

ORDER OF THE STATE OF WISCONSIN NATURAL RESOURCES BOARD
REPEALING AND RECREATING RULES

The Wisconsin Natural Resources Board proposes an order to repeal and recreate Chapters NR 130, NR 131, NR 132 and NR 182 relating to nonferrous metallic mineral exploration, bulk sampling, prospecting and mining and nonferrous mining waste management.

EA-14-18

Analysis Prepared by the Department of Natural Resources

1. Statute Interpreted: Wis. Stat. ch. 289 and 293, Stats. Chapter 293 regulates nonferrous metallic mining including exploration, bulk sampling, prospecting, mining, and reclamation activities. Chapters 289 and 293 regulate mining waste facilities, including requirements for long term care and financial assurance for mining waste sites.

2. Statutory Authority: Wis. Stats., §§ 293.13, 293.15, 293.21, 293.32; Wis. Stat. § 289.05(2) and (3); and Wis. Stat. § 227.11(2)(a).

3. Explanation of Agency Authority: Chapter 293, Stats., contains numerous provisions granting rule-making authority to the department including the following pertinent provisions as related to the proposed rule revisions.

- 293.13(1)(a) – The department is directed to adopt rules implementing and consistent with ch. 293.
- 293.13(1)(b) – The department is directed to establish, by rule, minimum qualifications for applicants for prospecting or mining permits.
- 293.13(2)(a) – The department is required to develop rules that adopt minimum standards for exploration, prospecting, mining and reclamation.
- 293.15(9) – The department is directed to write rules by which the department may grant exemptions, modifications or variances from any rule under chapter 293 or under chapters 289-292 as related to nonferrous mining waste.
- 293.15(10) – The department is directed to promulgate rules regarding minimizing, segregating, backfilling or marketing mining waste.
- 293.15(11) – The department is directed to develop rules establishing groundwater quantity and/or quality standards for any prospecting or mining site including standards for mining waste sites.
- 293.21 – The department is authorized to write rules pertaining to different aspects of metallic mineral exploration including license fees, drillhole fees, notifications and inspections and a procedure for bond release.
- 293.32(1) - The department is directed to establish application fees for proposed prospecting and mining projects.
- 293.35(1) and 293.37(1) – The department is authorized to establish requirements for applications for prospecting and for mining permits.
- 293.63 - the department is authorized to establish procedures for the release of reclamation bonds for prospecting sites

Chapter 289, specifically s. 289.05(2) and (3), Stats., authorize the department to promulgate rules related to essentially all aspects of a metallic mining waste facility including the location, design, operation, closure and long-term care of such facilities. Section 289.05(2) requires the rules to be in accordance with

any or all of the applicable provisions of ch. 289 and chs. 30 and 283, Stats. The proposed rules in ch. NR 182 are in accordance with multiple provisions in ch. 289 and the NR 500 series of administrative rules. The proposed rules also reference requirements in ch. 283 concerning the regulation of discharges of pollutants to waters of the state, including wastewater discharges regulated under s. 283.31 and stormwater discharges regulated under s. 283.33, Stats.

Section 227.11(2)(a), Wis. Stats., authorizes the department to adopt rules interpreting the provisions of ch. 293, Wis. Stats., if the department considers it necessary to effectuate the purpose of the statute. The department considers the rule changes necessary to effectuate the purpose of legislative changes made to chapters 289 and 293 since initial adoption of the rules. In compliance with s. 227.22(4), Wis. Stats., the department has reviewed 2017 Wisconsin Act 134 and has determined that rulemaking is necessary to address the statutory changes made by the legislature. The department is also proposing to revise rules that have been superseded or that require amendment due to prior legislative changes, including those related to financial responsibility for long term care of mining waste facilities, collection of prospecting and mining permit application fees, processing of modifications, information related to applicant compliance history and specific decision-making criteria.

4. Related Statutes or Rules: Chapter 295, Wis. Stats., applies to ferrous (iron) mining and contains provisions similar to those in the revised rules, particularly, chs. NR 130 and 132. In addition, a number of the rules in the ch. NR 500 series, applicable to solid waste facilities, contain provisions that are similar to requirements specified in proposed ch. NR 182.

5. Plain Language Analysis: The proposed rule repeals and recreates existing rules on exploration, prospecting, mining, and mining waste sites. The proposed rule has been reorganized to provide greater clarity and contains substantial portions of the existing rules when those provisions remain consistent with the current law. Proposed revisions to the existing rules are a result of passage of 2017 Wisconsin Act 134 including the following major changes:

- Under Act 134, the department is required to determine, on a case-specific basis, the depth at which groundwater enforcement standards are applied. Act 134 establishes that an applicant must demonstrate the project will comply with groundwater quality standards for a period of 250 years following closure of the mining waste facility. Rule changes incorporate these concepts and provide technical clarification regarding how these determinations and demonstrations are made.
- Act 134 created two new forms of financial assurance applicable to metallic mining operations. Chapters NR 132 and 182 have been revised to incorporate these new financial assurance mechanisms and provide a framework for determining the amount of the financial assurance related to anticipated repair and replacement of various pollution control design elements.
- Act 134 created a new permitting criterion requiring the department to find that the proposed project will incorporate technology that will ensure compliance with applicable environmental protection laws and rules. The rules were revised to provide clarification as to how the department will make this determination and what information may be needed to support the department's determination.
- Act 134 made substantial changes to the permitting processes for mining and prospecting projects, including the preapplication notification process, and the rules were revised accordingly.
- Act 134 creates regulatory processes and minimum standards related to bulk sampling projects including plan and bond submittals, approvals, licensing, inspections, enforcement and bond release requirements. Proposed rules were developed to implement the bulk sampling regulatory framework created in Act 134.
- Act 134 includes provisions that either directly or indirectly repealed specific rule requirements including those related to regulation of mining activities near wetlands, and the irrevocable trust

fund. Those provisions of the rules have been removed.

In addition to changes necessary due to enactment of Act 134, the existing rules are also inconsistent with the statutes as amended by other statutory changes enacted since the inception of the rules in 1982. Rule changes to address these inconsistencies include:

- Updating the prospecting and mining fee collection process so fee collection starts when a prospective applicant submits a preapplication notification. (1997 Act 169)
- Updating the provisions by which the department review the compliance history of a prospective applicant to conform with s. 293.37(2)(e), Wis. Stats. (1991 Act 260)
- Revising the permit and plan modification process to be consistent with the procedures in s. 293.55, Wis. Stats. (1995 Act 225)
- Revision of ch. NR 182 so it conforms with s. 289.41, Wis. Stats., which specifies the acceptable means of providing financial assurance for long-term care of mining waste facilities and requires owners of mining waste to maintain financial assurance for at least forty years following closure of the facility. (1995 Act 225)

Additional rule changes are proposed to provide greater clarity and effectiveness to the rules based on past experience in implementing the rules over the past 35 years. Examples of these types of changes include:

- More specificity has been added to ch. NR 131 and 132 regarding the process for assessing success and completion of reclamation under s. 293.63, Wis. Stats.
- Additional criteria have been added to the rule to provide greater structure to the process related to issuance of the certificate of completion, the regulatory status of mining sites for which certificates of completion have been issued and the residual reclamation bond under s. 293.63, Wis. Stats.
- Additional informational requirements have been added to ch. NR 182 as related to the feasibility report, plan of operation and construction documentation reports. In addition, a requirement to submit a detailed preconstruction report has been added to the rule.
- Minimum requirements for conducting groundwater modeling assessments of proposed mining operations and mining waste facilities have been added to the rules.
- The exploration licensing requirements and notification procedures in ch. NR 130 have been revised to require additional detail in the licensing and notification submittals and greater accountability by requiring ongoing licensing and reporting until all drillholes are properly terminated.

6. Summary of, and Comparison with, Existing or Proposed Federal Statutes and Regulations:

While there is no nationwide regulatory program applicable to nonferrous metallic mining, the requirements specified in this set of administrative rules are similar to the requirements imposed by the U.S. Forest Service, U.S. Bureau of Land Management and other federal agencies in regard to mining and mining-related activities on lands under their management and control. The federal agencies review exploration and mining proposals for their economic and environmental feasibility and conduct technical reviews to ensure compliance with applicable federal laws including the National Environmental Policy Act, Endangered Species Act, Clean Water Act and Clean Air Act.

7. Comparison with Similar Rules in Adjacent States: Of the states bordering Wisconsin, Michigan and Minnesota are those that have comparable geology and potential for development of nonferrous metallic mineral mining of a type similar to that which has and could take place in Wisconsin. Michigan and Minnesota have each developed or revised their metallic mining regulations in the past 10-15 years in response to new mining development activity. The laws and rules in each of those states are comparable

to the regulatory framework in place in Wisconsin and would be consistent with the proposed rule changes. While each state follows procedures that are unique to their state, the overall approaches are similar in that each requires extensive pre-permitting environmental analyses, thorough engineering and technical evaluations of the proposed project and demonstrated compliance with all applicable permitting criteria as part of the review and approval process for nonferrous metallic mineral mining projects.

Neither Illinois nor Iowa contain metallic mineral deposits similar to those identified in northern Wisconsin and therefore have not developed specific regulatory frameworks comparable to those in Wisconsin, Minnesota and Michigan. While both states, along with Wisconsin, experienced historic metallic mining activity as part of the Tri-state Upper Mississippi Valley lead/zinc mining district, there has been no metallic mining activity in either state for over forty years.

8. Summary of Factual Data and Analytical Methodologies Used and How Any Related Findings Support the Regulatory Approach Chosen: The proposed rule revisions correct inconsistencies with controlling statutes, implement new statutory provisions, bring the rules up-to-date with current technologies and clarify existing rule provisions and procedures. There was not a need to evaluate factual data and analytical methods as a means to identify regulatory approaches. Rather, experienced department staff reviewed the existing rules to identify necessary changes and developed the preliminary drafts of the proposed rules.

9. Analysis and Supporting Documents Used to Determine the Effect on Small Business or in Preparation of an Economic Impact Report: The projected increased costs, as a result of the proposed rule revisions, were developed by department staff by considering the cost implications as a result of the expanded documentation and reporting requirements and procedural changes specified in the revised rules. The staff estimates were provided to and discussed with a mining industry representative to determine if the estimate was reasonable. The department solicited comments on the draft economic impact analysis and received input from one commenter. The commenter provided general observations about the potential economic benefits of mining but did not provide any specific comments or concerns regarding the economic impact analysis of the proposed rule.

The economic impact analysis estimates that the proposed rule revisions could increase costs for a typical proposed mining project by about \$502,000, beginning at the start of exploration activities and continuing through the life of the mining project. The potential cost increases include: \$20,900 (exploration), \$22,000 (bulk sampling), \$30,000 (mining permit application), \$414,000 (mining waste facility approval) and \$15,000 (additional review fees paid to the department). The increased costs related to the mining waste facility regulated under ch. NR 182 are a result of provisions in the proposed rule that would require an applicant to provide additional detail regarding design and construction of the waste facility as part of documents required for approval and licensing of the facility. The added detail and reports are consistent with requirements the department has previously imposed on mining waste facilities as conditions of approval and are also consistent with requirements applied to engineered solid waste facilities, also regulated under ch. 289, Stats.

10. Effect on Small Business (initial regulatory flexibility analysis):

The proposed rule changes are not expected to result in a significant economic impact on small businesses. Given the capital-intensive nature of metallic mineral exploration and mining project development, such activities have generally not been conducted by small businesses. Since the department began regulating these activities in the late 1970's, the vast majority of companies engaged in exploration and all of the companies pursuing mining permits in this state have been large corporations.

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12. Place where comments are to be submitted and deadline for submission: A hearing notice, announcing the public hearing and public comment period, was published on September 28, 2020. A virtual public hearing was held on October 22, 2020. The department accepted comments by regular mail, email, telephone and at the public hearing. The public comment period ended on October 26, 2020.

The consent of the Attorney General was received on January 22, 2021, for the incorporation by reference of two specific technical resource documents. Section NR 182.1095(2)(c), Wis. Adm. Code, includes a reference to *ASTM method D5321*, which specifies testing protocols for evaluating installation of specific geosynthetic materials. Section NR 182.113(2)(g), Wis. Adm. Code, refers to a U.S. EPA document (*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, EPA Publication SW 846, third edition, November 1986, as amended by Updates I in July 1992, II in September 1994, IIA in August 1993, IIB in January 1995, III in December 1996 and IIIA in April 1998*) specifying testing methods applicable to groundwater, lysimeter, and leachate sampling.

SECTION 1. Chapter NR 130 is repealed and recreated to read:

Chapter NR 130

NONFERROUS METALLIC MINERAL EXPLORATION AND BULK SAMPLING

SUBCHAPTER I - NONFERROUS METALLIC MINERAL EXPLORATION

NR 130.101 Purpose. The purpose of this subchapter is to establish licensing and notice procedures and ensure compliance with minimum standards for nonferrous metallic mineral exploration in this state.

NR 130.102 Applicability. The provisions of this subchapter are applicable to all nonferrous metallic mineral exploration as defined in s. NR 130.103 (8). This subchapter does not apply to operators engaged in exploration on lands included in a mining and reclamation plan approved as part of a mining permit issued under s. 293.49, Stats., if the plan contains provisions relating to termination of the exploration activities.

NR 130.103 Definitions. In this chapter:

- (1) "Abandonment" means filling or sealing a drillhole in accordance with the procedures specified in s. NR 130.111.
- (2) "Concrete grout" means a mixture consisting of 94 pounds of cement, sand and water meeting the material specifications of s. NR 812.20 (1) (b).
- (3) "Department" means department of natural resources.
- (4) "Driller" means a person who performs core, rotary, percussion, or other drilling involved in exploration for nonferrous metallic minerals.
- (5) "Drilling mud" means a fluid mixture of water, drill cuttings and drilling additives approved by the department.

- (6) "Drilling site" means the area disturbed by exploration including the drillhole, drill pad, sumps, staging areas, and access roads.
- (7) "Explorer" means any person who engages in exploration or who contracts for the services of drillers for the purpose of exploration.
- (8) "Exploration" means the on-site geologic examination from the surface of an area by core, rotary, percussion, or other drilling, where the diameter of the hole does not exceed 18 inches, for the purpose of searching for nonferrous metallic minerals or establishing the nature of a known nonferrous metallic mineral deposit and includes associated activities such as clearing and preparing drilling sites and constructing access roads. For the purposes of the definition of exploration, geologic examination does not include drillholes constructed for the purpose of collecting soil samples, conducting geophysical surveys or groundwater investigations, or determining radioactivity by means of placement of radiation-sensitive devices.
- (9) "Exploration license" means the license required under s. 293.21 (2), Stats., as a condition of engaging in exploration.
- (10) "Flowing drillhole" means a drillhole that has a static water level above the ground surface.
- (11) "License year" means the period commencing on July 1 of any year and ending on the following June 30.
- (11m) "Metallic sulfide-bearing rock" means native rock formations that contain an average metallic sulfide content of 3percent or greater, by volume, for the purposes of management and disposal of drilling mud and cuttings under this subsection.
- (12) "Neat cement grout" means a mixture of cement and water meeting the material specifications of s. NR 812.20 (1) (a). Powdered bentonite may be added up to a ratio of 5 pounds per 94-pound bag of cement.
- (12m) "Nonferrous metallic mineral" has the meaning given in s. 293.01 (12m), Stats.
- (13) "Parcel" means an identified section, fractional section, or government lot.
- (14) "Permanent abandonment" means filling an exploration drillhole with concrete, neat cement grout or other approved materials as provided in NR 130.111 (1) (b).
- (15) "Temporary abandonment" means sealing the upper end of the exploration drillhole casing with a watertight and locking threaded or welded cap.
- (16) "Termination" means filling of drillholes and reclamation and revegetation of drilling sites.

NR 130.105 Application for an exploration license.

- (1) No explorer may engage in exploration without securing an exploration license.
- (2) Any explorer intending to engage in exploration shall file an application for an exploration license with the department upon forms prepared and furnished by the department. The application shall be accompanied by all of the following:
- (a) A fee of \$600.00.

(b) An original, signed surety bond payable to the department in the amount of \$5,000 conditioned on faithful performance of the provisions of this subchapter. The bond under this paragraph is subject to all of the following conditions:

1. The bond shall be issued by a surety company licensed to do business in Wisconsin. If the surety company's license to do business is revoked or suspended, the explorer, within 30 days after receiving written notice thereof from the department, shall substitute surety underwritten by a surety company licensed to do business in Wisconsin. Upon failure of the explorer to make a substitution of surety, the department shall suspend the explorer's exploration license until substitution has been made.
2. Each bond shall provide that the bond shall not be canceled by the surety, except after not less than 90 days' notice to the department in writing by registered or certified mail. Not less than 30 days prior to the expiration of the 90-day notice of cancellation, the explorer shall deliver to the department a replacement bond in the absence of which all exploration shall cease.
3. The department may require that the amount of the bond be increased at any time, if the department determines that the explorer's current level of activity makes it likely that the bond would be inadequate to fund the termination of all holes drilled for which the explorer is responsible.
4. One year after all drilling sites constructed by the explorer have been issued a certificate of completion under s. NR 130.111 (4), and upon request by the explorer, the department shall release the bond and terminate the exploration license if the department determines that the explorer has complied with all provisions of this subchapter.

NR 130.106 Exploration license renewals.

(1) An explorer that intends to continue exploration or that is required to maintain a bond in accordance with s. NR 130.105 (2) (b) shall file an annual renewal application with the department upon forms prepared and furnished by the department. The renewal application shall be accompanied by all of the following:

(a) A fee of \$300.00.

(b) A bond in accordance with s. NR 130.105 (2) (b) or proof that a valid surety bond in an amount adequate to cover the explorer's current level of exploration activity has been submitted and remains in force.

(c) A summary of all exploration drilling sites constructed by the licensee which continue under coverage of the bond posted in accordance with s. NR 130.105 (2) (b), including all of the following:

1. Abandonment status of all drillholes constructed under the license.
2. Estimated costs for drillhole abandonment and site reclamation for each drilling site.
3. Anticipated schedule for termination of each drilling site.

(d) Identification of notices previously submitted under s. NR 130.109 which the licensee considers active for the upcoming license year and discussion of any proposed changes to approved plans associated with each notice and approval issued under s. NR 130.109(4)

(2) A renewal license shall be effective for a period commencing on the date of issuance and terminating on the following June 30. The DNR shall review and issue licenses under the time limitations under s. NR 130.107.

NR 130.107 Exploration license issuance.

(1) Upon satisfactory completion of all conditions contained in this subchapter, the department shall issue an exploration license to the explorer. Licenses shall be issued within 10 business days after the department receives a complete application unless the application is for an upcoming license year. If the application is for an upcoming license year, the license shall be issued either within 10 business days after the department receives a complete application or on the following July 1, whichever is later.

(2) An explorer shall conduct exploration in compliance with all requirements of this subchapter.

(3) An explorer shall conduct exploration in compliance with minimum standards for exploration activities and reclamation of drilling sites contained in s. 293.13 (2) (b) and (c), Stats., when applicable.

(4) An explorer shall conduct exploration in compliance with any other conditions contained in the exploration license or subsequent plan approvals under s. NR 130.109 that the department deems necessary to safeguard the natural resources of this state during and after exploration.

NR 130.108 Exploration license denials.

(1) The department shall deny an exploration license if the department finds any of the following:

(a) The exploration activity will not comply or has not been conducted in compliance with the minimum standards in s. 293.13 (2) (b) and (c), Stats., when applicable.

(b) The explorer is in violation of ch. 293, Stats., or any provision of this chapter.

(2) Within 10 business days from the date of application, the department shall furnish the explorer in writing the reasons for the denial.

NR 130.109 Notice procedure and exploration plans.

(1) The explorer shall notify the department of the explorer's intent to drill on a parcel by registered mail at least 30 days in advance of the anticipated commencement of drilling. Notice shall be considered as given upon the date of receipt by the department of the notice. The notice of intent to drill shall include all of the following:

(a) A legal description of the parcels where the exploration will take place including identification of land ownership and maps showing the approximate drilling site locations and anticipated site access routes.

(b) A description of the means and methods that will be used for the exploration including drilling methods, anticipated drillhole locations, diameter, and depth, source of drilling water, and anticipated use of drilling additives, if any.

(c) A description of drilling site access and site preparation needed to accommodate the drilling activity including site grading and stabilization methods.

(d) A description of how any diversion, retention, or drainage of water, including stormwater, drilling water, and water from flowing drillholes, on or around the drilling site will be conducted.

(e) A description of how drilling mud, drill cuttings, any pollutant-bearing minerals or materials, including fuel, lubricants, and drilling additives, will be handled during exploration and a description of spill prevention, containment and remediation procedures.

(f) A description of drillhole abandonment methodology. The explorer shall conduct the drillhole abandonment procedures in compliance with s. NR 130.111.

(g) A description of measures that will be taken to remove, stockpile, or otherwise protect topsoil during exploration.

(h) A description of methods and materials used to establish temporary vegetative cover, if necessary, to stabilize any part of the drilling sites and measures to control invasive species as a result of the temporary measures.

(i) Identification and prevention of pollution as defined in s. 281.01 (10), Stats., resulting from leaching of waste materials and identification and prevention of significant environmental.

(j) A reclamation plan designed to minimize adverse effects to the environment during and after exploration that includes all of the following:

1. A description of how all liquid and solid waste generated during the exploration activity will be disposed of or otherwise managed in an environmentally sound manner.

2. A description of how topsoil, if removed and stockpiled, will be redistributed during reclamation of the drilling site.

3. A description of final drilling site reclamation and revegetation methods and materials that will be used to stabilize disturbed soils and prevent air and water pollution.

4. A description of any nearby wetlands that could be affected by the exploration activity and the measures that will be taken to minimize disturbance to wetlands, including the use of best management practices for construction in or adjacent to wetlands, and relocating or modifying the configuration of drilling sites or restricting exploration activity to the winter months.

5. A total cost estimate for drilling site termination including unit costs for drillhole permanent abandonment and drilling site reclamation.

(2) Within 5 business days after receipt of a notice under par. (a), the department shall publish a public notice on the department's internet site describing the proposed drilling activity and the availability of the notice that was provided under par. (a). The department shall also send the public notice to all of the following:

(a). The clerk of any city, village, town, or county within whose boundaries any portion of the proposed exploration activity is located.

(b). The clerk of any city, village, or town, contiguous to any city, village, or town within whose boundaries any portion of the proposed exploration activity located.

(c). The Historic Preservation Officer of any federally recognized Indian tribes in the state.

(3) Within 15 business days after receipt of a notice under par. (a), the department shall inform the explorer if additional information is required and shall identify all other approvals, licenses, or permits,

issued by the department, including those under chs. 23, 30, 281, 283, and 289, Stats., that are required before exploration may commence.

(4) The department shall approve, conditionally approve, or deny the notice, in writing, within 30 business days of receiving the notice under par. (a) or within 15 business days after receiving all supplemental information identified in par. (b). The approval, if granted, may include site-specific conditions placed on the exploration to ensure compliance with the minimum standards under s.293.13 (2) (b) and (c), Stats., and this subchapter.

(5) A notice of intent to drill shall remain in effect for one year, commencing on the date the department approves the notice. At the time of exploration license renewal under s. NR 130.106, if the explorer plans to continue exploration on the designated parcels and wishes to extend the notice of intent to drill, the explorer shall notify the department that the explorer wishes to continue exploration on those parcels and shall note if any changes are being proposed. Any changes to the notice of intent to drill shall be approved or denied by the department in writing.

