability and vegetative cover at the site. In either case, however, the owner's long-term care responsibility is perpetual. By law, a mining company is liable for mining-related damages at any time during and following mining. **A company's liability does not end.**

To the extent practicable, the following types of actions to minimize potential mining impacts should be reflected in the Mining and Reclamation Plans:

- Mining site facilities should be designed to minimize surface area disturbance and prevent surface subsidence.
- To the extent practicable, mining sites must be located, constructed, operated, and maintained to minimize impacts on navigable waters, ponds, flowages, wetlands, and other scenic or cultural features.
- Reagent and chemical storage use and disposal must be conducted in a manner to minimize potential harm to public health and safety or to the environment. Wastes, from whatever source associated with the project, should be recycled or treated to the maximum extent practicable.
- Access to the site should be limited to reduce or eliminate public exposure to potential

operational hazards.

- Mine facilities should be placed where least observable from off-site in any season. They should be painted and maintained in a manner visually compatible with the associated vegetation and earth conditions.

The applicant must prepare and submit a **Monitoring Plan** that proposes an environmental monitoring program for all aspects of the project from project initiation following issuance of the mining permit through the end of the long-term care periods for the mine site and any mining waste disposal facilities. This plan would include appropriate monitoring of surface water quality and quantity, groundwater quality and quantity, air quality, wetlands, weather, flora, and fauna. Operational monitoring of the mine, any ore processing facilities and any mining waste facilities would also be included. The plan is intended to be comprehensive for the entire project and its potential impacts. In addition, a **Quality Assurance Plan** detailing the procedures for data collection, analysis, and verification must be included.

The applicant also must prepare a **Risk Assessment** of possible accidents or health and environmental hazards potentially associated with the mine operation and specific measures which would be implemented in response to these risks and hazards. All the assumptions in these assessments must be explicitly stated. Measures for notifying the public and responsible governmental agencies of potentially hazardous conditions must be described.

In April 1998, the governor signed into law a moratorium on the issuance of metallic mining permits, subject to some specific conditions. The Mining Moratorium Law (s. 293.50, Stats.) provides an additional requirement that a mining permit applicant must meet in order to receive a mining permit. In essence, the law requires an applicant to provide examples of mining operations in the U.S. or Canada that have not resulted in significant environmental problems. The law also establishes specific qualifying criteria that must be satisfied in order for the example sites to be acceptable. The mining company must submit documentation that includes data showing:

- (1) That an example mine has been closed for 10 years without the pollution of groundwater or surface water from acid drainage at the tailings site or at the mine site or from the release of heavy metals; and
- (2) An example mine has operated for 10 years without the pollution of groundwater or surface water from acid drainage at the tailings site or at the mine site or from the release of heavy metals.

The Department must verify the information and present its recommendations on satisfying the requirements of the Mining Moratorium Law as part of the Master Hearing process.

In February 2000, the Department established rules (as directed by the Legislature) that require a mining permit applicant or holder to create an **Irrevocable Trust Agreement** prior to commencing mining. The trust fund is intended to assure that funds are available to cover certain costs associated with reasonably anticipated preventive measures, remedial actions related to unanticipated spills,

releases from mining and mining waste facilities and replacement of damaged drinking water supplies should the responsible party not be available. The trust agreement must be established and maintained during operations and for an indefinite time after operations cease. The Irrevocable Trust Agreement funding requirements are finalized through the Master Hearing and are incorporated into the mining permit. Only the Department can approve use of withdrawals from the trust. The trust fund does not affect a company's liability or responsibility under other provisions of law and also does not replace any other requirements for posting financial guarantees, such as the reclamation bond and financial responsibility for long-term care of mining waste disposal facilities.

### ***Environmental Impact Report***

A mining permit applicant also must prepare an ***Environmental Impact Report*** (EIR). This report supplements the permit applications and provides additional detailed descriptions of the proposed project, presents environmental conditions in the vicinity of the proposed project, discloses potentially significant impacts associated with the proposed project, and identifies possible alternatives or mitigation actions considered by the company. Much of the information contained in the EIR is used by the Department to prepare the Environmental Impact Statement required as a part of the permitting process for a metallic mineral mine. The Department may hold a public informational meeting on the applicant's environmental impact report to gather additional public comments on the proposed project.