(6) The explorer shall notify the department prior to the commencement of drilling any exploration drillhole and shall specify the parcel on which the drillhole will be located and the specific anticipated date on which drilling will begin. This notice may be oral or written and shall be provided at least 48 hours before commencing drilling on any exploration drillhole.

(7) The explorer shall give the department at least 24 hours-notice, orally or in writing, of the explorer's intent to permanently abandon a drillhole. The 24-hour requirement may be reduced by the department, if appropriate due to case-specific circumstances.

NR 130.110 Management of drilling mud and cuttings.

(1) MUD PITS. Explorers who choose to construct excavated pits for the storage and disposal of drilling mud and cuttings from drillholes shall construct the pits in accordance with all of the following:

(a) The base of the pit shall not be at or below the groundwater table at the time of the drilling activity and shall be constructed such that the base will remain above the normal local groundwater elevation. The pit shall be constructed of sufficient volume to contain all anticipated fluid, drilling mud, cuttings, drilling additives and other materials expected to be placed in the pit and shall not be located in areas that receive excessive amounts of runoff or are susceptible to erosion.

(b) If the drillhole is expected to encounter metallic-sulfide bearing rock, the walls and base of the pit shall be lined with a minimum of one inch of bentonite or bentonite grout, a 20-mil or greater polyvinyl chloride or polyethylene geomembrane, or an equivalent liner material approved by the department in writing.

(2) DISPOSAL OF DRILLING MUD AND CUTTINGS. (a) Drilling mud and cuttings from drillholes that penetrate 50 feet or more of metallic sulfide-bearing rock shall be disposed of in accordance with one of the following:

1. Disposed at a lined, engineered solid waste facility licensed under s. 289, Stats. Prior to disposal of the drilling mud and cuttings, any free water from the mud pit or other containment feature shall be removed and reused or properly disposed of in accordance with state and federal law. The mud and cuttings shall be mixed with either concrete, cement or lime in sufficient quantities to neutralize any acidity generated by the oxidation of the metallic sulfide minerals either at the drilling site or at the solid waste facility prior

to disposal. If the cuttings were contained in a mud pit lined with plastic liner material, the liner shall be removed and disposed of at a lined, engineered solid waste facility licensed under s. 289, Stats., and the pit shall be backfilled with native soils.

2. Disposed on site within the mud pit. Prior to in-place disposal of the drilling mud and cuttings, any free water from the mud pit shall be removed and reused or properly disposed of in accordance with state and federal law. The drilling mud and cuttings shall be mixed with a sufficient amount of cement to solidify the mud and cuttings and the pit shall be backfilled with native soils. If the mud pit is lined with plastic liner material, the liner shall either be removed prior to addition of cement to the drilling mud and cuttings, or the sides of the liner shall be folded over the top of the drilling mud and cuttings prior to backfilling the pit.

(b) Drilling mud and cuttings from drillholes that penetrate 50 feet or less of metallic sulfide-bearing rock may be disposed on site within the mud pit. Prior to in-place disposal of the drilling mud and cuttings, any free water from the mud pit shall be removed and reused or properly disposed of in accordance with state and federal law. The drilling mud and cuttings shall be mixed with bentonite, cement, or other clean fill and the pit shall be backfilled with native soils. If the mud pit is lined with plastic liner material, the liner shall either be removed prior to addition of cement, bentonite or other material to the drilling mud and cuttings, or the sides of the liner shall be folded over the top of the drilling mud and cuttings prior to backfilling the pit.

NR 130.111 Exploration drillhole abandonment, fees and reporting.

(1) Upon completion of drilling, the explorer shall abandon each of its nonferrous metallic mineral exploration drillholes in accordance with whichever of the following applies:

(a) If the explorer intends to retain a drillhole for further exploration, monitoring or testing, the casing shall be left in place, and the upper end of the casing shall be sealed with a watertight and locking threaded or welded cap. Drillholes may remain temporarily abandoned for no longer than 5 years unless one of the following applies:

1. The drillhole is part of a proposed mining project for which a notification has been filed under s. 293.31, Stats.

2. The department grants an extension, for no more than one additional 5-year period, based on a request by the explorer that documents the need to retain the drillhole for purposes of additional exploration activities or other evaluation purposes within the period of the extension.

(b) 1. All drillholes 4 inches in diameter and smaller shall be filled from the bottom of the hole upward to the ground surface with concrete or neat cement grout.

2. Drillholes larger than 4 inches in diameter shall be filled in a manner as required in subd. 1. The department may approve alternate methods of permanently abandoning drillholes larger than 4 inches in diameter provided the methods are consistent with the procedures and materials specified in s. NR 812.26 (7)(a) 2. and 3.

3. When permanently abandoning an exploration drillhole all of the following restrictions apply:

a. Filling material required under subd. 2. shall be applied through a conductor pipe, except that when practical a dump bailer may be used. When concrete is placed under water by a conductor pipe, the bottom end of the conductor pipe shall be submerged in the concrete at all times.

b. When removing all or part of the casing from an unconsolidated formation that will not stand open, such as sand or gravel, during permanent abandonment of a drillhole, the casing must be removed concurrently with the filling of the drillhole, and the bottom end of the casing shall be kept below the surface of the fill material throughout the filling process.

4. If a drillhole penetrates an aquifer under artesian pressure such that groundwater flows at the ground surface, approval of the method of containment of such flow and the method of eventual abandonment of the drillhole must be obtained from the department prior to abandonment.

(2) Within 30 days after completion of temporary or permanent abandonment of a drillhole the explorer shall submit an exploration abandonment report for each drillhole to the department on forms specified by the department. The abandonment report shall describe the abandonment procedures and shall provide precise locational information for the drillhole and associated drilling mud pit. All abandonment reports shall be signed by an authorized representative of the explorer attesting to the accuracy of the information provided in the report.

(3) The fee for drilling the first 20 or fewer drillholes in any license year shall be \$200.00 per drillhole and the fee for drilling each subsequent drillhole in that same license year shall be \$100.00 per drillhole. All fees shall be paid to the department upon submission of the temporary abandonment report, if temporary abandonment under sub. (1) (a) occurs, or the permanent abandonment report, if temporary abandonment does not occur. For the purpose of determining the appropriate fee, drillholes will be assigned to the license year in which drilling on that particular hole ceases and the drillhole is initially abandoned.

(4) All abandonment reports and drilling fees shall be submitted to the department's Metallic Mining Coordinator unless the department specifies another recipient.

NR 130.112 Exploration drilling site completion of termination.

(1) Following permanent abandonment of the drillhole under s. NR 130.111 (1) (b) and revegetation and regrading of the drilling site, the explorer shall notify the department of completion of termination of each drilling site. As part of the notification, the explorer shall describe the method of drill cuttings disposal and reclamation of the drilling mud pit. This notification shall be made in writing and sent to the department's Metallic Mining Coordinator unless the department specifies another recipient.

(2) The department shall notify the explorer in writing of the satisfactory or unsatisfactory completion of termination. If termination is unsatisfactory, the department shall inform the explorer of all necessary corrective measures. Following implementation of corrective measures, the explorer shall file written notice with the department's Metallic Mining Coordinator, unless the department specifies another recipient, specifying what measures were taken and stating that termination is complete. Failure of the explorer to comply with the department's corrective measures may result in license revocation or suspension in accordance with s. NR 130.114 or other enforcement actions as provided in s. 293.87 (4), Stats. Upon satisfactory completion of termination of a drilling site, the department shall issue a certificate of completion. The department may not issue a certificate of completion for any drilling site that includes a temporarily abandoned drillhole.

NR 130.113 Inspections.

(1) Any authorized officer, employee, or representative of the department may enter and inspect any property, premises, or place on or at which any exploration is proposed, is being conducted or has been

completed at any reasonable time for the purpose of ascertaining the state of compliance with this chapter and ch. 293, Stats.

(2) No explorer may refuse entry or access to any authorized representative of the department who requests entry for purposes of inspection and who presents appropriate credentials.

(3) No person may obstruct, hamper, or interfere with any inspection under sub. (1).

NR 130.114 License Revocation or suspension.

(1) If the department has reason to believe that a licensee has violated any statute or rule pertaining to the exploration activity authorized under an exploration license or has violated a term or condition of the license issued under this subchapter or has failed to increase bond amounts to adequate levels as specified by the department, the department may, after holding a hearing, suspend or revoke the exploration license.

(2) Prior to revocation or suspension of a license, the department shall do all of the following:

(a) Give written notice, by mail, to the licensee of the facts or conduct which warrant the intended action and provide the licensee with an opportunity to show compliance with all requirements for retention of the license

(b) Conduct a hearing within 30 days of the written notice provided under par. (a), unless, prior to the hearing date the licensee provides sufficient evidence of compliance with all requirements for retention of the license.

(c) Following the hearing, if the department determines a licensee has violated any statute or rule pertaining to the exploration activity authorized under an exploration license or has violated a term or condition of the license issued under this subchapter or has failed to increase bond amounts, the department may suspend or revoke the license.

(3) A decision by the department to suspend or revoke a license is subject to judicial review under ss. 227.52 and 227.53, Stats.

(4) In addition to the actions under subs. (1) and (2), the department may take additional enforcement actions as specified under s. 293.87, Stats., if the explorer does not conduct exploration in compliance with this chapter and ch. 293., Stats.

SUBCHAPTER II

NONFERROUS METALLIC MINERAL BULK SAMPLING

130.201 Purpose. The purpose of this subchapter is to establish licensing and bulk sampling plan submittal and approval procedures and implement minimum standards applicable to nonferrous metallic mineral bulk sampling.

130.202 Applicability. This subchapter is applicable to all activities that constitute bulk sampling as defined in s. NR 130.203 (1), related to nonferrous metallic mineral deposits. This subchapter does not apply to activities that involve removal of more than 10,000 tons of material from any potential mining site, as such activity shall be subject to regulation under ch. NR 131.

130.203 Definitions. In this subchapter:

(1) “Bulk sampling” means excavating in a potential mining site by removing less than 10,000 tons of material, including overburden and any other material removed from any portion of the excavation site, for the purposes of obtaining site-specific data to assess the quality and quantity of the nonferrous metallic mineral deposits and of collecting data from and analyzing the excavated materials in order to prepare the application for a mining permit or for any other approval. Removal of rock samples from the ground surface or outcrops using manual methods, and removal of material during nonferrous mineral exploration, soil testing, stream sediment sampling, groundwater monitoring well installation or construction of geophysical boreholes do not constitute bulk sampling. Bulk sampling does not constitute prospecting within the meaning of s. 293.01 (18), Stats.

(2) “Bulk sampling site” means all areas to be disturbed as part of bulk sampling as described in the bulk sampling plan, including excavation sites, access roads, and areas used for material stockpiling and general staging activities.

(3) “Department” means the department of natural resources.

(4) “Excavation site” means discrete non-contiguous areas on a potential mining site where excavation and removal of material, including soil, overburden and bedrock, takes place as part of a bulk sampling plan.

(5) “Licensee” means a person that has been issued a bulk sampling license authorizing that person to conduct bulk sampling in accordance with this subchapter.

(6) “Overburden” means any unconsolidated geologic material, such as till, sand and gravel and weathered bedrock that may be removed during bulk sampling.

(7) “Person” means an individual, owner, operator, corporation, limited liability company, partnership, association, municipality, interstate agency, state agency or federal agency.

(7) “Potential mining site” means a discrete area that, based on results of exploration or other geologic evaluation, may contain valuable nonferrous metallic mineral resources and includes all areas reasonably needed for future development of the mineral resource. A single potential mining site may include multiple bulk sampling sites.

(8) “Removed,” “removal,” or “removing” means excavating or moving any soil, overburden, or bedrock from an excavation site as part of a bulk sampling activity and includes material transported off the bulk sampling site and material that is relocated within the bulk sampling site.

130.204 Bulk sampling license application.

(1) No person may engage in bulk sampling without obtaining a bulk sampling license from the department.

(2) Any person intending to engage in bulk sampling shall file an application for a bulk sampling license with the department. A bulk sampling license application shall include all of the following:

(a) A bulk sampling plan that includes all of the following:

1. A description of the potential mining site to be evaluated through the proposed bulk sampling activities, including a map showing the extent of the potential mining site, extent of the bulk sampling site, the location and extent of each excavation site proposed in the bulk sampling plan and the means of access to the sites.

2. A description of the bulk sampling site, including the number of acres of land consisting of excavation sites, the total number of acres of land that will be disturbed as part of the bulk sampling activity, a detailed map of each excavation site and a description of the bulk sampling activity including the types of sampling or studies to be conducted as part of the bulk sampling.
3. A description of the methods to be used for the bulk sampling, demonstrating that the bulk sampling will comply with the minimum standards specified in s. 293.13 (2) (b) and (c), Stats.
4. A site-specific plan for controlling surface erosion that conforms to requirements under ss. 281.33 (3) and 283.33, Stats., and that identifies how impacts to plant and wildlife habitats will be avoided or minimized to the extent practicable.
5. A revegetation plan for all areas which will be disturbed during the bulk sampling that describes how the bulk sampling site will be revegetated and stabilized, how potential introduction and control of invasive species will be addressed, and how adverse impacts to the environment, including impacts to plant and wildlife habitat, will be avoided or minimized to the extent practicable.
6. An itemized cost estimate of the costs to stabilize and revegetate the area disturbed during the bulk sampling activity.
7. The estimated time for completing the bulk sampling and final stabilization and revegetation of the bulk sampling locations.
8. A description of any known adverse environmental impacts that are likely to be caused by the bulk sampling and how those impacts will be avoided or minimized to the extent practicable and an analysis showing that the proposed bulk sampling activity is proposed to be conducted at locations and using methods that result in the least overall adverse environmental impacts.
9. A description of any adverse effects, as defined in s. 44.31 (1), Stats., that the bulk sampling might have on any historic property, as defined in s. 44.31 (3), Stats., that is a listed property, as defined in s. 44.31 (4), Stats., that is on the Wisconsin inventory of historic places, as defined in s. 44.31 (12), Stats., or that is on the list of locally designated historic places under s. 44.45, Stats., or any scenic or recreational areas and plans to avoid or minimize those adverse effects to the extent practicable.

(b) A bond in the amount of \$5,000 or the amount equal to the bulk sampling site stabilization and revegetation costs estimated under par. (a) 6., whichever is greater. The bond shall be issued by a surety company licensed to do business in this state and shall be conditioned on faithful performance of the requirements of this subchapter. The bond shall provide that the bond may not be canceled by the surety except after not less than 90 days' notice to the department in writing by registered or certified mail. The bond under this paragraph is subject to all of the following conditions:

1. If the surety for a bond submitted under this paragraph issues a cancellation notice, the person who filed the bulk sampling plan shall deliver a replacement bond at least 30 days before the expiration of the 90-day notice period. If the person fails to submit a replacement bond, the person may not engage in bulk sampling until the person submits a replacement bond. The original bond shall remain in effect until a satisfactory replacement bond is submitted to the department.
2. If the license of the surety company for a bond submitted under this paragraph is revoked or suspended, the person who filed the bulk sampling plan, within 30 days after receiving written notice from the department, shall deliver a replacement bond. If the person fails to submit a replacement bond, the person

may not engage in bulk sampling until the person submits a satisfactory replacement bond. Revocation or suspension of a surety's license does not relieve the bulk sampling licensee from any financial obligation to stabilize and revegetate the bulk sampling site in accordance with the approved bulk sampling plan.

3. The department may require that the amount of the bond submitted under this paragraph be increased at any time if the department determines that it is unlikely that the bond would be adequate to fund the cost to this state of completing the revegetation plan.

(3) Within 5 business days after receipt of a bulk sampling license application under par. (2) the department shall publish a public notice on the department's internet site describing the proposed bulk sampling activity and the availability of the bulk sampling license application. The department shall also send the public notice to the following:

(a) The clerk of any city, village, town, or county within whose boundaries any portion of the proposed bulk sampling activity is located.

(b) The clerk of any city, village, or town, contiguous to any city, village, or town within whose boundaries any portion of the proposed bulk sampling site is located.

(c) The Historic Preservation Officer of any federally recognized Indian tribes in the state.

(4) Within 21 days of receipt of a bulk sampling plan and license application, the department shall notify the applicant, in writing, whether the license application and bulk sampling plan are complete and, if they are not complete, the department shall identify any additional information that must be submitted.

(5)(a) Within 14 days of receipt of a complete bulk sampling license application and bulk sampling plan under sub. (2), the department shall identify for the applicant, in writing, all approvals, in addition to the bulk sampling license, that are required before the bulk sampling may be implemented, including all of the following:

1. Any waivers, exemptions, or exceptions to those approvals that are potentially available.

2. Any supplemental information that the department needs to issue the bulk sampling license and other approvals or to issue a decision on any waiver, exemption, or exception.

(b) If the bulk sampling license is the only department approval required, within 14 days of receipt of a complete bulk sampling license application and bulk sampling plan under sub. (2), the department shall notify the applicant that no other approvals are required and issue a bulk sampling license to the applicant in accordance with s. NR 130.205, or deny the license, stating the reasons for denial.

(c) All approvals identified in par. (a) shall be processed in accordance with s. 293.26 (8) and (12) to (16), Stats.

(d) If it is necessary for an applicant to revise the bulk sampling plan as a result of requirements imposed under any of the approvals identified under par. (a), the revised plan shall be reviewed as provided in sub. (2) (c) and par. (a).

130.205 Bulk sampling license issuance and modification.

(1) The department shall issue a bulk sampling license if it finds the bulk sampling plan reasonably ensures all of the following:

(a) The proposed bulk sampling will be conducted in compliance with the minimum standards specified in s. 293.13 (2) (b), Stats., and this subchapter.

(b) The licensee has submitted a bond in compliance with s. NR 130.204 (2) (b).

(2) The department may, if needed, include conditions in the bulk sampling license to ensure compliance with applicable standards under sub. (1) (a) and (b).

(3) A license issued under this section applies solely to activities described in a specific bulk sampling plan submitted under s. NR 130.204 (2) (a) and relating to a specific potential mining site.

(4) The department may not issue the bulk sampling license until all approvals required by the department to engage in bulk sampling and identified under s. NR 130.204 (5) (a) have been issued.

(5) If the licensee intends to modify the bulk sampling activity to include new or increased areas of disturbance on the same potential mining site, the licensee shall submit a new bulk sampling plan or a revised bulk sampling plan to the department. The department shall process any revised bulk sampling plan in the same manner as an original bulk sampling plan and license application under s. NR 130.204. The department may approve minor changes to the approved bulk sampling activity that do not result in increased area of surface disturbance or disturbance of areas not described in the bulk sampling plan and do not result in significant additional environmental impacts, without requiring submittal of a new or revised bulk sampling plans.

(6) A bulk sampling license or a modification to an approved bulk sampling plan and license is issued by the department upon mailing and is final and effective upon issuance.

130.206 Bulk sampling site reclamation and bond release. One year after the licensee completes the bulk sampling and site stabilization and revegetation set forth in the bulk sampling plan, the department shall release the bond submitted by the licensee under s. NR 130.204 (2) (b) and terminate the bulk sampling license if the department determines that the licensee has complied with this subchapter and other approvals related to the bulk sampling.

130.207 Bulk sampling site inspections.

(1) Subject to applicable state and federal safety rules and regulations, any authorized officer, employee, or representative of the department may enter and inspect any property, premises, or place on or at which any bulk sampling is proposed, is being conducted or has been completed at any reasonable time for the purpose of ascertaining the state of compliance with this subchapter and ch. 293, Stats.

(2) No person may refuse entry or access to any authorized representative of the department who requests entry for purposes of inspection and who presents appropriate credentials.

(3) No person may obstruct, hamper, or interfere with any inspection under this section.

130.208 Bulk Sampling License Revocation or Suspension.

(1) If the department has reason to believe that a licensee has violated any statute or rule pertaining to the bulk sampling activity authorized under a bulk sampling license or has violated a term or condition of the license issued under this subchapter or has failed to increase bond amounts to adequate levels as specified by the department, the department may, after holding a hearing, suspend or revoke the bulk sampling license.

- (2) Prior to revocation or suspension of a license, the department shall do all of the following:
- (a) Give written notice, by mail, to the licensee of the facts or conduct which warrant the intended action and provide the licensee with an opportunity to show compliance with all requirements for retention of the license.
 - (b) Conduct a hearing within 30 days of the written notice provided under par. (a), unless, prior to the hearing date the licensee provides sufficient evidence of compliance with all requirements for retention of the license.
 - (c) Following the hearing, if the department determines a licensee has violated any statute or rule pertaining to the bulk sampling activity authorized under a bulk sampling license or has violated a term or condition of the license issued under this subchapter or has failed to increase bond amounts, the department may suspend or revoke the license.
- (3) A decision by the department to suspend or revoke a license is subject to judicial review under ss. 227.52 and 227.53, Stats.
- (4) In addition to the actions under subs. (1) and (2), the department may take additional enforcement actions as specified under s. 293.87, Stats., if the person conducting bulk sampling does not conduct bulk sampling in compliance with this chapter and ch. 293., Stats.

Section 2. Chapter NR 131 is repealed and recreated to read:

Chapter NR 131

NONFERROUS METALLIC MINERAL PROSPECTING

NR 131.101 Purpose. The purpose of this chapter is to implement ch. 293, Stats., by establishing procedures and standards for the comprehensive regulation of nonferrous metallic mineral prospecting in this state and facilitating a coordinated procedure by which department permits, licenses, and approvals may be applied for, hearings may be held, and determinations may be made by the department in an integrated manner.

NR 131.102 Applicability.

- (1) The provisions of this chapter are applicable to all nonferrous metallic mineral prospecting, including the storage, handling, processing, transportation, and disposal of all materials resulting from a prospecting operation except to the extent that mining wastes are regulated under ch. NR 182.
- (2) If a standard under any state or federal statute, rule, or regulation other than this chapter specifically regulates in whole an activity or facility on a prospecting site regulated under this chapter the other state or federal statute, rule, or regulation shall be the controlling standard. If the other state or federal statute, rule, or regulation only specifically regulates the activity or facility in part, the other statute, rule, or regulation shall only be controlling as to that part.

NR 131.103 Definitions. In this chapter:

- (1) "Applicant" means a person who has applied for a prospecting permit.
- (2) "Background water quality" or "background concentration" means surface water or groundwater quality at or near a facility, practice or activity which has not been affected by that facility, practice or activity established by monitoring at the proposed site, upgradient and downgradient of the proposed site and at representative reference sites, as necessary.
- (3) "Baseline data" means the data collected by the applicant or the department which the department has accepted through the regulatory process of ss. NR 131.105 and 131.117, and s. 293.31, Stats., as representing the existing environmental conditions prior to the commencement of prospecting and established by monitoring at the proposed site, upgradient and downgradient of the proposed site and at representative reference sites, as necessary.
- (4) "Department" means department of natural resources.
- (5) "Environmental pollution" has the meaning specified in s. 293.01 (4), Stats.
- (6) "Groundwater" means any waters of the state, as defined in s. 281.01 (18), Stats., occurring in a saturated subsurface geological formation of rock or soil.
- (7) "Materials" means all solid, liquid and gaseous, substances handled, processed, transported, stored or disposed of on the prospecting site during prospecting and reclamation operations, including other substances generated by the operation as well as those brought onto the prospecting site.
- (8) (a) "Mining waste" or "nonferrous mining waste" means any refuse, sludge, or other discarded material, including solid, liquid, semi-solid, or contained gaseous material, resulting from nonferrous

metallic mineral prospecting or mining, or from the cleaning or preparation of nonferrous metallic minerals during prospecting or mining operations.

(b) "Mining waste" includes tailings, waste rock, mine overburden, and waste treatment sludges.

(c) "Mining waste" does not include topsoil and mine overburden not disposed of in a waste site, but placed in a facility permitted under this chapter or ch. NR 132, to be returned to the mine site or used in the reclamation process, and does not include merchantable by-products.

(d) "Mining waste" does not include trees and other vegetation removed from the mining site during site preparation and facility construction.

(9) "Monitoring data" means the data collected by the operator or the department after the commencement of prospecting.

(10) "Nonferrous metallic mineral" means an ore or other earthen material to be excavated from the natural deposits on or in the earth for its metallic content but not primarily for its iron oxide content.

Note: This definition does not apply to substances mined primarily for their iron oxide content. This definition includes substances mined for the purpose of extracting a metal or metals such as copper, zinc, lead, gold, silver, titanium, vanadium, nickel, cadmium, molybdenum, chromium, manganese, cobalt, zirconium, beryllium, thorium, and uranium.

(11) "Non-mining solid waste" means solid waste generated as part of a nonferrous prospecting or mining operation that is not mining waste and includes materials such as discarded vegetation, tires, barrels, sanitary waste, and various other solid waste materials defined in ch. NR 500, including construction and demolition waste, garbage, commercial solid waste and municipal solid waste.

(12) "Operator" means any person who is engaged in, or who has applied for or holds a permit to engage in prospecting, whether individually, jointly or through subsidiaries, agents, employees or contractors.

(13) "Ore" means a naturally occurring material from which nonferrous metallic minerals may be recovered at a profit.

(14) "Overburden" means any unconsolidated geologic material, such as till, sand and gravel, and weathered bedrock that may be removed during prospecting or mining.

(15) "Person" means an individual, owner, operator, corporation, limited liability company, partnership, association, municipality, interstate agency, state agency, or federal agency.

(16) "Principal shareholder" means any person who owns at least 10 percent of the beneficial ownership of an operator.

(17) "Prospecting" has the meaning specified s. [293.01\(8\)](#), Stats.

Note: s. [293.01\(8\)](#), Stats., defines "prospecting" to mean: "engaging in the examination of an area for the purpose of determining the quality and quantity of nonferrous metallic minerals, other than for exploration or bulk sampling but including the obtaining of a nonferrous metallic mineral sample, by such physical means as excavating, trenching, construction of shafts, ramps and tunnels and other means, other than for exploration or bulk sampling, which the department, by rule, identifies, and the production of prospecting refuse and other associated activities.

"Prospecting" shall not include such activities when the activities are, by themselves, intended for

and capable of commercial exploitation of the underlying nonferrous ore body. However, the fact that prospecting activities and construction may have use ultimately in mining, if approved, shall not mean that prospecting activities and construction constitute mining within the meaning of sub. (9), provided such activities and construction are reasonably related to prospecting requirements.”

(18) “Prospecting permit” means the permit which is required of all persons as a condition precedent to commencing prospecting at a location.

(19) “Prospecting plan” means the proposal for prospecting of the prospecting site.

(20) “Prospecting site” means the lands on which prospecting is actually conducted as well as those lands on which physical disturbance will occur as a result of such activity including a mining waste facility, if one is needed, corridors for access roads and other activities related to the prospecting operation but does not include environmental monitoring sites located off of the main portion of the prospecting site.

(21) “Prospector” means any person engaged in prospecting.

(22) “Reclamation” means the process by which an area physically or environmentally affected by prospecting is rehabilitated to either its original state or, if this is shown to be physically or economically impracticable or environmentally or socially undesirable, to a state that provides long-term environmental stability. Reclamation shall provide the greatest feasible protection to the environment and shall include, but is not limited to, the criteria for reclamation set forth in s. 293.13 (2) (c), Stats.

(23) “Reclamation plan” means the proposal for the reclamation of the prospecting site that must be approved by the department under s. 293.45, Stats., as part of the prospecting permit, and includes the closure requirements of ch. NR 182 for facilities licensed under that chapter, if any.

(24) “Refuse” means all waste soil, overburden, rock, mineral, liquid, vegetation, and other material, directly resulting from or displaced by the prospecting, and from the cleaning or preparation of nonferrous metallic minerals during prospecting operations, including all waste materials deposited on or in the prospecting site from other sources.

(25) “Unsuitable” or “unsuitability” means that the land proposed for prospecting is not suitable for such activity because the prospecting activity itself may reasonably be expected to destroy or irreparably damage any of the following:

(a) Habitat required for survival of species of vegetation or wildlife as designated in ch. NR 27, if such endangered species cannot be firmly reestablished elsewhere.

(b) Unique features of the land, as determined by state or federal designation as any of the following, that cannot have their unique characteristic preserved by relocation or replacement elsewhere:

1. Wilderness areas designated by statute or administrative rule.

2. Wild and scenic rivers designated by statute or administrative rule.

3. National or state parks designated by statute or administrative rule.

4. Wildlife refuges and areas designated by statute or administrative rule.

5. Properties of historical significance identified as listed properties under s. 44.31 (4), Stats., and archaeological sites as defined under s. 44.47 (1) (b), Stats.

6. State natural areas designated under s. 23.28, Stats.

(c) Other areas of a type designated by statute or administrative rule as unique or unsuitable for prospecting or surface mining.

(26) "Waste rock" means consolidated geologic material that has been excavated during the prospecting process but is not of sufficient value to constitute ore.

(27) "Wetlands" means an area where water is at, near or above the land surface long enough to be capable of supporting aquatic or hydrophytic vegetation and which has soils indicative of wet conditions.

NR 131.104 Environmental baseline data collection prior to preapplication notification.

(1) A person who intends to submit a preapplication notification under s. 293.31, Stats., may, prior to obtaining, collecting, or generating environmental baseline data intended to be used to support a prospecting permit application, submit to the department a description of the methodology that the person intends to use in obtaining, collecting, or generating the data. The description shall include all of the following:

(a) The sampling equipment and instrumentation.

(b) The sampling locations.

(c) The sample collection protocols.

(d) The sampling schedules.

(e) The analytical methods and reporting procedures.

(2) Information submitted under sub. (1), shall be submitted in a format prescribed by the department, including a complete electronic version and duplicate reproducible paper copies of the information in a quantity specified by the department.

(3) Any request under sub. (1) for department review of proposed environmental data collection methodology shall be accompanied by a fee of \$1,500. The department may waive the fee if the requested review is of limited scope or is substantively duplicative of previous requests.

(4) (a) The department shall review the proposed methodology and shall either inform the person that the proposed methodology is accepted by the department or provide the person with the methodology that the department requires the person to use.

(b) The review conducted by the department under this subsection is limited specifically to the proposed methodology for data collection and analysis. Department approval of the methodology is not an endorsement or approval of the intended data collection program, including adequacy of the scope of the data collection program and appropriateness of sampling locations and analytical parameters.

(c) In approving the proposed methodology under this subsection, the department may require the person to provide notice to the department prior to specific data collection activities to facilitate verification of data collection by department staff, as necessary.

(5) If a person obtains, collects, or generates data or information intended to be used to support a prospecting permit application without obtaining department approval of the person's methodology under sub. (4), the department may not exclude any of the data or information that consists of general environmental information such as soil characteristics, hydrologic conditions, and air and water data contained in publications, maps, documents, studies, reports, and similar sources, whether public or private, not prepared by or for the applicant.

(6) If the period of data collection prior to the filing of a preapplication notice under s. NR 131.105 continues for longer than 12 months, the department may require the person to enter into a pre-application services agreement with the department under s. 23.40 (4), Stats., to cover costs incurred by the department in verifying or reviewing the environmental data.

NR 131.105 Preapplication notification and data collection.

(1) At least 12 months before filing an application for a prospecting permit under s. NR 131.107 a person proposing to engage in a prospecting project shall notify the department in writing of the person's intention to apply for a prospecting permit and submit to the department a project review fee under s. NR 131.106. The person submitting the preapplication notification shall provide the department with a complete electronic version of the notice in a format prescribed by the department and shall provide duplicate paper copies of the notice in a quantity specified by the department. The notice shall include all of the following information:

(a) The name, address, and telephone number of the person submitting the preapplication notification.

(b) A map showing the approximate location of the prospecting site including anticipated project boundaries, locations of surface waters, roads, railroads, pipelines and utilities within the project area and identification of property ownership of lands included in the project site and adjacent areas.

(c) The expected date when a prospecting permit application may be submitted under s. NR 131.107.

(d) A preliminary project description that includes all of the following:

1. A topographic map showing the location of the prospecting operation and preliminary location of project facilities.

2. A general description of the nonferrous metallic mineral deposit including available details on size, shape, and orientation, faulting and fracturing systems and patterns, origin, lithology, and mineralogic composition, including approximate metal grades and content.

3. A discussion of the anticipated prospecting methods.

4. A general description of the wastes expected to be generated.

5. The potential locations of anticipated mining waste facilities, if any.

6. The following information pertaining to potential prospecting sites:

a. A discussion of land uses at the proposed prospecting site and the surrounding area which may have an impact on the suitability of the property as a prospecting site or on groundwater quality.

b. A discussion of land use zoning, with particular attention given to areas where zoning variances will be required, where agricultural impact statements may be required, or where floodplain, conservancy, shoreland or wetland zoning is designated.

c. Identification of known recreational, historical, archaeological areas, areas that contain threatened or endangered species per s. 29.604, Stats., and per s. NR 27.01 (8) and state or local natural areas; and county forest lands.

d. A discussion of the regional setting of the proposed prospecting site generally documented by currently available public information addressing the topography, surface hydrology including the presence of any resources designated as areas of special natural resources interest under s. 30.01(1am), Stats., , geology and hydrogeology of the area surrounding the potential prospecting site.

7. An estimate of the project schedule.

(e) A proposed scope of study that includes all of the following:

1. Identification of data requirements needed for preparation of the prospecting permit application, and, as applicable, environmental impact report, mining waste site feasibility report, and plan of operation and other applications for permits, licenses, and approvals issued by the department.

2. Specific methodologies to be utilized in data collection, data processing and synthesis, laboratory methods, and analyses.

3. Description of the format in which the data will be presented in the prospecting permit application and other required submittals.

4. Tentative schedule for collection of field data.

5. Names, addresses, and qualifications of persons who will be responsible for data collection, laboratory work, and impact analysis. Data shall be submitted under the seal of a licensed professional engineer, geologist or hydrologist registered with or licensed by the Wisconsin department of safety and professional services or other professional with expertise directly applicable to the data.

6. Quality assurance programs employed in obtaining, collecting, generating, and evaluating all baseline data.

7. Identification of any anticipated modeling studies necessary to evaluate the prospecting operation and complete environmental impact assessments.

(f) Other pertinent information as requested by the department.

(2) The person giving notice under sub.1 may submit, as part of the notification, specific environmental data that were obtained, collected, or generated prior to submitting a preapplication notification under this section including data reviewed under s. NR 131.104 and data that were not reviewed under s. NR 131.104. To the extent such information is available, the person shall include substantiating background information that will assist the department in establishing the validity of the data including the following:

1. The data obtained, the method of data collection, and the analytical methods employed.

2. The identity of persons obtaining, collecting, and generating the data and their qualifications. Data shall be submitted under the seal of a licensed professional engineer, geologist or hydrologist registered with or

licensed by the Wisconsin department of safety and professional services or other professional with expertise directly applicable to the data.

3. Permits, licenses, and approvals that were in effect when the data and information were obtained, collected, and generated prior to submitting the preapplication notification.

(3) Upon receipt of the preapplication notification under sub. (1), the department shall give public notice of the department's receipt of the preapplication notification in the same manner as provided under s. 293.43 (2m) (b), Stats., and to the government of any American Indian tribe or band whose reservation boundaries are within 60 miles of any portion of the proposed project, and to the government of those American Indian tribes or bands with federally recognized treaty rights in the area of the project. The department shall make the preapplication notification available for review in the county, city, village, or town in which the prospecting site is located. The notice under this subsection shall invite interested persons to submit comments regarding information those interested persons believe should be requested from the person submitting a preapplication notification under sub. (1) and information that the interested persons believe the department should seek through independent studies. The department shall hold a public informational hearing to receive comments from interested persons and the hearing shall be completed within 45 days after public notice required under this subsection is given.

(4) The department shall receive and consider any comments from interested persons received within 45 days after public notice is given under sub. (3) as to information that the interested persons believe should be requested from the person submitting a preapplication notification under sub. (1) and the information that the interested persons believe the department should seek through independent studies.

(5) No later than 90 days after the period for receiving and considering comments from interested persons under sub. (4), the department shall inform the person giving notice under sub. (1) of the type and quantity of information that the department believes to be needed to support an application for a prospecting permit and the methodology to be used in gathering information and shall identify preliminary verification procedures to be conducted by the department under sub. (9). The department shall specifically inform the person submitting a preapplication notification under sub. (1) of the type and quantity of information on the characteristics of groundwater resources in the area in which prospecting is anticipated to occur that the department believes is needed to support an application, including the information that the department believes should be included in the applicant's environmental impact report and the information that the department will need to prepare an environmental impact statement. The department shall also inform the person submitting a preapplication notification under sub. (1) of the application timelines and other filing requirements for all other approvals, licenses, and permits relating to the proposed prospecting project.

(6) No later than 45 days after receiving the information from the department in sub. (5), the person submitting a preapplication notification under sub. (1) shall submit to the department a final scope of study incorporating information provided by the department in sub. (5).

(7) All environmental baseline data gathered by a person submitting a preapplication notification under sub. (1) shall be submitted to the department as soon as it is in final form as described in the scope of study. The department may require the person to submit any raw field data collected either by the applicant or by a consultant.

(8) The department may at any time after consultation with the person submitting a preapplication notification under sub. (1) revise or modify its requirements regarding information that must be gathered

and submitted as part of the information needed for preparation of the prospecting permit application, environmental impact report, mining waste site feasibility report, plan of operation, or other applications for permits, licenses, and approvals issued by the department.

(9) The department may conduct studies necessary to verify information that may be submitted in support of the environmental impact report, if required, prospecting permit application, or applications for other permits and approvals issued by the department. The department shall develop studies and quality assurance and verification programs in a manner consistent with future monitoring requirements.

NR 131.106 Prospecting project review fee.

(1) When a person gives notice under s. NR 131.105 (1) of the person's intention to apply for a prospecting permit, the person shall pay the department a fee of \$25,000 to reimburse the department for costs incurred by the department in connection with review of the proposed prospecting project during the year following receipt of the notice, other than any costs related to the environmental impact statement for the proposed prospecting.

(2) The department shall annually compare the fees paid under this section and under chs. 30, 280 to 292, and 295 to 299, Stats., in connection with proposed prospecting for which notice was given under s. NR 131.05 (1) with the costs incurred by the department in connection with the proposed prospecting project, including the costs incurred under chs. 30, 280 to 292, and 295 to 299, Stats., but excluding costs related to the environmental impact statement. If the costs incurred exceed the fees paid, the person who provided notice under s. NR 131.05 (1) shall pay a fee equal to the amount by which the costs exceed the fees previously paid.

(3) When the department issues or denies a prospecting permit or when a person who gave notice under s. NR 131.105 (1) ceases to seek approval of the proposed prospecting project, the department shall compare the fees paid under this section and under chs. 30, 280 to 292 and 299, Stats., in connection with the proposed prospecting project with the costs incurred by the department in connection with the proposed prospecting project, including the costs incurred under chs. 30, 280 to 292, and 299, Stats., but excluding costs related to the environmental impact statement. If the costs incurred are less than the fees paid, the department shall pay the person who gave notice under s. NR 131.105 (1) the amount by which the fees exceed the costs. If the costs incurred exceed the fees paid, the person who gave notice under s. NR 131.105 (1) shall pay a final fee equal to the amount by which the costs exceed the fees previously paid.

NR 131.107 Application to prospect.

(1) No person may engage in prospecting or reclamation at any prospecting site without securing a prospecting permit issued under s. 293.45, Stats. and this chapter.

(2) (a) An applicant for a prospecting permit shall submit an application and additional documents specified under sub. (4) to the department in writing and in reproducible form and shall provide the department with paper copies of the application in a quantity specified by the department. The applicant shall also submit a complete copy of the application in an electronic format prescribed by the department.

(b) Upon receipt of the application under sub. (2), the department shall give public notice of the department's receipt of the application and the availability, for review, of the prospecting permit application and other documents specified under sub. (4), in the same manner as provided under s. 293.43 (2m) (b), Stats., and to the government of any American Indian tribe or band whose reservation

boundaries are within 60 miles of any portion of the proposed project, and to the government of those American Indian tribes or bands with federally recognized treaty rights in the area of the project.

(3) The application for a prospecting permit shall include all of the following:

(a) A prospecting plan in accordance with s. NR 131.108.

(b) A reclamation plan in accordance with s. NR 131.109 that includes an itemized statement showing the estimated costs that will be incurred by the state if it is necessary for the state to implement and fulfill the reclamation plan.

(c) A proposed monitoring and quality assurance plan consistent with the requirements of this chapter, ch. NR 182, and s. 1.11, Stats. The monitoring plan shall provide for adequate monitoring of project-related environmental changes during the course of the permitted activity and for such additional period of time as is necessary to satisfactorily complete reclamation and completely release the permit holder from the financial securities required under s. 293.51 (1), Stats. The monitoring plan shall include monitoring locations on the prospecting site and locations both upgradient and downgradient of the prospecting site. The plan shall summarize all project-related environmental monitoring programs and may cross reference monitoring provisions required under other permits, approvals, or licenses issued by the department.

(d) A list of names and addresses of each owner of land within the prospecting site and each person known by the applicant to hold any option or lease on land within the prospecting site and all prospecting and mining permits in this state held by the applicant.

(e) Evidence satisfactory to the department that the applicant has applied for necessary approvals and permits under all applicable zoning ordinances.

(f) Information specified in s. 293.35 (1), Stats., related to forfeiture of mining reclamation bonds, by the applicant or related persons within the preceding 20 years.

(g) Information relating to whether unsuitability may exist for prospecting and surface mining to the extent not fully considered under s. 293.45, Stats.

(h) A description of the land contiguous to the proposed prospecting site that the applicant owns, leases, or has an option to purchase or lease.

(i) A summary of project-related impacts to wetlands and steps to minimize impacts to wetlands in accordance with s. 281.36, Stats.

(j) A summary of project-related impacts to water supply wells and surface water bodies as result of groundwater pumping or prospecting site dewatering, if applicable, and steps to mitigate the impacts as provided under s. 293.65 (3) (b), Stats.

(k) A summary of environmental management and pollution control technologies that will be implemented at the proposed prospecting site.

(L) If the prospecting project does not include a mining waste facility, a contingency plan consistent with the provisions of s. NR 182.109 (2) (d), as appropriate for the proposed prospecting operation.

(m) A description of any requested exemptions or variances to provisions of ch. 293, Stats., or this chapter, in accordance with s. NR 131.112.

(n) Other relevant information or documentation that the department may require.

(4) At the time an applicant submits a prospecting permit application, the applicant shall also submit an environmental impact report, if required by the department, consistent with the requirements of ch. NR 150, and applications and supporting documentation for other approvals, licenses, and permits relating to the proposed prospecting project and identified by the department in the response provided under s. NR 131.105 (5). These documents shall be provided in the format and quantities prescribed by the department.

(5) The hearing procedure outlined in s. 293.43, Stats., shall govern all hearings on the prospecting permit application, any statements prepared under s. 1.11, Stats., and, to the fullest extent possible, all other applications for approvals, licenses, and permits relating to the proposed prospecting project issued by the department.

NR 131.108 Prospecting plan. The prospecting plan shall include all of the following:

(1) A detailed map of the proposed prospecting site.

(2) Details of the nature, extent, and final configuration of the proposed excavation and prospecting site including location and total production of mining waste, refuse and the nature and depth of overburden.

(3) Details of the proposed operating procedures, including all of the following:

(a) Prospecting operation sequence including site preparation and construction.

(b) Handling of topsoil, overburden, and waste rock materials.

(c) Storage, loading, and transportation of material to be transported off of the prospecting site for further analyses.

(d) Groundwater and surface water management techniques including provisions for erosion prevention and control, drainage control and a detailed water management plan showing sources, flow paths and flow rates, storage volumes, and release points. The water management plan shall include a detailed water budget that includes groundwater and surface water and plans for collection, treatment, and discharge of water resulting from the operation.

(e) Plans for adequate covering or isolation of all pollutant-bearing minerals or materials handled on the site.

(f) Plans for the collection, disposal, and recycling of refuse and solid waste materials generated during the life of the project but not regulated as mining waste under ch. NR 182.

(g) Plans for air quality protection as required under ch. 285, Stats.

(h) The applicant shall prepare a risk assessment of possible accidental health and environmental hazards potentially associated with the prospecting operation. Contingency measures with respect to these risks and hazards, and the assumptions in this assessment, shall be explicitly stated.

(i) Measures for notifying the public and responsible governmental agencies of potentially hazardous conditions including the movement or accumulation of contaminants in groundwater and surface water, soils, and vegetation and other consequences of the operation of importance to public health, safety and welfare.

- (j) Description of all surface facilities associated with the prospecting site.
- (k) Description of anticipated geological and geotechnical investigations and drilling programs to be conducted on the prospecting site.
- (4) Evidence satisfactory to the department that the proposed prospecting operation will be consistent with the reclamation plan and will comply with all of the following minimum standards:
 - (a) Grading and stabilization of excavations, sides, and benches to conform with state and federal environmental and safety requirements and to prevent environmental pollution and prevent and control erosion.
 - (b) Grading and stabilization of deposits of prospecting refuse in conformance with applicable state and federal environmental and safety requirements and applicable solid waste laws and regulations.
 - (c) Adequate diversion and drainage of water from the prospecting site to prevent contamination of surface water and groundwater and prevent and control erosion.
 - (d) Notwithstanding the provisions of ch. NR 812, excavations shall be backfilled when the backfilling procedure will not interfere with the prospecting operation and will not do any of the following:
 1. Cause an exceedance of any groundwater quality standards implemented under this chapter and ch. NR 182.
 2. Adversely affect public health or welfare.
 - (e) Handling and storage, including covering as needed, of all materials on the prospecting site in an environmentally sound manner as determined by the department. Materials not licensed as mining waste under ch. NR 182, but deemed by the department to present a potential threat to the environment, shall be appropriately characterized in a manner consistent with procedures specified in s. NR 182.108.
 - (f) Removal and stockpiling, or other measures to protect topsoil or other soil materials from erosion and leaching, consistent with environmental considerations and reclamation, during prospecting site preparation and active prospecting unless the department determines that such action will be environmentally undesirable.
 - (g) Maintenance of adequate vegetative cover where feasible to prevent and control erosion.
 - (h) Impoundment of water where necessary in a safe and environmentally acceptable manner.
 - (i) Adequate planning of the site to achieve the aesthetic standards for the entire prospecting site described in ss. NR 131.110 (1) (e) and 131.111 (1).
 - (j) Identification and prevention of pollution, as defined in s. 281.01 (10), Stats., resulting from leaching of waste materials or other stockpiled materials, in accordance with state and federal solid waste laws and regulations.
 - (k) Identification and prevention of significant environmental pollution.
 - (L) Maintenance of appropriate emergency procedures to minimize damage to public health, safety, and welfare and the environment from events described under sub. (3) (k).