Copies of the permit applications and the Environmental Impact Report are distributed to the Clerk of any county, city, village, or town with zoning jurisdiction or within whose boundaries any portion of the proposed site will be located. Additional copies will be sent to any pertinent mining impact committees and public libraries in counties, towns, or municipalities where significant interest in the project exists.

### ***Feasibility Report(s) for any Mining Waste Facilities***

The Department regulates the location, design, construction, operation, maintenance, closure and long-term care of any facility used for the storage and disposal of metallic mining wastes, including tailings (finely ground rock particles). A ***Feasibility Report*** for each regulated facility must be submitted to the Department for review. Site-specific data submitted with the report is used to determine whether the site may be approved for the purpose intended and if the initial design and operation plans are appropriate. It is also used to help identify any conditions to be recommended to the Hearing Examiner for incorporation into the follow-up Plan of Operation for each facility, which must be submitted and approved prior to construction. Overall, Department rules focus on performance standards rather than specified, non-site-specific design standards.

In order to determine potential impacts from the waste disposal facility, the following information

must be submitted to the Department:

- a general facility overview;
- a detailed waste characterization and analysis (chemical, physical, and characteristics; acid producing potential; leaching potential and resulting leachate chemistry; etc.);
- regional and site-specific data (information on topography; hydrology; geology; hydrogeology; groundwater, surface water, and rainwater quality; climatology; adjacent landowners; zoning; present land uses; etc.);
- a proposed facility design;
- water budget calculations;
- aesthetic impact assessment;
- a dam safety analysis;
- a contingency plan;
- predictive modeling results evaluating compliance with groundwater standards;
- closure and long-term care plans; and
- alternative design, location, and operation information.

The applicant must also describe the site selection process for the proposed waste disposal and storage facilities.

The design for a proposed mining waste facility presented in the Feasibility Report must provide for groundwater protection. Predictive modeling must be used to demonstrate that any contaminants which may leave the mining waste facility will not result in noncompliance with groundwater quality standards at any time (indefinitely). A solute transport model -- in concert with a groundwater flow model and data generated during the waste characterization tests -- is generally used to predict concentrations of parameters of concern at the specified design management zone (DMZ) boundary (1,200 feet from the outside edge of the proposed waste facility). A prediction of contaminant migration and concentrations at the DMZ must also be performed for the mine itself, as a means to assess possible groundwater contamination both during operations and after mine closure. A more thorough summary of the groundwater protection provisions of the permitting process has been included in the Protecting Groundwater at Metallic Mining Sites Mining Information Sheet.

### ***Additional Permit Applications***

In general, metallic mining projects are regulated by the same environmental laws and rules that pertain to other industrial activities in the state, such as wastewater discharge and air releases. The total number of permits and approvals required will depend on site-specific variables and project design, but may be required for the following practices:

- dredging or filling of wetlands;
- air quality;
- solid waste facility construction;

- mine dewatering;
- high capacity wells;
- wastewater treatment system and sewage treatment plant;
- treated wastewater discharge;
- culvert installation;
- bridge construction;
- installation of erosion control measures; and
- storm water discharge.

In addition, the applicant must also obtain all necessary permits and approvals from local units of government in order for the DNR to issue the mining permit.

### ***Environmental Impact Statement (EIS) Process***

After these applications, plan approvals and reports are deemed complete, the Department prepares a ***Draft Environmental Impact Statement (DEIS)***, which is generally sub-divided into four primary sections:

- (1) description of the proposed project;
- (2) the affected environment;
- (3) environmental impacts from the proposed project; and
- (4) alternatives to the proposed project and their associated impacts.