(5) Submission of a plan for a pre-blasting survey, if applicable, to document the condition of permanent structures and buildings within the area potentially affected by blasting at the prospecting site as determined under s. SPS 307.41 (2), with such survey being completed and submitted to the department prior to any blasting.

NR 131.109 Reclamation plan. The operator shall reclaim prospecting sites in accordance with a reclamation plan approved by the department. If a prospecting site is part of a prospective mining site to be regulated under ch. NR 132, the reclamation plan shall include provisions for interim and permanent reclamation of the prospecting site. Prospecting sites shall be permanently reclaimed within 4 years after completion of prospecting unless the prospecting site is part of a site included under a pre-application notification submitted under s. NR 132.105 or a mining permit application submitted under s. NR 132.107. The reclamation plan for the prospecting site shall include all of the following:

(1) Detailed information and maps on reclamation procedures including all of the following:

(a) Manner, location, sequence, and anticipated duration of reclamation.

(b) Ongoing reclamation procedures during prospecting operations.

(c) Proposed interim and final topography and slope stabilization.

(d) Proposed final land use and relationship to surrounding land and land uses.

(e) Plans for long-term maintenance of the prospecting site, including all of the following:

1. Monitoring of all of the following, as applicable:

a. Wastes, groundwater levels and quality, and surface water levels and quality.

b. Leachate, slope stability, vegetation, groundwater elevation, surface water flows and elevations, wetlands, and other aquatic and terrestrial systems.

2. Details related to decommissioning or removing monitoring devices that are no longer in use.

3. The need for long-term water control, management, and treatment systems necessary to prevent pollution of groundwater or surface water.

4. Names of persons legally and operationally responsible for long-term maintenance.

(f) Projected costs of reclamation including an itemized statement showing the estimated costs that will be incurred by the state if it is necessary for the state to implement and fulfill the reclamation plan.

(g) Projected costs of periodic repair or replacement of any engineered cover systems or water management control systems used at the mining waste site, if one is constructed, to avoid adverse environmental consequences. The estimate shall cover the costs reasonably anticipated to occur during the period between 40 and 250 years after closure of the mining waste site.

(h) Proposed quantitative criteria and evaluation methods to demonstrate success and long-term stability of final reclamation for purposes of determining acceptable completion of reclamation and issuance of a certification of completion of reclamation under s. NR 131.122.

(2) Evidence satisfactory to the department that the proposed reclamation will conform with all of the following minimum standards:

- (a) Toxic and hazardous wastes, refuse, and other solid waste shall be disposed of in conformance with applicable state and federal statutes or regulations.
 - (b) Tunnels, shafts, or other underground openings shall be sealed in accordance with applicable safety requirements and in a manner that will prevent seepage of water in amounts that may be expected to create a safety, health, or environmental hazard, unless the applicant can demonstrate alternative uses that do not endanger public health and safety and that conform to applicable environmental protection and mine safety laws and rules.
 - (c) Underground and surface runoff waters from prospecting sites shall be managed, impounded, or treated so as to prevent soil erosion, flooding, damage to agricultural lands or livestock, damage to wild animals, pollution of groundwater or surface waters, damage to public health, or threats to public safety.
 - (d) Surface structures constructed as a part of the prospecting activities shall be removed, unless they are converted to an acceptable alternate use, as determined by the department.
 - (e) Adequate measures shall be taken to prevent significant surface subsidence, but if such subsidence does occur, the affected area shall be reclaimed.
 - (f) Topsoil from surface areas disturbed during the prospecting operation shall be removed and stored in an environmentally acceptable manner for use in reclamation.
 - (g) Disturbed surface areas shall be revegetated as soon as practicable after the disturbance to stabilize slopes and prevent air and water pollution, with the objective of reestablishing a variety of plants and animals indigenous to the area immediately prior to prospecting, unless such reestablishment is inconsistent with the provisions of s. 293.01 (23), Stats. Plant species not indigenous to the area may be used if necessary, to provide rapid stabilization of slopes and prevention of erosion, if such species are acceptable to the department, but the ultimate goal of reestablishment of indigenous species shall be maintained.
- (3) An analysis of alternative viable final land uses for the reclaimed site, including the presumed final use of returning affected areas to their approximate original state. The analysis of all options shall consider the extent to which the option is physically, economically and environmentally achievable and socially acceptable.

NR 131.110 Location criteria and environmental standards.

- (1) No person may establish, construct, operate, or maintain the use of property for any prospecting related buildings, roads, ponds, or other purposes within the following areas except pursuant to an exemption granted under s. NR 131.112 or in compliance with another approval, license, or permit issued by the department:
 - (a) Within areas identified as unsuitable under s. NR 131.103 (24) unless the applicant conclusively certifies that he or she will not subsequently make application for a permit to conduct surface mining at the site.
 - (b) Within 500 feet of the ordinary high-water mark of any existing navigable lake, pond, or flowage.
 - (c) Within 500 feet of the ordinary high-water mark of a navigable river or stream.
 - (d) Within a floodplain.

(e) Within 1,000 feet of the nearest edge of the right-of-way of any of the following unless, regardless of season, the site is visually inconspicuous due to screening or being visually absorbed due to natural objects, compatible natural plantings, earth berm, or other appropriate means, or unless, regardless of season, the site is screened so as to be aesthetically pleasing and inconspicuous to the extent feasible:

1. Any state trunk highway, interstate, or federal primary highway.
2. The boundary of a state public park.
3. The boundary of a scenic easement purchased by the department or the department of transportation.
4. The boundary of a designated scenic or wild river.
5. A scenic overlook designated by the department by administrative rule.
6. A bike or hiking trail designated by the United States congress or the state legislature.

(f) Within wetlands, except pursuant to the provisions under s. 281.36, Stats.

(g) Within areas that will result in noncompliance with applicable groundwater quality and quantity protection provisions.

(h) Within areas that will result in noncompliance with other applicable federal and state laws and regulations.

(2) The requirements in sub. (1) do not apply to an exemption granted under s. NR 131.112 or in compliance with another approval, license, or permit issued by the department.

NR 131.111 Minimum design and operation. An operator shall construct, establish, operate and maintain a prospecting site in conformance with the conditions attached to the prospecting permit, and all of the following requirements:

(1) An operator shall construct a prospecting site to meet all of the following requirements:

(a) Place site elements where least observable from off the premises in any season.

(b) Place site elements within the area of the overall site that is most visually compatible in respect to building shape.

(c) Paint and maintain buildings and other structures in a manner that is visually compatible with the surrounding vegetational and earth conditions. If a building or other structure cannot be painted and maintained in a manner that is visually compatible or if painting and maintaining a building or other structure in a manner that is visually compatible would cause safety concerns, the building or structure shall be made as visually inconspicuous as is practicable.

(2) An operator shall implement effective means, consistent with applicable state and federal safety-related regulations, to limit access to the site to minimize exposure of the public to hazards.

(3) An operator shall handle and store flammable, combustible, or hazardous liquids, including fuel and oil products, on the prospecting site in compliance with applicable state and federal regulations including ch. ATCP 93 and federal spill prevention control and countermeasure regulations in 40 CFR part 112.

(4) An operator shall make reasonable effort to reduce and control the production of contaminated water.

- (5) An operator shall collect, store, recycle or treat contaminated water, including liquid effluents, from whatever source associated with the project to ensure compliance with applicable water quality standards.
- (6) An operator shall collect and treat contaminated nonpoint source runoff from disturbed areas within the prospecting site in a manner that facilitates monitoring, maximum practicable recycling reuse, and consumption within the prospecting operation. Nonpoint sources of water pollution shall be minimized. Point source discharges of pollutants from storm water and wastewater shall be regulated pursuant to ch. 283, Stats.
- (7) An operator shall make provisions for critical back-up equipment in the event of operation equipment breakdown.
- (8) An operator shall include design and operation specifications for prospecting site facilities that include contingencies for emergency conditions. Such contingencies may include emergency power supplies, equipment redundancies, or temporary holding facilities.
- (9) An operator shall design, construct, maintain, operate and reclaim any prospecting site permitted under this chapter to protect groundwater quality and quantity in accordance with the requirements of ch. NR 182 and ss. 293.37 (5), 293.65, and 293.66, Stats.
- (10) An operator may not use waste containing potentially harmful concentrations of acid generating material for purposes such as construction fill material for surface facilities or the construction of parking lots or roads at a permitted prospecting site.
- (11) An operator shall design prospecting site facilities to minimize surface area disturbance unless an alternate prospecting site design results in less overall environmental impact.
- (12) An operator shall utilize, where practicable, elevation differences in water-based transport systems for gravity flows to minimize pumping facilities and pressures.
- (13) An operator shall employ best management practices to control the spread of invasive species on the mining site during construction, operation and reclamation of project facilities.

NR 131.112 Exemptions and variances.

- (1) **AUTHORITY TO GRANT EXEMPTIONS AND VARIANCES.** The department may grant an exemption or variance, as provided in this section, from any of the requirements of this chapter applicable to any of the following:
 - (a) A prospecting permit application, including the prospecting plan, reclamation plan, monitoring plan, mining waste site feasibility study, and mining waste site plan of operation.
 - (b) A prospecting permit.
- (2) **EXEMPTION AND VARIANCE REQUESTS SUBMITTED AS PART OF THE PROSPECTING PERMIT APPLICATION PROCESS.** (a) To the extent feasible, an applicant shall submit all requests for exemptions or variances under this section as part of an application for a prospecting permit or the mining waste site feasibility report or plan of operation and shall describe the grounds for the exemption or variance including documentation identifying the physical conditions that necessitate the exemption or variance, other reasons for the exemption or variance, discussion of any environmental impacts that will result from issuance of the exemption or variance, mitigation measures, if any, proposed to offset adverse impacts resulting from the exemption or variance, and the reasonableness of the exemption or variance.

(b) An applicant shall submit an application for an exemption or variance under this subsection no later than 60 days after the prospecting permit application is considered complete under s. 293.495 (1) (a) 2., Stats. The department may consider an application for an exemption or variance submitted after that time, but only if the application is received in time to allow the application to be considered at the public informational hearing for the prospecting permit under s. 293.43 (3m), Stats.

(c) The department shall issue a decision on a request for an exemption or variance as part of the decision on the prospecting permit under s. NR 131.114 and, except as provided in par. (d), the department shall grant the exemption or variance if it is consistent with the purposes of this chapter and ch. 293, Stats., will not violate any applicable state environmental law outside of this chapter and ch. 293, Stats., will not endanger public health, safety, or welfare and will not result in significant adverse environmental impacts on or off the prospecting site.

(d) The department shall deny a request for an exemption or variance if granting the exemption or variance will result in a violation of federal laws. If federal law imposes a standard for an exemption that differs from the standard in par. (c) and that cannot be modified by state law, and if that standard has been approved by the federal government for use by the state through a delegation agreement, federally approved state implementation plan, or other program approval, then the department shall determine whether to grant the request for the exemption using the federal standard.

(3) EXEMPTION AND VARIANCE REQUESTS SUBMITTED AFTER PERMIT APPLICATION REVIEW PERIOD AND BEFORE ISSUANCE OF PROSPECTING PERMIT. If an applicant submits a request for a variance or exemption under this section more than 60 days after the prospecting permit application is considered complete but before the department issues or denies the prospecting permit, the application for an exemption or variance shall be processed following the provisions of s. 293.495 (1) (c), Stats.

(4) EXEMPTION AND VARIANCE REQUESTS SUBMITTED AFTER ISSUANCE OF PROSPECTING PERMIT. The department shall process any exemption and variance request under this section submitted after issuance of a prospecting permit as a modification under s. 293.53 (1) (b), Stats., and s. NR 131.120.

(5) The department may require the applicant submitting the request for a variance or exemption to conduct specific studies and analyses and submit additional supporting documentation, as necessary, to facilitate the review of the request by the department.

NR 131.113 Timeline for review of prospecting permit application.

(1) Subject to subs. (4) and (5), within 180 days after an applicant submits an application for a prospecting permit, an environmental impact report, if required, and any applications for other approvals, licenses, or permits relating to the prospecting operation, the department shall review the information submitted and, if necessary, provide comments to the applicant and request additional information from the applicant relating to the proposed prospecting project.

(2) Subject to subs. (4) and (5), if the department requests additional information from an applicant under sub. (1), within 90 days after the applicant provides additional information the department shall review the information submitted and, if necessary, provide comments to the applicant and request additional information from the applicant relating to the proposed prospecting project.

(3) Subject to sub. (5), if the department requests additional information from an applicant under sub. (2), within 180 days after the applicant provides additional information the department shall prepare a draft environmental impact statement, a draft prospecting permit, and draft approvals, licenses, or permits

relating to the prospecting operation. If the department requests additional information from an applicant under sub. (1), but not under sub. (2), the department shall prepare these draft documents within 180 days after the expiration of the 90-day period under sub. (2). If the department does not request additional information from an applicant under sub. (1) or (2), the department shall prepare those draft documents within 180 days after the expiration of the 180-day period under sub. (1).

(4) Subject to sub. (5), if before the expiration of the 90-day period under sub. (2) the secretary of the department determines that the applicant has made a substantial modification to the prospecting plan or reclamation plan that significantly changes the information necessary to prepare an environmental impact statement or adequately review an application, the department shall notify the applicant of the secretary's determination and request additional information from the applicant. In reaching this determination, the department shall consider the extent to which the modification necessitates new data collection programs and analyses or substantive expansions or modifications of ongoing monitoring activities and analyses. Upon submission of additional information by the applicant, the timeline under this section shall begin again, starting with the period described in sub. (1). A determination by the secretary under this subsection is not subject to administrative or judicial review and may be made only once during an applicant's permitting process.

(5) The department and the applicant may agree to modify all or part of the timeline under this section.

(6) The department may request additional information needed to process a prospecting permit application or any other application for an approval, license, or permit related to the prospecting operation after making requests for additional information under this section, but the department may not delay the application and review process based on another request for additional information.

NR 131.114 Prospecting permit issuance.

(1) Unless denied pursuant to s. NR 131.115 and except with respect to property specified in s. 41.41 (11), Stats., within 60 days of the completion of the record for the public hearing held under s. 293.43, Stats., the department shall issue the prospecting permit if it finds all of the following:

(a) The prospecting plan and reclamation plan comply with this chapter and ch. 293, Stats., and the prospecting plan and reclamation plan are approved as part of the prospecting permit.

(b) The site is not unsuitable for prospecting.

(2) The department shall make an approval in findings of fact, conclusions of law, and an order setting forth reasons with clarity and in detail. The department may modify or conditionally approve the operator's proposed prospecting or reclamation plans in order to meet the requirements of this chapter, and, as modified or conditioned, grant its approval.

(3) Except as otherwise provided in s. 293.57, Stats., a prospecting permit shall be valid for the life of the project unless canceled under s. 293.85 (1) or (3), Stats., or revoked under s. 293.87 (2) or (3), Stats. Unless previously modified, canceled, or revoked, a prospecting permit issued under this section shall remain valid until reclamation of the entire prospecting site has been certified as complete under s. NR 131.122 and a revised prospecting permit is issued under s. NR 131.122 (7) (b).

NR 131.115 Prospecting permit denial.

(1) DENIAL. Within 60 days of the completion of the record for the public hearing held under s. 293.43, Stats., the department shall deny the prospecting permit if it finds any of the following:

(a) The prospecting site is unsuitable for prospecting or, absent certification under s. 293.35 (1), Stats., surface mining.

(b) The prospecting plan and the reclamation plan will not comply with the minimum standards for prospecting and reclamation as provided in ss. NR 131.07 and 131.08.

(c) The applicant is in violation of ch. 293, Stats., and the provisions of this chapter.

(d) The applicant has within the previous 20 years forfeited any bond posted in accordance with prospecting or mining activities in this state, unless by mutual agreement with the state.

(e) Any officer or director of the applicant has, while employed by the applicant, the applicant's parent corporation, any of the applicant's principal shareholders, or any of the applicant's subsidiaries or affiliates, in which the applicant owns more than a 40 percent interest, within the previous 20 years forfeited any bond posted in accordance with prospecting or mining activities in this state unless by mutual agreement with the state.

(f) The proposed prospecting operation may reasonably be expected to create any of the following situations:

1. Landslides or substantial deposition from the proposed operation in stream or lake beds which cannot be feasibly prevented.

2. Significant surface subsidence which cannot be reclaimed because of the geologic characteristics present at the proposed site.

3. Hazards resulting in irreparable damage to any of the following, which cannot be prevented under the requirements of ch. 293, Stats., avoided to the extent applicable by removal from the area of hazard or mitigated by purchase or by obtaining the consent of the owner:

a. Dwelling houses.

b. Public buildings.

c. Schools.

d. Churches.

e. Cemeteries.

f. Commercial or institutional buildings.

g. Public roads.

h. Other public property designated by the department.

4. Irreparable environmental damage to lake or stream bodies despite adherence to the requirements of ch. 293, Stats. This subdivision does not apply to an activity which the department has authorized pursuant to statute, except that the destruction or filling in of a lakebed shall not be authorized notwithstanding any other provision of the law.

(2) NOTICE OF DENIAL. If the department denies an application for a prospecting permit, the department shall furnish the operator findings of fact, conclusions of law, and an order setting forth the reasons for denial.

NR 131.116 Reclamation bond and other financial assurance securities.

(1) (a) Upon notification that a prospecting permit has been issued by the department but prior to commencing prospecting, the operator shall file with the department a bond conditioned on faithful performance of all of the requirements of this chapter and ch. 293, Stats. In lieu of a bond, the operator may deposit cash, certificates of deposit, or government securities with the department. Interest received on certificates of deposit and government securities shall be paid to the operator. The amount of the bond or other security required shall be equal to the estimated cost to the state of fulfilling the reclamation plan, in relation to that portion of the site that will be disturbed by the end of the following year. The department shall determine the estimated cost of reclamation of each prospecting site on the basis of relevant factors including expected changes in the price index, topography of the site, methods being employed, depth and composition of overburden, and depth of the prospecting excavation.

(b) The department, as provided under s. 293.53 (1) (a), Stats., may increase the amount of the bond, cash, certificates of deposit, or government security filed under par. (a) to assure adequate financing for the reclamation plan.

(c) A bond filed under par. (a) shall be issued by a surety company licensed to do business in Wisconsin. If the surety company's license to do business is revoked or suspended, the operator, within 30 days after receiving written notice thereof from the department, shall substitute surety underwritten by a surety company licensed to do business in Wisconsin. Upon failure of the operator to make a substitution, the department shall suspend the operator's prospecting permit until an acceptable substitute surety has been submitted.

(d) A bond filed under par. (a) shall provide that the bond shall not be canceled by the surety, except after not less than 90 days' notice to the department in writing by registered or certified mail. Not less than 30 days prior to the expiration of the 90-day notice of cancellation, the operator shall deliver to the department a replacement bond in the absence of which all prospecting shall cease.

(3) The applicant shall submit a certificate of insurance certifying that the applicant has in force a liability insurance policy issued by an insurer authorized to do business in this state, or in lieu of a certificate of insurance evidence that the applicant has satisfied state or federal self-insurance requirements, covering all prospecting operations of the applicant in this state and affording personal injury and property damage protection in a total amount deemed adequate by the department but not less than \$50,000.

(4) If a mining waste site is approved as part of a permitted prospecting project, the owner shall maintain proof of financial responsibility ensuring the availability of funds for compliance with the long-term care requirements specified in the waste site feasibility study and plan of operation in accordance with s. 293.51 (1g) and 289.41, Stats., and ch. NR 182. Proof of financial responsibility for long term care shall be submitted prior to operation of the mining waste facility.

(5) If a mining waste site is approved as part of a permitted prospecting project, the operator shall provide and maintain proof of financial responsibility as required under s. 293.51 (1r), Stats., related to replacement of engineered cover systems or water management control systems used at the mining site or mining waste site to avoid adverse environmental consequences following closure of the mining waste site. The amount of the security required under this subsection shall be determined as provided in s. 293.51 (1r), Stats., and shall be specified as part of the prospecting permit and reclamation plan approval.

Proof of financial responsibility under this subsection shall be submitted at the time of closure of the mining waste site and in accordance with provisions of ch. NR 182.

NR 131.117 Monitoring.

(1) The operator shall monitor the prospecting site and adjacent areas in accordance with the monitoring plan approved as part of the prospecting permit. The department may require the operator to perform additional monitoring of environmental changes during the course of the permitted activity and for such additional periods of time as is necessary to satisfactorily complete reclamation of the prospecting site and long-term care of the mining waste facility, if constructed as part of the prospecting operation.

(2) The department may monitor environmental changes concurrently with the operator as stated in sub. (1) and for an additional period after the full reclamation bond is released under s. 293.63, Stats.

(3) (a) Baseline data, monitoring data, and the monitoring plan shall be reviewed at the time of annual permit review or at such time as the operator requests any modification of the prospecting permit, prospecting plan, reclamation plan or monitoring plan.

(b) Baseline data and monitoring data shall be considered by the department in all enforcement actions including issuance of a stop order to an operator, requiring an immediate cessation of mining, in whole or in part, at any time that the department determines that there exists an immediate and substantial threat to public health and safety or the environment.

(c) If the analyses of samples indicate the quality of the groundwater is statistically significantly different from either baseline or background, the operator shall notify the department immediately and implement applicable provisions of the contingency plan submitted under ss. NR 182.109 (2) (d) or 131.107 (3) (l).

(4) Any request for modification of the scope of the monitoring plan approved as part of the prospecting permit, including sampling parameters, monitoring locations and frequency and duration of sampling, shall comply with the procedures in s. NR 131.120. Changes in monitoring equipment and sampling and analytical protocols may be reviewed and approved by the department and are not subject to the modification procedural requirements of s. NR 131.120.

(5) All laboratory chemical analyses required under the monitoring plan shall be conducted by a laboratory certified under s. 299.11, Stats., and ch. NR 149 or other certification program applicable to specific test categories.

NR 131.118 Inspections.

(1) Subject to applicable state and federal safety rules or regulations, any authorized officer, employee, or representative of the department may enter and inspect any property, premises or place on or at which any prospecting operation or facility is located or is being constructed or installed at any reasonable time for the purpose of ascertaining the state of compliance with this chapter and chs. 30, 281, 283, 285, 289 to 292, and 299, Stats., and rules adopted under those chapters.

(2) No operator may refuse entry or access to any authorized representative of the department who requests entry for purposes of inspection, and who presents appropriate credentials, nor may any person obstruct, hamper, or interfere with any such inspection.

(3) The department shall furnish to the operator a written report on any inspection setting forth all observations, relevant information, and data that relate to compliance status.

NR 131.119 Reporting and prospecting permit review.

(1) ANNUAL REPORT. By January 31 of each year, an operator shall submit an annual report to the department summarizing the extent of prospecting, the extent of reclamation activities, and other activities conducted at the prospecting site in the preceding calendar year. The operator shall provide the department with a quantity of paper copies specified by the department and shall provide a complete electronic version in a format specified by the department. The annual report shall include text, maps, tabular summaries and graphics as appropriate, documenting all of the following:

(a) A summary of all prospecting completed at the prospecting site during the year, including the extent of additional surface disturbance during the year and total acres of disturbed area on the prospecting site.

(b) The volume of material removed, stockpiled, or disposed of on the prospecting site including mining wastes by category, topsoil, and non-prospecting solid waste.

(c) A summary of reclamation activities including temporary and permanent reclamation and ongoing site maintenance activities that were completed during the year, including, as applicable, a summary of reclamation monitoring results, an evaluation of completed reclamation as related to the reclamation success criteria specified in the approved reclamation plan, an assessment of the effectiveness of specific reclamation activities conducted that year and recommendations for changes to specific reclamation protocols to consider for future work.

(d) A summary of prospecting site dewatering statistics including monthly pumping totals, if applicable.

(e) A summary of water treatment activities, if applicable, including monthly totals of water treated and discharged.

(f) A summary of any incidents and related responses concerning spills, pond overflows, embankment failures or leakage, liner failures, pipeline failures or leaks, or other unforeseen environmental releases that occurred at the prospecting site.

(g) A summary of any plan or permit modifications and any deviations from approved plans not subject to a modification.

(h) A summary of environmental monitoring activities and results required under the approved monitoring plan, including an analysis of the data to determine the development of any observable trends and a comparison of the data to background values and predicted values, if predictive modeling or similar analyses were conducted as part of the prospecting permit review process.

(i) A discussion of the extent of additional surface disturbance to be expected by the end of the next calendar year including estimates of the volumes of topsoil, ore, mining waste, merchantable by-products, and other materials to be removed.

(j) An assessment of the adequacy of the amount of the financial surety posted under s. NR 131.116 (1) considering the anticipated condition of the prospecting site at the end of the next calendar year, applicable provisions of the approved reclamation plan, any changes in reclamation costs or changes in state, federal or local regulatory requirements applicable to the prospecting operation. This analysis shall clearly identify the amount of financial security necessary to fulfill the reclamation plan relative to the prospecting site as it is projected to exist at the end of the calendar year.

(2) PERMIT REVIEW. The department shall review the prospecting permit, prospecting plan, reclamation plan, and required financial securities annually after issuance of the prospecting permit, to ascertain adequacy, compliance with state or federal laws enacted after the issuance of the permit, and technological currency. The department shall provide its findings to the operator within 30 days after receipt of the annual report submitted under sub. (1). If the department, after review, determines that the plans should be modified or the bond amount changed, it shall notify the operator of the necessary modifications or changes and establish a schedule for submitting modified plans in accordance with s. NR 131.120.

NR 131.120 Prospecting permit and plan modification.

(1) If the department after review of the prospecting permit, prospecting plan and reclamation plan determines that the permit or plans should be modified or the bond amount changed, it shall notify the permit holder of the necessary modifications or changes. If the permit holder does not request a hearing within 30 days, the modifications or changes shall be deemed accepted.

(2) An operator, at any time, may apply for amendment or cancellation of a prospecting permit or for a change in the prospecting plan, reclamation plan, or monitoring plan for any prospecting operation that the operator owns or leases.

(a) The operator shall submit any application for the amendment, cancellation, or change in a format specified by the department. The request shall identify the tract of land to be added to or removed from the permitted prospecting site or to be affected by a change in the prospecting or reclamation plans. The request shall clearly identify any proposed changes in the prospecting plan, reclamation plan, or monitoring plan, reasons for the changes and anticipated environmental and economic impacts of the proposed changes.

(b) The department shall determine if any change in the prospecting plan, reclamation plan, or monitoring plan substantially broadens or changes the scope of the original prospecting project and provide notice of its determination in the same manner as specified under s. 293.43 (2m) (b), Stats.

(c) The department shall provide notice of any modification that involves an increase or decrease in the area of a prospecting site or a substantial change in the prospecting plan, reclamation plan, or monitoring plan in the same manner as an original application for a prospecting permit under s. 293.43 (2m). If 5 or more interested persons do not request a hearing in writing within 30 days of notice, no hearing is required on the modification. The notice shall include a statement to this effect.

(d) If the department holds a hearing, it shall be conducted as an informational hearing and shall be subject to the notice and procedural provisions under s. 293.43 (3m), Stats. Any information presented in a prior hearing on either the original application or any previous modification may be offered as part of the hearing record on the proposed modification.

(e) If the application is to cancel any portion of a prospecting site, the department shall verify that prospecting has not occurred on the portion of the prospecting site identified in the request. If the department finds that no prospecting has occurred, the department shall modify the prospecting permit accordingly and, if applicable, shall authorize the operator to modify the financial securities required under s. NR 131.116 to reflect the decrease in the prospecting site.

(3) To the extent that testimony and evidence submitted at the original prospecting permit proceedings or from previous modification hearings is relevant to the issues of modification or granting or denial of the

amendment, it may be adopted in the subsequent proceedings, subject to the opportunity for cross-examination and rebuttal, if not unduly repetitious.

NR 131.121 Certificate of completion of reclamation and reclamation bond release.

(1) Upon completion of final reclamation in accordance with the approved reclamation plan for a portion of the prospecting site or the entire prospecting site the operator may provide notice to the department that final reclamation has been completed. The notice shall include all of the following:

(a) Clear delineation of the portion of the prospecting site addressed by the notification.

(b) Documentation that all applicable reclamation success criteria specified in the approved reclamation plan have been satisfied for the portion of the prospecting site addressed in the notification.

(c) Identification of routine management and maintenance activities that may be necessary to maintain the reclaimed portion of the site.

(d) Documentation of ongoing reclamation monitoring activities.

(e) Documentation that the reclamation activities, as implemented, have achieved the minimum standards as required in s. 293.13 (2) (c), Stats.

(2) Upon receipt of the notification of completion of final reclamation under sub. (1) the department shall review the information contained in the notification and take one of the following actions:

(a) Approve the notification, specifying the date upon which final reclamation is considered to have been completed and the scope of approved management, maintenance, and monitoring activities.

(b) Request additional information needed to complete the review of the notification.

(c) Deny approval of the notification, specifying the reasons for denial and steps to correct any identified deficiencies.

(3) Not less than 2 years after completion of final reclamation, as determined by the department under par. (2) (a), or if the prospecting site becomes part of a mining site permitted under ch. NR 132, the operator may petition the department to consider issuance of a certificate of completion of reclamation for any portion of the prospecting site in accordance with the approved reclamation plan and this chapter. The petition shall include information that demonstrates continued compliance with the applicable reclamation success criteria specified in the approved reclamation plan and that the site is stable and generally self-sustaining, requiring only routine maintenance and management.

(4) The department shall provide public notice of any request for certification of completion of reclamation under sub. (3) in the same manner as an original application for a prospecting permit under s. 293.43 (2m), Stats., and shall hold an informational hearing following the procedures under s. 293.43 (3m), Stats. The scope of a hearing conducted under this subsection shall be limited to issues related to whether the operator has complied with the approved reclamation plan and the need for and scope of continued monitoring, maintenance, and reporting related to reclamation. If the requested certification is for the entire prospecting site or covers the entire remaining portion of the prospecting site that has not been previously certified, the public notice and hearing shall also include consideration of the revised prospecting permit under par. (7) (b).

(5) (a) If the department finds after conducting a hearing that the operator has completed final reclamation for any portion of the prospecting site in accordance with the reclamation plan and this chapter, and the minimum standards specified under s. 293.13 (2) (c), Stats., the department shall issue a certificate of completion setting forth a description of the area reclaimed and a statement that the operator has fulfilled its duties under the reclamation plan as to that area. Upon issuance of a certificate of completion, the department shall reduce the amount of the bond or security to an amount equal to the estimated cost of reclamation of the portion of the prospecting site for which a certificate of completion has not been issued.

(b) In issuing a certificate of completion of reclamation the department may require the operator to continue regular maintenance of the reclaimed portion of the site and to continue regular reclamation monitoring and reporting. If needed to ensure long term environmental integrity of any portion of the site, the department, as part of a certificate of completion, may require an operator to develop a land use restriction to limit incompatible uses and development of specified portions of the prospecting site. Such land use restriction shall be recorded in the office of the register of deeds in each county in which the portion of the prospecting site affected by the restriction is located.

(c) Issuance of a certificate of completion under this subsection does not release an operator of any ongoing obligations or requirements imposed under other licenses, permits, or approvals issued by the department or other requirements of applicable laws and rules of the department.

(6) Upon issuance of any certificate of completion under sub. (5) for any portion of the prospecting site, but not for the entire prospecting site, the department shall allow the operator to reduce the amount of the bond to an amount which shall equal the estimated cost of reclamation of the portion of the prospecting site which is disturbed or for which reclamation has been completed but no certificate of completion has been issued. The bond may not be reduced to an amount that is less than the minimum amount specified in sub. (7).

(7) (a) Upon issuance of a certificate or certificates of completion of reclamation for the entire prospecting site, the department shall require the operator to maintain a bond equal to at least 10 percent of the cost to the state of reclamation of the entire prospecting site. In the event the operator fails to take appropriate and timely action as directed in an order issued by the department under s. 293.83 (1), Stats., the department may access the remaining bond to complete any necessary maintenance or stabilization activities that are needed to ensure stability of the prospecting site.

(b) Upon issuance of a certificate or certificates of completion of reclamation for the entire prospecting site, the department shall issue a revised prospecting permit to the operator that covers the period from issuance of the certificate of completion until the full reclamation bond is released. The revised prospecting permit shall specify acceptable uses of the reclaimed prospecting site consistent with the reclamation plan, approved maintenance activities, monitoring and reporting requirements, and other conditions necessary to ensure compliance with the applicable minimum standards of s. 293.13 (2) (c), Stats. Subsequent modifications to the prospecting permit shall be processed in accordance with the provisions of s. NR 131.120 and 293.53, Stats.

(8) Five years after the issuance of a certificate or certificates of completion for the entire prospecting site, the department shall terminate the prospecting permit and release the financial security required under s. NR 131.116 (1) and s. 293.51 (1), Stats., if the department finds that the operator has complied with the approved reclamation plan. If the remaining financial security is not released, the department shall specify

the reasons for retaining the financial security and shall include a schedule for reconsidering release of the financial security.

NR 131.122 Enforcement.

- (1) The department may cancel a prospecting permit as provided in ss. 293.83(3) and 293.85, Stats.
- (2) Any person who makes a statement, known to the person to be false or misleading in any material respect or causes, such a statement to be made in an application or report required under this chapter, who refuses to file any report required under this chapter, or who refuses to submit information required by the prospecting permit may be fined not less than \$1,000 nor more than \$5,000. If the false or misleading statement is material to the issuance of the permit, the permit may be revoked. If any violation under this subsection is repeated the permit may be revoked.
- (3) Penalties for violations may be imposed in accordance with s. 293.87, Stats. Penalties may include revocation of a permit as set forth in s. 293.87, Stats.
- (4) Six or more citizens may file a complaint relating to alleged or potential environmental pollution caused by a prospecting operation. The department shall process verified complaints related to alleged or potential environmental pollution as provided under s. 299.91, Stats.

SECTION 3. CHAPTER NR 132 IS REPEALED AND RECREATED TO READ:

Chapter NR 132

NONFERROUS METALLIC MINERAL MINING

NR 132.101 Purpose. The purpose of this chapter is to implement 293, Stats., by establishing procedures and standards for the comprehensive regulation of nonferrous metallic mineral mining in this state and facilitating a coordinated procedure by which department permits, licenses, and approvals may be applied for, hearings may be held, and determinations may be made by the department in an integrated manner.

NR 132.102 Applicability.

(1) The provisions of this chapter are applicable to all nonferrous metallic mineral mining, including the storage, handling, processing, transportation, and disposal of all materials resulting from a mining operation except to the extent that mining wastes are regulated under ch. NR 182.

(2) If a standard under any state or federal statute, rule, or regulation other than this chapter specifically regulates in whole an activity or facility on a mining site regulated under this chapter the other state or federal statute, rule, or regulation shall be the controlling standard. If the other state or federal statute, rule, or regulation only specifically regulates the activity or facility in part, the other statute, rule, or regulation shall only be controlling as to that part.

NR 132.103 Definitions. In this chapter:

(1) "Applicant" means a person who has applied for a mining permit.

(2) "Background water quality" or "background concentration" means surface water or groundwater quality at or near a facility, practice or activity which has not been affected by that facility, practice or activity, established by monitoring at the proposed site, upgradient and downgradient of the proposed site and at representative reference sites, as necessary.

(3) "Baseline data" means the data collected by the applicant or the department which the department has accepted through the regulatory process of ss. NR 132.105 and 132.117, and s. 293.31, Stats., as representing the existing environmental conditions prior to the commencement of mining and established by monitoring at the proposed site, upgradient and downgradient of the proposed site and at representative reference sites, as necessary.

(4) "Department" means department of natural resources.

(5) "Environmental pollution" has the meaning specified in s. 293.01(4), Stats.

Note: s. [293.01\(4\)](#), Stats., defines "environmental pollution" to mean: "the contaminating or rendering unclean or impure the air, land or waters of the state, or making the same injurious to public health, harmful for commercial or recreational use, or deleterious to fish, bird, animal or plant life".

(6) "Groundwater" means any waters of the state, as defined in s. 281.01 (18), Stats., occurring in a saturated subsurface geological formation of rock or soil.

(7) "Materials" means all solid, liquid and gaseous, substances handled, processed, transported, stored or disposed of on the mining site during the mining, concentrating and reclamation operation, including merchantable by-product and other substances generated by the operation as well as those brought onto the mining site.

(8) "Merchantable by-product" means all waste soil, rock, mineral, liquid, vegetation, and other material directly resulting from or displaced by the mining, cleaning, or preparation of nonferrous metallic minerals during mining operations which are determined by the department to be marketable upon a showing of marketability made by the operator, accompanied by a verified statement by the operator of his or her intent to sell such material within 3 years from the time it results from or is displaced by mining. If after 3 years, from the time merchantable by-product results from or is displaced by mining, such material has not been transported off the mining site, it shall be considered and regulated as refuse unless removal is continuing at a rate of more than 12,000 cubic yards per year or an exemption has been granted under s. NR 132.112 extending designation of the material as merchantable by-product.

9) "Mill" means an enclosed facility, such as a concentrator building, where ore is separated into values and rejects, including tailings, and may include facilities and processes for crushing, cleaning, grinding and separating ore minerals through flotation, magnetic separation, leaching or other processes.

(10) "Mining" or "mining operation" means all or part of the process in the mining of nonferrous metallic minerals other than for exploration, bulk sampling or prospecting, and includes commercial extraction, agglomeration, beneficiation, site preparation and clearing, construction of project facilities including roads and other corridors, removal of overburden, and the production of refuse.

(11) "Mining permit" means the permit that is required of all operators as a condition precedent to commencing mining at a mining site as required under s. 293.37(1)(a), Stats.

(12) "Mining plan" means the proposal for the mining of the mining site which must be approved by the department under s. 293.49, Stats., as part of the mining permit.

(13) (a) "Mining site" means the surface area disturbed by a mining operation, including the surface area from which the nonferrous metallic minerals or refuse or both have been removed, the surface area covered by refuse, all lands disturbed by the construction or improvement of haulageways, pipelines and pipeline corridors, and any surface areas in which structures, equipment, materials, and any other things used in the mining operation are situated.

(b) "Mining site" includes but is not limited to all of the following:

1. Facilities required as a condition of a mining permit under s. 293.65 (3) (b), Stats.

2. Corridors for access roads and rail spurs from the location where the corridor connects with the main portion of the mining site extending to the location where it connects with a public road or rail line owned by another entity.

(c) "Mining site" does not include environmental monitoring sites located off of the main portion of the mining site.

(14) (a) “Mining waste” or “nonferrous mining waste” means any refuse, sludge, or other discarded material, including solid, liquid, semi-solid, or contained gaseous material, resulting from nonferrous metallic mineral prospecting or mining, or from the cleaning or preparation of nonferrous metallic minerals during prospecting or mining operations.

(b) “Mining waste” includes tailings, waste rock, mine overburden, and waste treatment sludges.

(c) “Mining waste” does not include topsoil and mine overburden not disposed of in a waste site, but placed in a facility permitted under ch. NR 131 or this chapter, to be returned to the mine site or used in the reclamation process, and does not include merchantable by-product.

(d) “Mining waste” does not include trees and other vegetation removed from the mining site during site preparation and facility construction.

(15) “Monitoring data” means the data collected by the operator or the department after the commencement of mining.

(16) “Nonferrous metallic mineral” means an ore or other earthen material to be excavated from the natural deposits on or in the earth for its metallic content but not primarily for its iron oxide content.

Note: This definition does not apply to substances mined primarily for their iron oxide content. This definition includes substances mined for the purpose of extracting a metal or metals such as copper, zinc, lead, gold, silver, titanium, vanadium, nickel, cadmium, molybdenum, chromium, manganese, cobalt, zirconium, beryllium, thorium, and uranium.

(17) “Non-mining solid waste” means solid waste generated as part of a nonferrous prospecting or mining operation that is not mining waste and includes materials such as discarded vegetation, tires, barrels, sanitary waste, and various other solid waste materials defined in ch. NR 500, including construction and demolition waste, garbage, commercial solid waste and municipal solid waste.

(18) “Operator” means any person who is engaged in, or who has applied for or holds a permit to engage in mining, whether individually, jointly or through subsidiaries, agents, employees or contractors.

(19) “Ore” means a naturally occurring material from which nonferrous metallic minerals may be recovered at a profit.

(20) “Overburden” means any unconsolidated geologic material, such as till, sand and gravel, and weathered bedrock that may be removed during mining.

(21) “Person” has the meaning specified in s. 293.01(16), Stats.

Note: s. [293.01\(16\)](#), Stats., defines “person” to mean: “an individual, owner, operator, corporation, limited liability company, partnership, association, municipality, interstate agency, state agency” or federal agency.”

(22) “Principal shareholder” has the meaning specified in s. 293.01(17), Stats.

Note: s. [293.01\(17\)](#), Stats., defines “principal shareholder” to mean: “any person who owns at least 10 percent of the beneficial ownership of an operator.”

(23) “Reclamation” has the meaning specified in s. 293.01(23), Stats.

Note: s. [293.01\(23\)](#), Stats., defines “reclamation” to mean: “the process by which an area physically or environmentally affected by prospecting or mining is rehabilitated to either its original state or, if this is shown to be physically or economically impracticable or environmentally or socially undesirable, to a state that provides long-term environmental stability. Reclamation shall provide the greatest feasible protection to the environment and shall include, but is not limited to, the criteria for reclamation set forth in s. 293.13 (2) (c), Stats.”

(24) “Reclamation plan” means the proposal for the reclamation of the mining site that must be approved by the department under s. 293.49, Stats., as part of the mining permit, and includes the closure requirements of ch. NR 182 for facilities licensed under that chapter.

(25) “Refuse” has the meaning specified in s. 293.01(25), Stats.

Note: s. [293.01\(25\)](#), Stats., defines “refuse” to mean: “all waste soil, overburden, rock, mineral, liquid, vegetation, and other material, except merchantable by-products, directly resulting from or displaced by the prospecting or mining, and from the cleaning or preparation of nonferrous metallic minerals during prospecting or mining operations, and shall include all waste materials deposited on or in the prospecting or mining site from other sources.”

(26) “Surface mine” or “surface mining” means all or any part of a process of mining non-ferrous minerals in which the nonferrous ore lies at or near the surface and can be extracted directly from the land surface if the ore body is exposed or can be accessed from the surface and extracted after removing the overlying layers of overburden and rock.

(27) “Tailings” means waste material resulting from the beneficiation of ore at a mill facility.

(28) “Unsuitable” or “unsuitability” means that the land proposed for surface mining is not suitable for such activity because the surface mining activity itself may reasonably be expected to destroy or irreparably damage any of the following:

(a) Habitat required for survival of species of vegetation or wildlife as designated in ch. NR 27, if such endangered species cannot be firmly reestablished elsewhere.

(b) Unique features of the land, as determined by state or federal designation as any of the following, that cannot have their unique characteristic preserved by relocation or replacement elsewhere:

1. Wilderness areas designated by statute or administrative rule.
2. Wild and scenic rivers designated by statute or administrative rule.
3. National or state parks designated by statute or administrative rule.
4. Wildlife refuges and areas designated by statute or administrative rule.
5. Properties of historical significance identified as listed properties under s. 44.31 (4), Stats., and archaeological sites as defined under s. 44.47 (1) (b), Stats.
6. State natural areas designated under s. 23.28, Stats.

(c) Other areas of a type designated by statute or administrative rule as unique or unsuitable for prospecting or surface mining.

(29) "Waste rock" means consolidated geologic material that has been excavated during the mining process but is not of sufficient value to constitute ore.

(30) "Wetlands" means an area where water is at, near or above the land surface long enough to be capable of supporting aquatic or hydrophytic vegetation and which has soils indicative of wet conditions.

NR 132.104 Environmental baseline data collection prior to preapplication notification.

(1) A person who intends to submit a preapplication notification under s. 293.31, Stats., may, prior to obtaining, collecting, or generating environmental baseline data intended to be used to support the permit application, submit to the department a description of the methodology that the person intends to use in obtaining, collecting, or generating the data. The description shall specify sampling equipment and instrumentation, sampling locations, sample collection protocols, sampling schedules, analytical methods and reporting procedures. The person shall provide the department with a complete electronic version of the information submitted under this subsection in a format prescribed by the department and duplicate reproducible paper copies of the information in a quantity specified by the department.

(2) Any request under sub. (1) for department review of proposed environmental data collection methodology shall be accompanied by a fee of \$1,500. The department may waive the fee if the requested review is of limited scope or is substantively duplicative of previous requests.

(3) (a) The department shall review the proposed methodology and shall either inform the person that the proposed methodology is accepted by the department or provide the person with the methodology that the department requires the person to use.

(b) The department review under this subsection is limited specifically to the proposed methodology for data collection and analysis. Department approval of the methodology is not an endorsement or approval of the intended data collection program, including adequacy of the scope of the data collection program and appropriateness of sampling locations and analytical parameters.

(c) In approving the proposed methodology under this subsection, the department may require the person to provide notice to the department prior to specific data collection activities to facilitate verification of data collection by department staff, as necessary.

(4) If a person obtains, collects, or generates data or information intended to be used to support a mining permit application without obtaining department approval of the person's methodology under sub. (3), the department may not exclude any of the data or information that consists of general environmental information such as soil characteristics, hydrologic conditions, and air and water data contained in publications, maps, documents, studies, reports, and similar sources, whether public or private, not prepared by or for the applicant.

(5) If the period of data collection prior to the filing of a preapplication notice under s. NR 132.105 continues for longer than 12 months, the department may require the person to enter into a pre-application services agreement with the department under s. 23.40 (4), Stats., to cover costs incurred by the department in verifying or reviewing the environmental data.

NR 132.105 Preapplication notification and data collection.

(1) At least 12 months before filing an application for a mining permit under s. NR 132.107 a person proposing to engage in a mining project shall notify the department in writing of the person's intention to apply for a mining permit and submit to the department a project review fee under s. NR 132.106. The

person submitting the preapplication notification shall provide the department with a complete electronic version of the notice in a format prescribed by the department and shall provide duplicate paper copies of the notice in a quantity specified by the department. The notice shall include all of the following information:

(a) The name, address, and telephone number of the person submitting the preapplication notification.