The environmental impact statement discusses the extent of short-term and long-term environmental impacts on air quality, surface waters, groundwater, animal and plant life, as well as social and economic systems. Included are secondary effects to potentially scarce resources such as historical or cultural resources, scenic and recreational resources, threatened or endangered species, or ecologically sensitive areas. Other issues such as the cumulative effects of repeated similar actions, the possibility of establishing a precedent or foreclosing future options, and the degree of uncertainty or risk in predicting impacts are discussed as appropriate. Project alternatives and mitigation measures to reduce anticipated adverse effects also are presented.

Much of the information used to describe the project in the DEIS is taken from the Environmental Impact Report, the Mining Permit Application, and other documents supplied by the applicant. However, the Department is responsible for all impact analyses presented in the DEIS. Other major sources of data include Department investigations and files, Department staff expertise, consultants who may be retained by the Department, and information exchanged with other state, federal, and local agencies, as well as the public.

The Department may accept original data from the Environmental Impact Report, permit applications, or project-related studies for use in generation of the DEIS if the data are accurate. Usefulness of the data would be determined by verification procedures throughout data gathering and analysis. For example, predictive models, bioassays, and other analyses that have been or can be subject to reasonable scientific verification may be used by the Department. If incomplete or

unavailable information constrains the DEIS analysis, the Department may evaluate potential adverse impacts based upon theoretical approaches or research methods generally acceptable to the scientific community.

An important distinction must be made between the EIS process and the Department's regulatory processes. The purpose of the EIS process is to disclose potential project impacts and alternatives. The EIS is not a justification or decision-making document. Disclosure of potential adverse environmental effects does not necessarily mean a proposed project will be denied a permit by the regulatory agencies or terminated by the applicant. The specific guidelines or standards used by each regulatory program to determine if an action is approvable is the basis for the permit decision.

A public meeting is held 30 to 60 days after the release of the DEIS to obtain public comments. Agencies and the public also have up to 90 days to provide written comments on the DEIS. The Department reviews the comments and makes suitable changes during the preparation of the ***Final Environmental Impact Statement (FEIS)***. Generally, a summary of the received comments and Department responses are included in the FEIS. After the FEIS is released, a hearing date is established for the Master Hearing.

### ***Master Hearing***

The Master Hearing on the mining proposal covers the Mining Permit Application, the adequacy of the analyses in the Environmental Impact Statement, any Feasibility Report(s), and all other applications for permits, approvals and licenses issued by the Department. The Hearing will be convened in the county where the proposed mine is to be located, but may be adjourned to other locations. The Master Hearing has two major parts: an open portion where the public is invited to provide comments on the project and the State's review process, and a formal contested case portion (which may last several weeks to months) in which witnesses are under oath and subject to cross-examination.

All interested persons will be given an opportunity to express their views on any aspect of the matters under consideration at the Master Hearing. These views may be expressed either orally or in writing, under oath or otherwise. The Master Hearing must be scheduled for a date no less than 120 days nor more than 180 days after the issuance of the Final Environmental Impact Statement. Depending on the complexity of the issues, the Master Hearing and subsequent deliberations may take four to eight months, or longer, before a decision is rendered.

The decision-maker on permits, licenses, or approvals issued by the Department of Natural Resources is the Secretary of the Department. The Secretary may designate the Hearing Examiner assigned to conduct the Master Hearing to be the decision-maker, as has been the case in previous Master Hearings.



## ***Public Involvement***

The permit review and Environmental Impact Statement processes for proposed metallic mineral mines offer numerous opportunities for public comments and review of the proposals throughout the process. These opportunities include:

- Notice of Intent informational hearing;
- Environmental Impact Report and permit application review;
- Draft Environmental Impact Statement informational hearing; and
- Master Hearing review of the adequacy of the Final Environmental Impact Statement and assessment of the permit applications.

In addition, in the past the Department has held technical meetings with applicants, open to the public, to address detailed issues associated with required submittals.

Public participation by interested individuals, impact groups, or local officials is encouraged throughout the mining review and environmental review processes. Technical comments to the Department on applicant submittals are encouraged during the period of EIS development and permit review. In addition, municipalities or their local impact committees may conduct information-gathering sessions or address mining impacts in local meetings throughout the project. Written comments or phone calls about mining concerns can be helpful to Department staff at any time during the process.