(b) A map showing the approximate location of the mining site including anticipated project boundaries, locations of surface waters, roads, railroads, pipelines and utilities within the project area and identification of property ownership of lands included in the project site and adjacent areas.

(c) The expected date when a mining permit application may be submitted under s. NR 132.107.

(d) A preliminary project description addressing all of the following:

1. A topographic map showing the location of the ore body and preliminary location of major project facilities.

2. A general description of the ore body including available details on size, shape, and orientation, faulting and fracturing systems and patterns, origin, lithology, and mineralogic composition, including approximate metal grades and content.

3. A discussion of the anticipated mining and ore processing methods, a general description of the wastes expected to be generated, and potential locations of anticipated mining, milling, and mining waste facilities.

4. The following information pertaining to potential mining sites:

a. A discussion of land uses at the proposed mining site and the surrounding area which may have an impact on the suitability of the property as a mining site or on groundwater quality.

b. A discussion of land use zoning, with particular attention given to areas where zoning variances will be required, where agricultural impact statements may be required, or where floodplain, conservancy, shoreland or wetland zoning is designated.

c. Identification of known recreational, historical, archaeological areas, areas that contain threatened or endangered species per s. 29.604, Stats., and per s. NR 27.01 (8) and state or local natural areas; and county forest lands.

d. A discussion of the regional setting of the proposed mining site generally documented by currently available public information addressing the topography, surface hydrology including the presence of any resources designated as areas of special natural resources interest under s. 30.01(1am), Stats., geology and hydrogeology of the area surrounding the potential mining site.

5. An estimate of the project schedule.

(e) A proposed scope of study that includes all of the following:

1. Identification of data requirements needed for preparation of the mining permit application, environmental impact report, mining waste site feasibility report and plan of operation and other applications for permits, licenses, and approvals issued by the department.

2. Specific methodologies to be utilized in data collection, data processing and synthesis, laboratory methods, and analyses.
 3. Description of the format in which the data will be presented in the environmental impact statement and applications for other approvals, permits and licenses.
 4. Tentative schedule for collection of field data.
 5. Names, addresses, and qualifications of persons who will be responsible for data collection, laboratory work, and impact analysis. Data shall be submitted under the seal of a licensed professional engineer, geologist or hydrologist registered with or licensed by the Wisconsin department of safety and professional services or other professional with expertise directly applicable to the data.
 6. Quality assurance programs employed in obtaining, collecting, generating, and evaluating all baseline data.
 7. Identification of anticipated modeling studies necessary to evaluate facility design and complete environmental impact assessments.
- (f) Other pertinent information as requested by the department.
- (2) The person giving notice under sub.(1) may submit, as part of the notification, specific environmental data that were obtained, collected, or generated prior to submitting a preapplication notification under this section including data reviewed under s. NR 132.104 and data that were not reviewed under s. NR 132.104. To the extent such information is available, the person shall include substantiating background information that will assist the department in establishing the validity of the data including the following:
1. The data obtained, the method of data collection, and the analytical methods employed.
 2. The identity of persons obtaining, collecting, and generating the data and their qualifications. Data shall be submitted under the seal of a licensed professional engineer, geologist or hydrologist registered with or licensed by the Wisconsin department of safety and professional services or other professional with expertise directly applicable to the data.
 3. Permits, licenses, and approvals that were in effect when the data and information were obtained, collected, and generated prior to submitting the preapplication notification.
- (3) Upon receipt of the preapplication notification under sub. (1), the department shall give public notice of the department's receipt of the preapplication notification in the same manner as provided under s. 293.43 (2m) (b) , Stats., and to the government of any American Indian tribe or band whose reservation boundaries are within 60 miles of any portion of the proposed project, and to the government of those American Indian tribes or bands with federally recognized treaty rights in the area of the project. The department shall make the preapplication notification available for review in the county, city, village, or town in which the mining site is located. The notice under this subsection shall invite interested persons to submit comments regarding information those interested persons believe should be requested from the person submitting a preapplication notification under sub. (1) and information that the interested persons believe the department should seek through independent studies. The department shall hold a public informational hearing to receive comments from interested persons and the hearing shall be completed within 45 days after public notice required under this subsection is given.

(4) The department shall receive and consider any comments from interested persons received within 45 days after public notice is given under sub. (3) as to information that the interested persons believe should be requested from the person submitting a preapplication notification under sub. (1) and the information that the interested persons believe the department should seek through independent studies.

(5) No later than 90 days after the period for receiving and considering comments from interested persons under sub. (4), the department shall inform the person giving notice under sub. (1) of the type and quantity of information that the department believes to be needed to support an application for a mining permit and the methodology to be used in gathering information and shall identify preliminary verification procedures to be conducted by the department under sub. (9). The department shall specifically inform the person submitting a preapplication notification under sub. (1) of the type and quantity of information on the characteristics of groundwater resources in the area in which mining is anticipated to occur that the department believes is needed to support an application, including the information that the department believes should be included in the applicant's environmental impact report and the information that the department will need to prepare an environmental impact statement. The department shall also inform the person submitting a preapplication notification under sub. (1) of the application timelines and other filing requirements for all other approvals, licenses, and permits relating to the proposed mining project.

(6) No later than 90 days after receiving the information from the department in sub. (5), the person submitting a preapplication notification under sub. (1) shall submit to the department a final scope of study incorporating information provided by the department in sub. (5).

(7) All environmental baseline data gathered by a person submitting a preapplication notification under sub. (1) shall be submitted to the department as soon as it is in final form as described in the scope of study. The department may require the person to submit any raw field data collected either by the applicant or by a consultant.

(8) The department may at any time after consultation with the person submitting a preapplication notification under sub. (1) revise or modify its requirements regarding information that must be gathered and submitted as part of the information needed for preparation of the mining permit application, environmental impact report, mining waste site feasibility report, plan of operation, or other applications for permits, licenses, and approvals issued by the department.

(9) The department may conduct studies necessary to verify information that may be submitted in support of the environmental impact report, mining permit application, or applications for other permits and approvals issued by the department. The department shall develop studies and quality assurance and verification programs in a manner consistent with future monitoring requirements.

NR 132.106 Mining project review fee.

(1) When a person gives notice under s. NR 132.105 (1) of the person's intention to apply for a mining permit, the person shall pay the department a fee of \$100,000 to reimburse the department for costs incurred by the department in connection with review of the proposed mining project during the year following receipt of the notice, other than any costs related to the environmental impact statement for the proposed mining.

(2) The department shall annually compare the fees paid under this section and under chs. 30, 280 to 292, and 295 to 299, Stats., in connection with proposed mining for which notice was given under s. NR 132.05 (1) with the costs incurred by the department in connection with the proposed mining project,

including the costs incurred under chs. 30, 280 to 292, and 295 to 299, Stats., but excluding costs related to the environmental impact statement. If the costs incurred exceed the fees paid, the person who provided notice under s. NR 132.05 (1) shall pay a fee equal to the amount by which the costs exceed the fees previously paid.

(3) When the department issues or denies a mining permit or when a person who gave notice under s. NR 132.105 (1) ceases to seek approval of the proposed mining project, the department shall compare the fees paid under this section and under chs. 30, 280 to 292, and 299, Stats., in connection with the proposed mining project with the costs incurred by the department in connection with the proposed mining project, including the costs incurred under chs. 30, 280 to 292, and 299, Stats., but excluding costs related to the environmental impact statement. If the costs incurred are less than the fees paid, the department shall pay the person who gave notice under s. NR 132.105 (1) the amount by which the fees exceed the costs. If the costs incurred exceed the fees paid, the person who gave notice under s. NR 132.105 (1) shall pay a final fee equal to the amount by which the costs exceed the fees previously paid.

NR 132.107 Application to mine.

(1) No person may engage in mining or reclamation at any mining site that is not covered by a mining permit and a written authorization to mine as provided in s. NR 132.116 (4).

(2) No application for surface mining will be entertained by the department if within the previous 5 years the applicant, or a different person who had received a prospecting permit for a site had certified under s. 293.35 (1), Stats., that he or she would not subsequently make application for a permit to conduct surface mining at the site.

(3)(a) An applicant shall submit an application to the department in writing and in reproducible form and shall provide the department with paper copies of the application in a quantity specified by the department. The applicant shall also submit a complete copy of the application in an electronic format prescribed by the department.

(b) Upon receipt of the application under par. (a), the department shall give public notice of the department's receipt of the application and the availability, for review, of the mining permit application and additional documents specified under sub. (5), in the same manner as provided under s. 293.43 (2m) (b), Stats., and to the government of any American Indian tribe or band whose reservation boundaries are within 60 miles of any portion of the proposed project, and to the government of those American Indian tribes or bands with federally recognized treaty rights in the area of the project.

(4) The application shall be accompanied by all of the following:

(a) A mining plan in accordance with s. NR 132.108.

(b) A reclamation plan in accordance with s. NR 132.109 that includes an itemized statement showing the estimated costs that will be incurred by the state if it is necessary for the state to implement and fulfill the reclamation plan.

(c) A proposed monitoring and quality assurance plan consistent with the requirements of this chapter, ch. NR 182, and s. 1.11, Stats. The monitoring plan shall provide for adequate monitoring of project-related environmental changes during the course of the permitted activity and for such additional period of time as is necessary to satisfactorily complete reclamation and completely release the permit holder from the financial securities required under s. 293.51 (1), Stats. The monitoring plan shall include monitoring

locations on the mining site and locations both upgradient and downgradient of the mining site. The plan shall summarize all project-related environmental monitoring programs and may cross reference monitoring provisions required under other permits, approvals, or licenses issued by the department.

(d) A list of names and addresses of each owner of land within the mining site and each person known by the applicant to hold any option or lease on land within the mining site and all prospecting and mining permits in this state held by the applicant.

(e) Evidence satisfactory to the department that the applicant has applied for necessary approvals and permits under all applicable zoning ordinances.

(f) Information specified in s. 293.37 (2) (e) 1., Stats., related to forfeiture of mining reclamation bonds, felony convictions, bankruptcies, or revocations of mining permits by the applicant or related persons within the preceding 10 years.

(g) Information relating to whether unsuitability may exist for surface mining to the extent not fully considered under s. 293.45, Stats.

(h) Descriptions of land contiguous to the proposed mining site that the applicant owns, leases, or has an option to purchase or lease.

(i) A summary of project-related impacts to wetlands and steps to minimize impacts to wetlands in accordance with s. 281.36, Stats.

(j) A summary of project-related impacts to water supply wells and surface water bodies as a result of groundwater pumping or mine dewatering and steps to mitigate the impacts as provided under s. 293.65 (3) (b), Stats.

(k) A summary of environmental management and pollution control technologies that will be implemented at the proposed mining site and documentation that the proposed technology is capable of resulting in compliance with all applicable air, groundwater, surface water, and solid and hazardous waste management laws and rules of the department and is reasonably certain to result in compliance with these laws and rules at the proposed mining site.

(L) If not provided in an environmental impact report, information demonstrating the proposed mine will result in a net positive economic impact in the area reasonably expected to be most impacted by the activity.

(m) A description of any requested exemptions or variances to provisions of ch. 293, Stats., or this chapter, in accordance with s. NR 132.112.

(n) Other pertinent information or documentation that the department may require.

(5) At the time an applicant submits a mining permit application, the applicant shall also submit an environmental impact report consistent with the requirements of ch. NR 150, mining waste site feasibility report, mining waste site plan of operation and applications, and supporting documentation for other approvals, licenses, and permits relating to the proposed mining project and identified by the department in the response provided under s. NR 132.105 (5). These documents shall be provided in the format and quantities prescribed by the department.

(6) The hearing procedure outlined in s. 293.43, Stats., shall govern all hearings on the mining permit application, any statements prepared under s. 1.11, Stats., and, to the fullest extent possible, all other

applications for approvals, licenses, and permits relating to the proposed mining project issued by the department.

NR 132.108 Mining plan. The mining plan shall include all of the following:

- (1) A detailed map of the proposed mining site in accordance with s. 293.37 (2) (a), Stats.
- (2) Details of the nature, extent, and final configuration of the proposed excavation and mining site including location and total production of tailings and other mining refuse and the nature and depth of overburden.
- (3) Details of the proposed operating procedures, including all of the following:
 - (a) Mining operation sequence and duration including site preparation, construction, operation and reclamation.
 - (b) Handling of topsoil, merchantable by-products, overburden, and waste rock materials.
 - (c) Tailings production, handling, and final disposition, including design specifications for any tailings transport pipelines.
 - (d) Ore processing including crushing, milling, concentrating, refining, and reagent use and storage.
 - (e) Storage, loading, and transportation of final product.
 - (f) Groundwater and surface water management techniques including provisions for erosion prevention and control, drainage control and a detailed water management plan showing sources, flow paths and flow rates, storage volumes, and release points. The water management plan shall include a detailed water budget that includes groundwater, surface water and process waters.
 - (g) Plans for adequate covering or isolation of all pollutant-bearing minerals or materials handled on the site.
 - (h) Plans for collection, treatment, and discharge of water resulting from the operation.
 - (i) Plans for the collection, disposal, and recycling of refuse and solid waste materials generated during the life of the project but not regulated as mining waste under ch. NR 182.
 - (j) Plans for air quality protection as required under ch. 285, Stats.
 - (k) A risk assessment of possible accidental health and environmental hazards potentially associated with the mining operation. The risk assessment shall include contingency measures with respect to these risks and hazards, and the assumptions in this assessment, shall be explicitly stated.
 - (L) Measures for notifying the public and responsible governmental agencies of potentially hazardous conditions including the movement or accumulation of contaminants in groundwater and surface water, soils, and vegetation and other consequences of the operation of importance to public health, safety and welfare.
 - (m) Description of all surface facilities associated with the mining site.
 - (n) Description of anticipated geological and geotechnical investigations and drilling programs.

(4) Evidence satisfactory to the department that the proposed mining operation will be consistent with the reclamation plan and will comply with all of the following minimum standards:

(a) Grading and stabilization of excavation, sides, and benches to conform with state and federal environmental and safety requirements and to prevent environmental pollution and prevent and control erosion.

(b) Grading and stabilization of deposits of mining refuse in conformance with applicable state and federal environmental and safety requirements and applicable solid waste laws and regulations.

(c) Stabilization of merchantable by-products.

(d) Adequate diversion and drainage of water from the mining site to prevent contamination of surface water and groundwater and prevent and control erosion.

(e) Notwithstanding the provisions of ch. NR 812, excavations shall be backfilled when the backfilling procedure will not interfere with the mining operation and will not do any of the following:

1. Cause an exceedance of any groundwater quality standards implemented under this chapter and ch. NR 182.

2. Adversely affect public health or welfare.

(f) Handling and storage, including covering as needed, of all materials on the mining site in an environmentally sound manner as determined by the department. Materials not licensed as mining waste under ch. NR 182, but deemed by the department to present a potential threat to the environment, shall be appropriately characterized in a manner consistent with procedures specified in s. NR 182.108.

(g) Removal and stockpiling, or other measures to protect topsoil or other soil materials from erosion and leaching, consistent with environmental considerations and reclamation, during mining site preparation and active mining unless the department determines that such action will be environmentally undesirable.

(h) Maintenance of adequate vegetative cover where feasible to prevent and control erosion.

(i) Impoundment of water where necessary in a safe and environmentally acceptable manner.

(j) Adequate planning of the site to achieve the aesthetic standards for the entire mining site described in ss. NR 132.110 (1) (e) and 132.111 (1).

(k) Identification and prevention of pollution, as defined in s. 281.01 (10), Stats., resulting from leaching of waste materials or other stockpiled materials, in accordance with state and federal solid waste laws and regulations.

(L) Identification and prevention of significant environmental pollution as defined in s. 293.01 (4), Stats.

(m) Maintenance of appropriate emergency procedures to minimize damage to public health, safety, and welfare and the environment from events described under sub. (3) (k).

(5) Submission of a plan for a pre-blasting survey to document the condition of permanent structures and buildings within the area potentially affected by blasting at the mining site as determined under s. SPS 307.41 (2), with such survey being completed and submitted to the department prior to any blasting.

NR 132.109 Reclamation plan. The reclamation plan for the mining site shall include all of the following:

- (1) Detailed information and maps on reclamation procedures including all of the following:
 - (a) Manner, location, sequence, and anticipated duration of reclamation.
 - (b) Ongoing reclamation procedures during mining operations.
 - (c) Proposed interim and final topography and slope stabilization.
 - (d) Proposed final land use and relationship to surrounding land and land use.
 - (e) Plans for long-term maintenance of the mining site, including all of the following:
 1. Monitoring of all of the following, as applicable:
 - a. Wastes, groundwater levels and quality, and surface water levels and quality.
 - b. Leachate, slope stability, vegetation, groundwater elevation, surface water flows and elevations, wetlands, and other aquatic and terrestrial systems.
 2. Details related to decommissioning or removing monitoring devices that are no longer in use.
 3. The need for long-term water control, management, and treatment systems necessary to prevent pollution of groundwater or surface water.
 4. Names of persons legally and operationally responsible for long-term maintenance.
 - (f) Projected costs of reclamation including an itemized statement showing the estimated costs that will be incurred by the state if it is necessary for the state to implement and fulfill the reclamation plan.
 - (g) Projected costs of periodic repair or replacement of any engineered cover systems or water management control systems used at the mining site or mining waste site to avoid adverse environmental consequences. The estimate shall cover the costs reasonably anticipated to occur during the period between 40 and 250 years after closure of the mining waste site.
 - (h) Proposed quantitative criteria and evaluation methods to demonstrate success and long-term stability of final reclamation for purposes of determining acceptable completion of reclamation and issuance of a certification of completion of reclamation under s. NR 132.122.
- (2) Evidence satisfactory to the department that the proposed reclamation will conform with all of the following minimum standards:
 - (a) Toxic and hazardous wastes, refuse, tailings, and other solid waste shall be disposed of in conformance with applicable state and federal statutes or regulations.
 - (b) Tunnels, shafts, or other underground openings shall be sealed in accordance with applicable safety requirements and in a manner that will prevent seepage of water in amounts that may be expected to create a safety, health, or environmental hazard, unless the applicant can demonstrate alternative uses that do not endanger public health and safety and that conform to applicable environmental protection and mine safety laws and rules.

(c) Underground and surface runoff waters from mining sites shall be managed, impounded, or treated so as to prevent soil erosion, flooding, damage to agricultural lands or livestock, damage to wild animals, pollution of groundwater or surface waters, damage to public health, or threats to public safety.

(d) Surface structures constructed as a part of the mining activities shall be removed, unless they are converted to an acceptable alternate use, as determined by the department.

(e) Adequate measures shall be taken to prevent significant surface subsidence, but if such subsidence does occur, the affected area shall be reclaimed.

(f) Topsoil from surface areas disturbed during the mining operation shall be removed and stored in an environmentally acceptable manner for use in reclamation.

(g) Disturbed surface areas shall be revegetated as soon as practicable after the disturbance to stabilize slopes and prevent air and water pollution, with the objective of reestablishing a variety of plants and animals indigenous to the area immediately prior to mining, unless such reestablishment is inconsistent with the provisions of s. 293.01 (23), Stats. Plant species not indigenous to the area may be used if necessary, to provide rapid stabilization of slopes and prevention of erosion, if such species are acceptable to the department, but the ultimate goal of reestablishment of indigenous species shall be maintained.

(3) An analysis of alternative viable final land uses for the reclaimed site, including the presumed final use of returning affected areas to their approximate original state. The analysis of all options shall consider the extent to which the option is physically, economically and environmentally achievable and socially acceptable.

(4) If requested by the department, a comprehensive long-term plan as provided in s. 293.37 (4) (b), Stats., related to reclamation of operator-controlled lands contiguous to the mining site.

NR 132.110 Location criteria and environmental standards.

(1) No person shall establish, construct, operate, or maintain the use of property for any mining related buildings, roads, ponds, or other purposes within the following areas, except pursuant to an exemption granted under s. NR 132.112 or in compliance with another approval, license, or permit issued by the department:

(a) Within areas identified as unsuitable under s. NR 132.103 (23).

(b) Within 500 feet of the ordinary high-water mark of any existing navigable lake, pond, or flowage.

(c) Within 500 feet of the ordinary high-water mark of a navigable river or stream.

(d) Within a floodplain.

(e) Within 1,000 feet of the nearest edge of the right-of-way of any of the following unless regardless of season, the site is visually inconspicuous due to screening or being visually absorbed due to natural objects, compatible natural plantings, earth berm, or other appropriate means, or unless, regardless of season, the site is screened so as to be aesthetically pleasing and inconspicuous to the extent feasible:

1. Any state trunk highway, interstate, or federal primary highway.

2. The boundary of a state public park.

3. The boundary of a scenic easement purchased by the department or the department of transportation.

4. The boundary of a designated scenic or wild river.
 5. A scenic overlook designated by the department by rule.
 6. A bike or hiking trail designated by the United States congress or the state legislature.
- (f) Within wetlands, except pursuant to the provisions under s. 281.36, Stats.
- (g) Within areas that will result in noncompliance with applicable groundwater quality and quantity protection provisions.
- (h) Within areas that will result in noncompliance with other applicable federal and state laws and regulations.

NR 132.111 Minimum design and operation. An operator shall construct, establish, operate, and maintain a mining site in conformance with the requirements of this chapter, conditions attached to the mining permit, and all of the following requirements:

- (1) An operator shall construct a mining site to meet all of the following requirements:
 - (a) Place site elements where least observable from off the premises in any season.
 - (b) Place site elements within the area of the overall site that is most visually compatible in respect to building shape.
 - (c) Paint and maintain buildings and other structures in a manner that is visually compatible with the surrounding vegetational and earth conditions. If a building or other structure cannot be painted and maintained in a manner that is visually compatible or if painting and maintaining a building or other structure in a manner that is visually compatible would cause safety concerns, the building or structure shall be made as visually inconspicuous as is practicable.
- (2) An operator shall implement effective means, consistent with applicable state and federal safety-related regulations, to limit access to the site to minimize exposure of the public to hazards.
- (3) An operator shall use mine-mill chemicals and reagents on the mining site and handle materials containing residual amounts of reagents in accordance with all of the following requirements:
 - (a) An operator may not use reagents on the mining site in a manner that will result in any substantial harm to public health and safety or result in significant environmental pollution.
 - (b) An operator shall provide adequate treatment of any discharge to waters of the state that contains reagents or residuals of reagents, as required under chs. 281 and 283, Stats., and rules promulgated under those sections.
 - (c) An operator shall not use or store reagents on the mining site if they are not approved in the plan of operation under s. NR 182.109 or the mining plan under s. NR 132.108, except for reagents for laboratory, testing, research, or experimental purposes.
 - (d) An operator shall handle and store reagents and other chemicals used in the mining and milling processes on the mining site in compliance with all applicable state and federal regulations.