## ***Approximate Timetable***

For the purpose of establishing a schedule for completing the permitting process and environmental impact statement the DNR has identified an "X" date that will be announced once the Department has received from the applicant all of the required studies, data and reports, and has verified that the submitted materials are adequate and complete. Beginning with this date, the following milestones and their approximate forecasted dates have been identified; however, it is important to mention that listed time frames for the length of the master hearing are only estimates, and the hearing schedule will largely be determined by the Hearing Examiner.

| <u>Date</u>   | <u>Milestone</u>                                       |
|---------------|--|
| X + 4 months  | Release of Draft Environmental Impact Statement (DEIS) |
| X + 6 months  | Informational Hearing on DEIS                          |
| X + 10 Months | Release of Final Environmental Impact Statement        |
| X + 16 Months | Master Hearing Begins                                  |
| X + 19 Months | Master Hearing Ends, Transcript Prepared               |
| X + 23 Months | Legal Briefs Completed                                 |

X + 26 Months

Written Permit Decision Issued by Hearing Examiner

### ***Approval or Denial of Mining Permit***

Within 90 days following completion of the public hearing record, the Department (or Hearing Examiner) **must issue** the mining permit if all the criteria are met. The Department (or Hearing Examiner) **must deny** a mining permit if it finds any of the following:

- Mining and reclamation plans would not result in adequate reclamation.
- The project would not comply with all environmental protection laws and rules.
- The site is "unsuitable" for surface mining. Unsuitable areas include endangered and threatened species habitat and most wilderness areas, wild and scenic rivers, national and state parks, wildlife refuges, historical and archaeological sites, and scientific areas.
- The mine would endanger public health, safety, or welfare.
- There would be a net substantial adverse economic impact in the area.
- The proposed mine does not conform to all applicable zoning ordinances.
- The applicant has had a mining permit permanently revoked within the last ten years because of a failure to reclaim a mine site.
- The applicant has forfeited a mining bond in the U.S. within the last 20 years.
- The applicant has been convicted of more than one felony, for violating natural resource laws, in the past ten years.
- The applicant failed to provide acceptable documentation as required under s. 293.50, Stats. (Mining Moratorium Law).

If the mining permit and other permits and approvals for a mining project are issued, they would contain numerous conditions or restrictions proposed by the Department, the Hearing Examiner or other parties at the Master Hearing. The conditions would be designed to define, clarify, and limit the activities covered by the permit and provide protective measures to the natural resources. Conditions may also specify required monitoring activities.

### ***For More Information***

If you would like additional information or want to discuss any mining-related issues, please contact:

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Department of Natural Resources  
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(608) 267-0856

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Rhineland, WI 54501  
(715) 365-8959

*The Permitting Process for a Metallic Mineral Mine*

*This mining information sheet is one in a series prepared by the Department of Natural Resources to explain how metallic mining in Wisconsin is regulated and to explore other aspects of mining. Copies of the following mining information sheets are available from Department offices in Madison and Rhinelander, and the Internet:*

- *The Permitting Process for a Metallic Mineral Mine*
- *How the Department of Natural Resources Regulates Metallic Mining*
- *Protecting Groundwater at Metallic Mining Sites*
- *Reclamation and Long-Term Care Requirements for Metallic Mining Sites in Wisconsin*
- *Local Decisions in Metallic Mining Projects*
- *Addressing Public Concerns With Wisconsin's Laws Governing Metallic Mining*
- *Wisconsin's Net Proceeds Tax on Metallic Mining and Distribution of Funds to Municipalities*
- *Cumulative Impacts of Metallic Mining Development in Northern Wisconsin*
- *Potential Metallic Mining Development in Northern Wisconsin*

*Copies of the mining information sheets and regulations (administrative code) can be obtained at the Department's Mining Web site: <http://www.dnr.state.wi.us/org/aw/wm/mining/metallic/>.*