- (4) An operator shall handle and store flammable, combustible, or hazardous liquids, including fuel and oil products, on the mining site in compliance with applicable state and federal regulations including ch. ATCP 93 and federal spill prevention control and countermeasure regulations in 40CFR112.
- (5) Reasonable effort shall be made to reduce and control the production of contaminated water.
- (6) Contaminated water, including liquid effluents, from whatever source associated with the project should be collected, stored, recycled or treated to ensure compliance with applicable water quality standards.
- (7) An operator shall collect and treat contaminated nonpoint source runoff from disturbed areas within the mining site in a manner that facilitates monitoring, maximum practicable recycling, reuse, and consumption within the mining operation. An operator shall minimize nonpoint sources of water pollution. The department shall regulate discharges of pollutants from storm water and wastewater pursuant to ch. 283, Stats.
- (8) An operator shall make provisions for critical back-up equipment in the event of operation equipment breakdown.
- (9) An operator shall include contingencies for emergency conditions in design and operation specifications for mining site facilities. Such contingencies may include emergency power supplies, equipment redundancies, or temporary holding facilities.
- (10) An operator shall design, construct, maintain, operate, and reclaim any mining site any mining site permitted under this chapter to protect groundwater quality and quantity in accordance with the requirements of ch. NR 182 and ss. 293.37 (5), 293.65, and 293.66, Stats.
- (11) An operator may not use waste containing potentially harmful concentrations of acid generating material for purposes such as construction fill material for surface facilities or the construction of parking lots or roads at a permitted mining site.
- (12) An operator shall design mining site facilities to minimize surface area disturbance unless an alternate mining site design results in less overall environmental impact.
- (13) An operator shall utilize, where practicable, elevation differences in water-based transport systems for gravity flows to minimize pumping facilities and pressures.
- (14) An operator shall design tailings transport pipelines in accordance with all of the following criteria:
 - (a) Design tailings pipelines, if not buried, to provide for emergency tailings conveyance or storage should a pipeline break, plug, freeze, or require repairs and make accessible for inspection, emergency repair, and maintenance.
 - (b) Provide adequately sized emergency spill areas near the tailings pipeline in case of power or pipeline failure. The location of emergency spill areas shall be consistent with the prevention of environmental pollution of surface waters and with the requirements of this chapter unless subject to an exemption under s. NR 132.112. In some cases, as determined by the department, such as a long pipeline over rough country, more than one spill area may be necessary.
 - (c) Tailings pipelines shall be self-draining to the tailings area or to an emergency spill area, or both, and provisions shall be made for availability and use of standby pumps, pipelines, and power supplies.

(d) Tailings pipelines shall be as short as practicable and pipeline routes shall be selected that result in the least overall environmental impact and avoid crossing navigable waters and passing through wetlands whenever possible. If a route which crosses a navigable waterway or passes through a wetland is unavoidable or is the route that results in the least overall environmental impact, the pipeline shall be designed and constructed in compliance with all applicable rules of the department.

(e) Tailings pipelines shall include flow monitoring and leak detection systems.

(15) An operator shall employ best management practices to control the spread of invasive species on the mining site during construction, operation and reclamation of project facilities.

NR 132.112 Exemptions and variances.

(1) **AUTHORITY TO GRANT EXEMPTIONS AND VARIANCES.** The department may grant an exemption or variance, as provided in this section, from any of the requirements of this chapter applicable to any of the following:

(a) A mining permit application, including the mining plan, reclamation plan, monitoring plan, mining waste site feasibility study, and mining waste site plan of operation.

(b) A mining permit.

(2) **EXEMPTION AND VARIANCE REQUESTS SUBMITTED AS PART OF THE MINING PERMIT APPLICATION PROCESS.** (a) To the extent feasible, an applicant shall submit all requests for exemptions or variances under this section as part of an application for a mining permit or the mining waste site feasibility report or plan of operation and shall describe the grounds for the exemption or variance including documentation identifying the physical conditions that necessitate the exemption or variance, other reasons for the exemption or variance, discussion of any environmental impacts that will result from issuance of the exemption or variance, mitigation measures, if any, proposed to offset adverse impacts resulting from the exemption or variance, and the reasonableness of the exemption or variance.

(b) An applicant shall submit an application for an exemption or variance under this subsection no later than 60 days after the mining permit application is considered complete under s. 293.495 (1) (a) 2., Stats. The department may consider an application for an exemption or variance submitted after that time, but only if the application is received in time to allow the application to be considered at the public informational hearing for the mining permit under s. 293.43 (3m), Stats.

(c) The department shall issue a decision on a request for an exemption or variance as part of the decision on the mining permit under s. NR 132.114 and, except as provided in par. (d), the department shall grant the exemption or variance if it is consistent with the purposes of this chapter and ch. 293, Stats., will not violate any applicable state environmental law outside of this chapter and ch. 293, Stats., will not endanger public health, safety, or welfare and will not result in significant adverse environmental impacts on or off the mining site.

(d) The department shall deny a request for an exemption or variance if granting the exemption or variance will result in a violation of federal law.

(e) If federal law imposes a standard for an exemption that differs from the standard in par. (c) and that cannot be modified by state law, and if that standard has been approved by the federal government for use by the state through a delegation agreement, federally approved state implementation plan, or other

program approval, then the department shall determine whether to grant the request for the exemption using the federal standard.

(3) EXEMPTION AND VARIANCE REQUESTS SUBMITTED AFTER PERMIT APPLICATION REVIEW PERIOD AND BEFORE ISSUANCE OF MINING PERMIT. If an applicant submits a request for a variance or exemption under this section more than 60 days after the mining permit application is considered complete but before the department issues or denies the mining permit, the application for an exemption or variance shall be processed following the provisions of s. 293.495 (1) (c), Stats.

(4) EXEMPTION AND VARIANCE REQUESTS SUBMITTED AFTER ISSUANCE OF MINING PERMIT. The department shall process exemption and variance requests under this section submitted after issuance of a mining permit as a modification under s. 293.55, Stats., and s. NR 132.120.

(5) REQUEST FOR FURTHER STUDY AND ANALYSIS. The department may require the applicant submitting the request for a variance or exemption to conduct specific studies and analyses and submit additional supporting documentation, as necessary, to facilitate the review of the request by the department.

NR 132.113 Timeline for review of mining permit application.

(1) Subject to subs. (4) and (5), within 180 days after an applicant submits an application for a mining permit, an environmental impact report, if required, and any applications for other approvals, licenses, or permits relating to the mining operation, the department shall review the information submitted and, if necessary, provide comments to the applicant and request additional information from the applicant relating to the proposed mining project. The applicant shall provide any additional information required under this section in a manner and format prescribed by the department.

(2) Subject to subs. (4) and (5), if the department requests additional information from an applicant under sub. (1), within 90 days after the applicant provides additional information the department shall review the information submitted and, if necessary, provide comments to the applicant and request additional information from the applicant relating to the proposed mining project.

(3) Subject to sub. (5), if the department requests additional information from an applicant under sub. (2), within 180 days after the applicant provides additional information the department shall prepare a draft environmental impact statement, a draft mining permit, and draft approvals, licenses, or permits relating to the mining operation. If the department requests additional information from an applicant under sub. (1), but not under sub. (2), the department shall prepare these draft documents within 180 days after the expiration of the 90-day period under sub. (2). If the department does not request additional information from an applicant under sub. (1) or (2), the department shall prepare those draft documents within 180 days after the expiration of the 180-day period under sub. (1).

(4) Subject to sub. (5), if before the expiration of the 90-day period under sub. (2) the secretary of the department determines that the applicant has made a substantial modification to the mining plan or reclamation plan that significantly changes the information necessary to prepare an environmental impact statement or adequately review an application, the department shall notify the applicant of the secretary's determination and request additional information from the applicant. In reaching this determination, the department shall consider the extent to which the modification necessitates new data collection programs and analyses or substantive expansions or modifications of ongoing monitoring activities and analyses. Upon submission of additional information by the applicant, the timeline under this section shall begin again, starting with the period described in sub. (1). A determination by the secretary under this

subsection is not subject to administrative or judicial review and may be made only once during an applicant's permitting process.

(5) The department and the applicant may agree to modify all or part of the timeline under this section.

(6) The department may request additional information needed to process a mining permit application or any other application for an approval, license, or permit related to the mining operation after making requests for additional information under this section, but the department may not delay the application and review process based on another request for additional information.

NR 132.114 Mining permit issuance.

(1) Unless denied pursuant to s. NR 132.115 and except with respect to property specified in s. 41.41 (11), Stats., within 90 days of the completion of the record for the public hearing held under s. 293.43, Stats., the department shall issue the mining permit if it finds all of the following:

(a) The mining plan and reclamation plan are reasonably certain to result in reclamation of the mining site consistent with this chapter and ch. 293, Stats., and the mining plan and reclamation plan are approved as part of the mining permit.

(b) The proposed operation will comply with all applicable air, groundwater, surface water, and solid and hazardous waste management laws and rules implemented by the department.

(c) The technology that will be used at the proposed operation is capable of resulting in compliance with all applicable air, groundwater, surface water, and solid and hazardous waste management laws and rules of the department and is reasonably certain to result in compliance with these laws and rules at the proposed mining site.

(d) In the case of a surface mine, the site is not unsuitable for mining.

(e) The proposed mining operation will not endanger public health, safety, or welfare.

(f) The proposed mining operation will result in a net positive economic impact in the area reasonably expected to be most impacted by the activity.

(g) The proposed mining operation conforms with all applicable zoning ordinances.

(2) The department shall make an approval or denial in findings of fact, conclusions of law, and an order setting forth reasons with clarity and in detail. The department may modify or conditionally approve the operator's proposed mining or reclamation plans in order to meet the requirements of this chapter, and, as modified or conditioned, grant its approval.

(3) Except as otherwise provided in ss. 293.53 (2), 293.55 to 293.59, 293.63, 293.81, and 293.83, Stats., mining permits shall be valid for the life of the project unless canceled under s. 293.83 (1) or (3) or 293.85, Stats., or revoked under s. 293.87 (2) or (3), Stats. Unless previously modified, canceled, or revoked, the mining permit issued under this section shall remain valid until reclamation of the entire mining site has been certified as complete under s. NR 132.122 and the department issues a revised mining permit under s. NR 132.122 (7) (b):

NR 132.115 Mining permit denial.

(1) Within 90 days of the completion of the record for the public hearing held under s. 293.43, Stats., the department shall deny the mining permit if it finds any of the following:

(a) That the site is unsuitable for surface mining, if the application is for a proposed surface mine.

(b) That the applicant has violated and continues to fail to comply with this chapter, ch. 293, Stats., or any rule adopted under ch. 293, Stats.

(c) That any of the following situations may reasonably be expected to occur during or subsequent to mining:

1. Landslides or substantial deposition from the proposed operation in stream or lake beds which cannot be feasibly prevented.

2. Significant surface subsidence that cannot be reclaimed because of the geologic characteristics present at the proposed site.

3. Hazards resulting in irreparable damage to any of the following that cannot be prevented under the requirements of this chapter, avoided to the extent applicable by removal from the area of hazard, or mitigated by purchase or by obtaining the consent of the owner:

a. Dwelling houses.

b. Public buildings.

c. Schools.

e. Cemeteries.

f. Commercial or institutional buildings.

g. Public roads.

h. Other public property designated by the department by rule.

4. Irreparable environmental damage to lake or stream bodies despite adherence to the requirements of this chapter. This subdivision does not apply to an activity that the department has authorized pursuant to statute, except that the destruction or filling in of a lakebed shall not be authorized notwithstanding any other provision of law.

(d) That the applicant, principal shareholder of the applicant, or a related person has, within 10 years before the application is submitted, forfeited a mining reclamation bond that was posted in accordance with a permit or other approval for a mining operation in the United States, unless the forfeiture was by agreement with the person for whose benefit the bond was posted and the amount of the bond was sufficient to cover all costs of reclamation.

(e) That the applicant, a related person, or an officer or director of the applicant has, within 10 years before the application is submitted, been convicted of more than one felony for violations of laws for the protection of the natural environment arising out of the operation of a mining site in the United States, unless any of the following applies:

1. The person convicted has been pardoned for all of the felonies.

2. The person convicted is a related person or an officer or director of the applicant with whom the applicant terminates its relationship.

3. The applicant included in its permit application under s. NR 132.107 plans to prevent the occurrence in this state of events similar to the events that directly resulted in the convictions.

(f) That the applicant or a related person has, within 10 years before the application is submitted, filed a petition for bankruptcy or undergone dissolution that resulted in the failure to reclaim a mining site in the United States in violation of a state or federal law and that failure has not been remedied and is not being remedied.

(g) That, within 10 years before the application is submitted, a mining permit or other mining approval issued to the applicant or a related person was permanently revoked because of a failure to reclaim a mining site in the United States in violation of state or federal law and that failure has not been and is not being remedied.

(2) The department may not deny a mining permit under sub. (1)(d) to (g) if the person subject to the convictions, forfeiture, permanent revocation, bankruptcy, or dissolution is a related person but the applicant shows that the person was not the parent corporation of the applicant, a person that holds more than a 30 percent ownership in the applicant, or a subsidiary or affiliate of the applicant in which the applicant holds more than a 30 percent interest at the time of the convictions, forfeiture, permanent revocation, bankruptcy, or dissolution.

(3) If the department denies an application for a mining permit, the department shall furnish the operator findings of fact, conclusions of law, and an order setting forth the reasons for denial.

NR 132.116 Reclamation bond and other financial assurance securities.

(1) (a) Upon notification that a mining permit has been issued by the department but prior to commencing mining, the operator shall file with the department a bond conditioned on faithful performance of all of the requirements of this chapter and ch. 293, Stats. In lieu of a bond, the operator may deposit cash, certificates of deposit, or government securities with the department. Interest received on certificates of deposit and government securities shall be paid to the operator. The amount of the bond or other security required shall be equal to the estimated cost to the state of fulfilling the reclamation plan, in relation to that portion of the site that will be disturbed by the end of the following year. The department shall determine the estimated cost of reclamation of each mining site on the basis of relevant factors including expected changes in the price index, topography of the site, methods being employed, depth and composition of overburden, and depth of nonferrous metallic mineral deposit being mined.

(b) The department, as provided under s. 293.53 (1) (a), Stats., may increase the amount of the bond, cash, certificates of deposit, or government security filed under par. (a), to assure adequate financing for the reclamation plan.

(c) A bond filed under par. (a) shall be issued by a surety company licensed to do business in Wisconsin. If the surety company's license to do business is revoked or suspended, the operator, within 30 days after receiving written notice thereof from the department, shall substitute surety underwritten by a surety company licensed to do business in Wisconsin. Upon failure of the operator to make a substitution, the

department shall suspend the operator's mining permit until an acceptable substitute surety has been submitted.

(d) A bond filed under par. (a) shall provide that the bond shall not be canceled by the surety, except after not less than 90 days' notice to the department in writing by registered or certified mail. Not less than 30 days prior to the expiration of the 90-day notice of cancellation, the operator shall deliver to the department a replacement bond in the absence of which all mining shall cease.

(2) Upon notification that a mining permit has been issued by the department but prior to commencing mining, the operator shall file with the department a bond issued by a surety company licensed to do business in this state, cash, certificates of deposit, or government security, to cover unforeseen remedial contingencies not otherwise covered by the bonds or other security required under sub. (1) or (5), including for the provision of a replacement water supply if required under s. 293.65 (4) (d), Stats. The amount of the bond or other security required shall be 10 percent of the total amount of the bonds or other security required under subs. (1) and (5). The operator shall increase, and may decrease, the amount of the bond or other security under this subsection according to any increase or decrease in the amount of the bonds or other security required under sub. (1) or (5) until the operator ceases to extract material from the mining site, at which point the amount of the bond or other security under this subsection shall remain the same until released by the department. The bond or other security under this subsection shall be released no later than 40 years after the operator ceases to extract material from the mining site.

(3) The applicant shall submit a certificate of insurance certifying that the applicant has in force a liability insurance policy issued by an insurer authorized to do business in this state, or in lieu of a certificate of insurance evidence that the applicant has satisfied state or federal self-insurance requirements, covering all mining operations of the applicant in this state and affording personal injury and property damage protection in a total amount deemed adequate by the department but not less than \$50,000.

(4) Upon approval of the financial instruments related to cost of reclamation under sub. (1) and unforeseen remedial contingency costs under sub. (2), and the certificate of insurance under sub. (3), the department shall issue written authorization to commence mining at the permitted mining site in accordance with the mining permit and approved mining and reclamation plans.

(5) If the department approves a mining waste site as part of a permitted mining project, the owner shall maintain proof of financial responsibility ensuring the availability of funds for compliance with the long-term care requirements specified in the waste site feasibility study and plan of operation in accordance with s. 293.51 (1g) and 289.41, Stats., and ch. NR 182. Proof of financial responsibility for long term care shall be submitted prior to operation of the mining waste facility.

(6) The operator shall provide and maintain proof of financial responsibility as required under s. 293.51 (1r), Stats., related to replacement of engineered cover systems or water management control systems used at the mining site or mining waste site to avoid adverse environmental consequences following closure of the mining waste site. The department shall determine the amount of the security required under this subsection as provided in s. 293.51 (1r), Stats., and shall specify the amount as part of the mining permit and reclamation plan approval. An operator shall submit proof of financial responsibility under this subsection at the time of closure of the mining waste site and in accordance with provisions of ch. NR 182.

NR 132.117 Monitoring.

(1) An operator shall monitor the mining site and adjacent areas in accordance with the monitoring plan approved as part of the mining permit. The department may require the operator to perform additional monitoring of environmental changes during the course of the permitted activity and for such additional periods of time as is necessary to satisfactorily complete reclamation of the mining site and long-term care of the mining waste facility.

(2) The department may monitor environmental changes concurrently with the operator as stated in sub. (1) and for an additional period after the full reclamation bond is released under s. 293.63, Stats.

(3) (a) The department shall review baseline data, monitoring data, and the monitoring plan at the time of annual permit review or at such time as the operator requests any modification of the mining permit, mining plan, reclamation plan, or monitoring plan.

(b) The department shall consider baseline data and monitoring data in all enforcement actions including issuance of a stop order to an operator, requiring an immediate cessation of mining, in whole or in part, at any time that the department determines that there exists an immediate and substantial threat to public health and safety or the environment.

(c) If the analyses of samples indicate the quality of the groundwater is statistically significantly different from either baseline or background, the operator shall notify the department immediately and implement applicable provisions of the contingency plan submitted under s. NR 182.109 (2) (d).

(4) Any request for modification of the scope of the monitoring plan approved as part of the mining permit, including sampling parameters, monitoring locations and frequency and duration of sampling, shall comply with the procedures in s. NR 132.120. Changes in monitoring equipment and sampling and analytical protocols may be reviewed and approved by the department and are not subject to the modification procedural requirements of s. NR 132.120.

(5) An operator shall ensure that all laboratory chemical analyses required under the monitoring plan are conducted by a laboratory certified under s. 299.11, Stats., and ch. NR 149 or other certification program applicable to specific test categories.

NR 132.118 Inspections.

(1) Subject to applicable state and federal safety rules or regulations, any authorized officer, employee, or representative of the department may enter and inspect any property, premises or place on or at which any mining operation or facility is located or is being constructed or installed at any reasonable time for the purpose of ascertaining the state of compliance with this chapter and chs. 30, 281, 283, 285, 289 to 292, and 299, Stats., and rules adopted under those chapters.

(2) No operator may refuse entry or access to any authorized representative of the department who requests entry for purposes of inspection, and who presents appropriate credentials, nor may any person obstruct, hamper, or interfere with any such inspection.

(3) The department shall furnish to the operator a written report on any inspection setting forth all observations, relevant information, and data that relate to compliance status.

NR 132.119 Reporting and mining permit review.

(1) RECLAMATION REPORTING. An operator shall submit all the following reports to the department documenting plans, progress, and evaluation of reclamation activities at the mining site. For each report,

the operator shall provide the department with a quantity of paper copies specified by the department and shall provide a complete electronic version in a format specified by the department:

(a) In January of each year, a report detailing planned reclamation activities the operator intends to complete in that calendar year. The plan shall document the extent of new surface disturbance, areas of the mining site that will be temporarily and permanently reclaimed during the year, site preparation activities, reclamation materials, including seed mixes, bare root stock and other materials, mining site maintenance activities, ongoing reclamation monitoring and test plot evaluation, and any other information specified by the department in the mining permit and reclamation plan approval.

(b) By November 30 of each year, a report summarizing the extent of reclamation activities completed at the mining site during the calendar year. The report shall include descriptions, maps, and photographs documenting temporary and permanent reclamation and ongoing site maintenance activities that were completed during the year, a summary of reclamation monitoring results, an evaluation of completed reclamation as related to the reclamation success criteria specified in the approved reclamation plan, and an assessment of the effectiveness of specific reclamation activities conducted that year and recommendations for changes to specific reclamation protocols to consider for future work.

(2) ANNUAL REPORT. By January 31 of each year, an operator of a permitted mining site shall submit an annual report to the department summarizing the extent of mining and other activities conducted at the mining site in the preceding calendar year. The operator shall provide the department with a quantity of paper copies specified by the department and shall provide a complete electronic version in a format specified by the department. The annual report shall include text, maps, tabular summaries and graphics as appropriate, documenting all of the following:

(a) The extent of additional surface disturbance during the year and total acres of disturbed area on the mining site.

(b) A summary of construction, mine development, and reclamation activities completed on the mining site.

(c) The volume of material removed, stockpiled, or disposed of on the mining site including ore, concentrates, mining wastes by category, topsoil, merchantable by-product, and non-mining solid waste.

(d) A summary of mine dewatering statistics including monthly pumping totals.

(e) A summary of water treatment activities including monthly totals of water treated and discharged.

(f) A summary of any incidents and related responses concerning spills, pond overflows, embankment failures or leakage, liner failures, pipeline failures or leaks, or other unforeseen environmental releases that occurred at the mining site.

(g) A summary of any plan or permit modifications and any deviations from approved plans not subject to a modification.

(h) A summary of environmental monitoring activities and results required under the approved monitoring plan, including an analysis of the data to determine the development of any observable trends and a comparison of the data to background values and predicted values, if predictive modeling or similar analyses were conducted as part of the mining permit review process.

(i) A discussion of the extent of additional surface disturbance to be expected by the end of the next calendar year including estimates of the volumes of topsoil, ore, mining waste, merchantable by-products, and other materials to be removed.

(j) An assessment of the adequacy of the amount of the financial surety posted under s. NR 132.116 (1) considering the anticipated condition of the mining site at the end of the next calendar year, applicable provisions of the approved reclamation plan, any changes in reclamation costs or changes in state, federal or local regulatory requirements applicable to the mining operation. This analysis shall clearly identify the amount of financial security necessary to fulfill the reclamation plan relative to the mining site as it is projected to exist at the end of the calendar year.

(3) PERMIT REVIEW. The department shall review the mining permit, mining plan, reclamation plan, and required financial securities annually after issuance of the mining permit, or as part of a review as provided in s. NR 132.117 (3), to ascertain adequacy, compliance with state or federal laws enacted after the issuance of the permit, and technological currency. The department shall provide its findings to the operator within 30 days after receipt of the annual report submitted under sub. (2). If the department, after review, determines that the plans should be modified or the bond amount changed, it shall notify the operator of the necessary modifications or changes and establish a schedule for submitting modified plans.

NR 132.120 Mining permit and plan modifications.

(1) MODIFICATION OF MINING PERMIT AND ASSOCIATED PLANS. (a) *Application.* An operator, at any time, may apply for amendment or cancellation of a mining permit or for a change in the mining plan, reclamation plan, or monitoring plan for any mining operation that the operator owns or leases. The operator shall submit any application for the amendment, cancellation, or change in a format specified by the department. The request shall identify the tract of land to be added to or removed from the permitted mining site or to be affected by a change in the mining or reclamation plans. The request shall clearly identify any proposed changes in the mining plan, reclamation plan, or monitoring plan, reasons for the changes and anticipated environmental and economic impacts of the proposed changes.

(b) *Procedure.* Except as provided under par. (d), the department shall process the application for an increase or decrease in the area of a mining site or for a substantial change in the mining plan, reclamation plan, or monitoring plan in the same manner as an original application for a mining permit.

(c) *Substantial changes.* The department shall determine if any change in the mining plan, reclamation plan, or monitoring plan is substantial and provide notice of its determination in the same manner as specified under s. 293.43 (2m) (b), Stats.

(d) *Notice.* The department shall provide notice of any modification that involves an increase or decrease in the area of a mining site or a substantial change in the mining plan, reclamation plan, or monitoring plan in the same manner as an original application for a mining permit under s. 293.43 (2m), Stats. If the department receives less than 5 requests in writing from interested persons for a public hearing within 30 days of notice, no hearing is required on the modification. The notice shall include a statement to this effect.

(e) *Hearing.* If the department holds a hearing, it shall be conducted as an informational hearing and shall be subject to the notice and procedural provisions under s. 293.43 (3m), Stats. The department may offer any information presented in a prior hearing on either the original application or any previous modification as part of the hearing record on the proposed modification.

(f) *Removal.* If the application cancels any portion of the unmined area of a mining site, the department shall verify that mining has not occurred on the portion of the mining site identified in the request. If the department finds that no mining has occurred, the department shall modify the mining permit and the operator's written authorization to conduct mining on the mining site accordingly and, if applicable, shall authorize the operator to modify the financial securities required under s. NR 132.116 to reflect the decrease in the mining site.

(2) DEPARTMENT REQUEST FOR MODIFICATION OF MINING OR RECLAMATION PLAN. The department, as provided under s. 293.55 (2), Stats., may require an operator to submit amended mining and reclamation plans if the department determines the existing plans are no longer sufficient to reasonably provide for reclamation of the mining site.

NR 132.121 Temporary cessation of mining.

(1) If there is a cessation of mining or reclamation expected to last 30 days or more that is not set forth in either the mining plan or the reclamation plan, the operator shall notify the department of the cessation within 48 hours of the cessation of mining and shall begin stabilization of the mining site. If the cessation of mining extends for more than six consecutive months, the operator shall begin final reclamation of the mining site in accordance with the approved reclamation plan unless all of the following apply:

(a) The cessation of mining is due either to labor strikes or to such unforeseen developments as adverse market conditions, as determined by the department.

(b) The cessation of mining does not continue beyond the time specified by the department. The time limit specified by the department may not exceed five years.

(c) The operator maintains the site in an environmentally stable manner, as determined by the department, during the cessation of mining.

(d) The operator continues the reclamation of the site according to appropriate provisions of the reclamation plan during the cessation of mining.

(e) The operator continues environmental monitoring in accordance with the monitoring plan during the cessation of mining, as determined by the department.

(2) The operator shall identify in the notice provided under sub. (1) the reasons for the temporary shutdown, the anticipated duration of the shutdown, the measures that will be taken to ensure environmental stability of the mining site during the shutdown, procedures required to resume operation of project facilities following the shutdown, and which specific environmental monitoring activities, if any, will be discontinued during the shutdown.

(3) Temporary cessation of mining described in a notice submitted under sub. (1) shall constitute a substantial modification of the mining plan under s. 293.55, Stats., and the department shall process the modification in accordance with the applicable procedures under s. NR 132.120 and s. 293.55, Stats.

(4) The department's decision on the request for temporary cessation of mining status shall specify the approved duration of the cessation of mining, required stabilization and reclamation measures to be implemented during the cessation, required environmental monitoring activities, and any other conditions necessary to ensure environmental protection during the temporary shutdown and anticipated resumption of mining activities.

NR 132.122 Certificate of completion of reclamation and reclamation bond release.

(1) Upon completion of final reclamation in accordance with the approved reclamation plan for a portion of the mining site or the entire mining site the operator may provide notice to the department that final reclamation has been completed. The notice shall include all of the following:

(a) Clear delineation of the portion of the mining site addressed by the notification.

(b) Documentation that all applicable reclamation success criteria specified in the approved reclamation plan have been satisfied for the portion of the mining site addressed in the notification.

(c) Identification of routine management and maintenance activities that may be necessary to maintain the reclaimed portion of the site.

(d) A description of the ongoing reclamation monitoring activities.

(e) Documentation that the reclamation activities, as implemented, have achieved the minimum standards specified in s. 293.13 (2) (c), Stats.

(2) Upon receipt of the notification of completion of final reclamation under sub. (1) the department shall review the information contained in the notification and take one of the following actions:

(a) Approve the notification, specifying the date upon which final reclamation is considered to have been completed and the scope of approved management, maintenance, and monitoring activities.

(b) Request additional information needed to complete the review of the notification.

(c) Deny approval of the notification, specifying the reasons for denial and steps to correct any identified deficiencies.

(3) Not less than 4 years after completion of final reclamation, as determined by the department under par. (2) (a), the operator may petition the department to consider issuance of a certificate of completion of reclamation for any portion of the mining site in accordance with the approved reclamation plan and this chapter. The petition shall include information that demonstrates continued compliance with the applicable reclamation success criteria specified in the approved reclamation plan and that the site is stable and generally self-sustaining, requiring only routine maintenance and management.

(4) The department shall provide public notice of any request for certification of completion of reclamation under sub. (3) in the same manner as an original application for a mining permit under s. 293.43 (2m), Stats., and shall hold an informational hearing following the procedures under s. 293.43 (3m), Stats. The scope of a hearing conducted under this subsection shall be limited to issues related to whether the operator has complied with the approved reclamation plan and the need for and scope of continued monitoring, maintenance, and reporting related to reclamation. If the requested certification is for the entire mining site or covers the entire remaining portion of the mining site that has not been previously certified, the public notice and hearing shall also include consideration of the revised mining permit under par. (7) (b).

(5) (a) If the department finds after conducting a hearing that the operator has completed final reclamation for any portion of the mining site in accordance with the reclamation plan and this chapter, and the minimum standards specified under s. 293.13 (2) (c), Stats., the department shall issue a certificate of completion setting forth a description of the area reclaimed and a statement that the operator has fulfilled its duties under the reclamation plan as to that area.

(b) In issuing a certificate of completion of reclamation the department may require the operator to continue regular maintenance of the reclaimed portion of the site and to continue regular reclamation monitoring and reporting. If needed to ensure long term environmental integrity of any portion of the site, the department, as part of a certificate of completion, may require an operator to develop a land use restriction to limit incompatible uses and development of specified portions of the mining site. Such land use restriction shall be recorded in the office of the register of deeds in each county in which the portion of the mining site affected by the restriction is located.

(c) Issuance of a certificate of completion under this subsection does not release an operator of any ongoing obligations or requirements imposed under other licenses, permits, or approvals issued by the department or other requirements of applicable laws and rules of the department.

(6) Upon issuance of any certificate of completion under sub. (5) for any portion of the mining site, but not for the entire mining site, the department shall allow the operator to reduce the amount of the bond to an amount which shall equal the estimated cost of reclamation of the portion of the mining site which is disturbed or for which reclamation has been completed but no certificate of completion has been issued. The bond may not be reduced to an amount that is less than the minimum amount specified in sub. (7)

(7) (a) Upon issuance of a certificate or certificates of completion of reclamation for the entire mining site, the department shall require the operator to maintain a bond equal to at least 10 percent of the cost to the state of reclamation of the entire mining site if mining of the site was wholly underground and at least 20 percent of the cost to the state of reclamation of the entire mining site if any surface mining was conducted. If a mining site covers less than 10 acres, the department may release the full bond following certification of completion of reclamation for the entire mining site. In the event the operator fails to take appropriate and timely action as directed in an order issued by the department under s. 293.83 (1), Stats., the department may access the remaining bond to complete any necessary maintenance or stabilization activities that are needed to ensure stability of the mining site.

(b) Upon issuance of a certificate or certificates of completion of reclamation for the entire mining site, the department shall issue a revised mining permit to the operator that covers the period from issuance of the certificate of completion until the full reclamation bond is released. The revised mining permit shall specify acceptable uses of the reclaimed mining site consistent with the reclamation plan, approved maintenance activities, monitoring and reporting requirements, and other conditions necessary to ensure compliance with the applicable minimum standards of s. 293.13 (2) (c), Stats. Subsequent modifications to the mining permit shall be processed in accordance with the provisions of s. NR 132.120 and s. 293.55, Stats.

(8) Twenty years after the issuance of a certificate or certificates of completion for the entire mining site, the department shall terminate the mining permit and release the financial security required under s. NR 132.116 (1) and s. 293.51 (1), Stats., if the department finds that the operator has complied with the approved reclamation plan. If the remaining financial security is not released, the department shall specify the reasons for retaining the financial security and shall include a schedule for reconsidering release of the financial security.

NR 132.123 Enforcement. (1) Any person who makes a statement known to the person to be false or misleading in any material respect or causes such a statement to be made in an application or report required under this chapter, who refuses to file any report required under this chapter, or who refuses to submit information required by the mining permit may be fined not less than \$1,000 nor more than

\$5,000. If the false or misleading statement is material to the issuance of the permit, the permit may be revoked. If any violation under this section is repeated the permit may be revoked.

(2) The department shall process possible violations of ch. 293, Stats., this chapter, any order issued under ch. 293, Stats., or this chapter or unapproved deviations from the approved mining plan or reclamation plan in accordance with s. 293.83 (1), Stats.

(3) Penalties for violations may be imposed in accordance with s. 293.87, Stats. Penalties may include revocation of a permit as set forth in s. 293.87, Stats.

(4) Six or more citizens may file a complaint with the department relating to alleged or potential environmental pollution caused by a mining operation in accordance with s. 293.89, Stats. The department shall process verified complaints related to alleged or potential environmental pollution as provided under s. 299.91, Stats.

(5)(a) The department may issue a stop order to an operator requiring an immediate cessation of mining, in whole or in part, at any time that the department determines that there exists an immediate and substantial threat to public health and safety or the environment.

(b) The department shall schedule a hearing on the stop order under par. (a), to be held within 5 days of issuance of the order and shall incorporate notice of the hearing in the copy of the order served upon the operator. Notice shall also be given to any other persons who have previously requested notice of such proceedings.

(c) Within 72 hours after commencement of the hearing under par. (b), unless waived by agreement of the parties, the department shall issue a decision affirming, modifying, or setting aside the stop order. The department may apply to the circuit court seeking an order to extend the time, for not more than 10 days, within which the stop order must be affirmed, modified, or set aside.

(d) The department shall set aside the stop order at any time, with adequate notice to the parties, upon a showing by the operator that the conditions upon which the order was based no longer exist.

(6) The department may, after hearing, cancel the mining permit as provided in ss. 293.83(3) and 293.85, Stats.

SECTION 4. CHAPTER NR 182 IS REPEALED AND RECREATED TO READ:

Chapter NR 182

NONFERROUS METALLIC MINERAL MINING WASTE MANAGEMENT

NR 182.101 Purpose. The purpose of this chapter is to regulate the location, design, construction, operation, maintenance, closure, and long-term care of the sites and facilities for the storage and disposal of nonferrous metallic mining and prospecting wastes and to coordinate the review, approval and oversight of such sites with the permitting and oversight processes specified in chs. NR 131 and NR 132 and chs. 289 and 293, Stats.

NR 182.102 Applicability.

- (1) This chapter governs sites and facilities used for storage and disposal of nonferrous metallic mining waste, as defined in this chapter which are part of a nonferrous metallic mineral mining or prospecting operation as defined in s. 293.01 (9) and (18), Stats.
- (2) This chapter establishes specific groundwater quality protection standards and procedures that are applicable to all facilities regulated under this chapter and to other facilities constructed as part of nonferrous metallic mining or prospecting operations permitted under ch. NR 131 or 132.
- (3) To the extent that nonferrous metallic prospecting or mining wastes are identified by the department as hazardous under s. 291.05 (1), Stats., the department shall regulate the disposal of such wastes under this chapter, and not under chs. NR 660 to 670, subject to amendment, if necessary, to comply with applicable federal regulations or otherwise to adequately protect the environment.
- (4) An operator shall maintain sites and facilities utilized for the storage, transportation, treatment, and disposal of non-mining solid wastes generated as part of nonferrous metallic mining operation, not covered by the definition of mining waste, in compliance with the provisions of chs. NR 500 to 555 and NR 660 to 670, as applicable.
- (5) The provisions of this chapter are not applicable to the design, construction, or operation of industrial wastewater facilities, sewerage systems, and waterworks treating liquid waste approved under s. 281.41, Stats., or permitted under ch. 283, Stats., nor to sites used solely for the disposal of liquid industrial wastes which have been approved under s. 281.41, Stats., or permitted under ch. 283, Stats.
- (6) To the extent mining wastes are used in the reclamation or construction of other facilities and structures on mining or prospecting sites, other than the waste facility itself, or for backfilling an underground mine or a prospecting excavation, the facilities where such waste are placed shall be exempt from the requirements of ch. 289, Stats., and this chapter but shall comply with the review and approval requirements of ch. 293, Stats., and ch. NR 131 or 132. Facilities used to store mining waste prior to being used for construction or reclamation or as backfill for an underground mine or prospecting excavation shall comply with this chapter.

(7) Surface mines that are backfilled with mining waste shall be subject to the requirements of this chapter except for ss. NR 182.105 and 182.106. For surface mines that are backfilled with mining waste, the mine pit and any land or appurtenances used for the storage of mining waste prior to its use as backfill shall be considered a single waste site. Facilities used to store mining waste prior to its being used as backfill for a surface mine shall comply with this chapter.

(8) An underground mine or a prospecting excavation which is backfilled with nonferrous mining waste in accordance with a prospecting permit or a mining permit issued under ch. NR 131 or 132 is not a waste site subject to regulation under this chapter.

NR 182.103 Definitions. In this chapter:

(1) "Active dam" means a dam and associated settling area into which tailings or wastewater, or both, are being introduced for purposes of clarification or that has not been reclaimed in an approved manner.

(2) "Active facility life" means the period of operation beginning with the initial receipt of mining waste at a facility until the facility ceases to accept waste and has completed all closure and reclamation activities in accordance with this chapter, chs. NR 131 and 132, and any applicable plan approvals and permits.

(3) "Alternative concentration limit" has the meaning specified in s. NR 140.05 (1m).

(4) "Applicant" means a person who has submitted a feasibility report or plan of operation or applied for a waste facility license under this chapter.

(5) "Aquifer" means a geologic formation, group of formations, or part of a formation that is saturated with water and can store and transmit water, such as to a well or a spring, in quantities sufficient to constitute a usable supply.

(6) "Asbestos" means the asbestiform varieties of serpentinite (chrysotile), riebeckite (crocidolite), cummingtonite-grunerite (amosite), anthophyllite, and actinolite-tremolite.

(7) "Background concentration" or "background water quality" means surface water or groundwater quality at or near a facility, practice or activity which has not been affected by that facility, practice or activity, established by monitoring at the proposed site, upgradient and downgradient of the proposed site and at representative reference sites, as necessary.

(8) "Baseline concentration" or "baseline water quality" means the concentration of a substance in groundwater or surface water as determined by monitoring at or near a proposed facility, practice, or activity before the facility has been constructed or the practice or activity has commenced.

(9) "Closure" means those actions to be taken by the owner or operator of a mining waste site or facility to prepare the site for long-term care and to make it suitable for other uses.

(10) "Closure plan" means a written report and supplemental engineering plans detailing those actions that will be taken by the owner or operator to effect proper closure of a nonferrous mining waste facility.

(11) "Closing" means the time at which a nonferrous mining waste site or facility ceases to accept wastes, and includes those actions taken by the owner or operator of the facility to prepare the site for long-term care and make it suitable for other uses.

(12) "Completeness" means a determination by the department that the minimum submittal requirements as established by this chapter for a plan or report have been met.

(12m) "Composite liner" or "composite capping system" means a liner or capping system consisting of 2 low permeability components installed in direct and uniform contact, with the upper component consisting of a geomembrane material and the lower component consisting of compacted low permeability soils or compacted fine-grained soils combined with a geosynthetic clay liner.

(13) "Construct" means to engage in construction and closure activities for a new or expanded mining waste facility including any of the following:

(a) Clearing and grading.

(b) Preparation and construction of facility base grade, leachate collection systems, liner systems, and final cover systems.

(c) Building of new structures.

(d) Replacement, expansion, remodeling, alteration, or extension of existing structures.

(e) Acquisition and installation of equipment associated with new, expanded, or remodeled structures.

(14) "Construction documentation report" means a written report submitted under the seal of a licensed professional engineer documenting that a nonferrous mining waste disposal site or facility has been constructed in substantial compliance with a department approved plan of operation and this chapter.

(15) "Department" means department of natural resources.

(16) "Depth of useable groundwater" means the depth into the Precambrian bedrock, as determined by the department, below which the groundwater is not reasonably capable of being used or made suitable for human consumption and is not hydrologically connected to other sources of groundwater that are suitable for human consumption.

(17) "Design capacity" means the total volume in cubic yards of waste that can be placed in a waste site, including the volume of any daily or intermediate cover material utilized in the facility, but not including final cover or topsoil.

(18) "Design management zone" has the meaning specified in s. NR 140.05 (6).

(19) "Disposal" means the discharge, deposit, injection, dumping, or placing of any mining or prospecting waste into or on any land or water so that the mining and prospecting waste or any constituent of the waste may enter the environment or be emitted into the air or discharged into any waters, including groundwaters.

(20) "Enforcement standard" has the meaning specified in s. NR 140.05 (7).

(21) "Establish" means to bring a mining waste disposal site or facility into existence, in compliance with applicable approvals and rules of the department.

(22) "Expand an existing site or facility" means to dispose of nonferrous mining waste on land not previously licensed, to dispose of mining waste not in accordance with a department issued plan approval, if one exists, or to dispose of mining waste in a manner significantly different from past operations.

- (23) "Facility" means any land or appurtenances to the land used for the storage or disposal of nonferrous mining wastes, but does not include land or appurtenances used in the production or transportation of mining wastes, such as the concentrator, haul roads, or tailings pipelines, that are permitted under ch. NR 131 or 132.
- (24) "Feasibility report" means a report for a specific nonferrous mining waste disposal site or facility that describes the facility, surrounding area, and proposed operation in terms of land use, topography, soils, geology, hydrology, groundwater, surface water, proposed waste quantities and characteristics, and preliminary site or facility design concepts.
- (25) "Fill area" means the area of a facility proposed to receive or that is receiving direct placement of nonferrous mining waste.
- (26) "Floodplain" means land that has been, prior to the effective date of this section [LRB inserts date], or may be after the effective date of this section [LRB inserts date], as determined by the department, covered by flood water during the regional flood as defined in ch. NR 116 and includes the floodway and the flood fringe as defined in ch. NR 116.
- (27) "Freeboard" means the height of the crest of the dam above the adjacent liquid surface within the impoundment.
- (27g) "Geomembrane" means a highly impermeable membrane made from plastic or rubber-based material by polymerization.
- (27r) "Geosynthetic clay liner" or "GCL" means factory manufactured geosynthetic product consisting of a layer of bentonite contained between geotextiles that are attached by adhesion, stitch bonding or needlepunching or a layer of bentonite attached to a geomembrane by adhesion.
- (28) "Groundwater" means any waters of the state, as defined in s. 281.01 (18), Stats., occurring in a saturated subsurface geological formation of rock or soil.
- (29) "Groundwater quality" means the chemical, physical, biological, thermal, or radiological quality of groundwater at a site or within an underground aquifer.
- (30) "Groundwater standard" means a preventive action limit, alternative concentration limit, or enforcement standard established in accordance with ch. NR 140 and this chapter.
- (31) "Inactive dam" means a dam and associated settling area that is no longer being used for disposal of wastewater or tailings, or both, and that has been reclaimed in an approved manner.
- (33) "Leachate" means water or other liquid that has percolated through or contacted nonferrous mining waste materials.
- (34) "Licensed professional engineer" means a professional engineer registered with or licensed by the Wisconsin department of safety and professional services.
- (35) "Licensed professional geologist" means a professional geologist registered with or licensed by the Wisconsin department of safety and professional services.
- (36) "Limits of filling" means the outermost limit at which waste from a facility has been disposed of or approved or proposed for disposal.

- (37) "Long-term care" has the meaning specified in s. 289.01 (21), Stats.
- (38) "Merchantable by-product" has the meaning specified in s. 293.01 (7), Stats.
- (39) "Mine" means an excavation at or below the earth's surface made to extract nonferrous metallic minerals.
- (40) "Mining" or "mining operation" has the meaning specified in s. 293.01 (9), Stats.
- (41) "Mining site" has the meaning specified in s. 293.01 (12), Stats.
- (42) (a) "Mining waste" or "nonferrous mining waste" means any refuse, sludge, or other discarded material, including solid, liquid, semi-solid, or contained gaseous material, resulting from nonferrous metallic mineral prospecting or mining, or from the cleaning, preparation or concentration of nonferrous metallic minerals during prospecting or mining operations.
- (b) "Mining waste" include tailings, waste rock, mine overburden, and waste treatment sludges.
- (c) "Mining waste" does not include topsoil and mine overburden not disposed of in a waste site, but placed in a facility permitted under ch. NR 131 or 132, to be returned to the mine site or used in the reclamation process, and does not include merchantable by-products.
- (d) "Mining waste" does not include trees and other vegetation removed from the mining site during site preparation and facility construction.
- (43) "Monitoring" means all procedures used to systematically inspect and collect data on the performance of a facility relating to leachate and gas production or the effect on the quality of the air, groundwater, surface water, unsaturated zone, or soils.
- (44) "Non-mining solid waste" means solid waste generated as part of a nonferrous prospecting or mining operation that is not mining waste and includes materials such as discarded vegetation, tires, barrels, sanitary waste, and various other solid waste materials defined in ch. NR 500, including construction and demolition waste, garbage, commercial solid waste and municipal solid waste.
- (45) "Operator" means the person who is responsible for the overall operation of a nonferrous mining waste facility or for part of a nonferrous mining waste facility.
- (46) "Ore" means a naturally occurring material from which nonferrous metallic minerals can be recovered at a profit.
- (47) "Overburden" means any unconsolidated geologic material such as till, sand and gravel, or weathered bedrock that may be removed during mining.
- (48) "Owner" means any person who owns a nonferrous mining waste facility or part of a nonferrous mining waste facility whether individually, jointly, or through subsidiaries, agents, employees, or contractors.
- (49) "Person" means an individual, trust, firm, cooperative, institution, joint stock company, corporation, including a government corporation, partnership, association, state, municipality, commission, political subdivision of a state, interstate body, or federal or state department, agency, or instrumentality.

- (50) "Plan of operation" means a report submitted for a nonferrous mining waste disposal site or facility that describes its location, design, construction, sanitation, operation, maintenance, closing, and long-term care.
- (51) "Pollution" means the contaminating or rendering unclean or impure the air, land, or waters of the state, or making the same injurious to public health, harmful for commercial or recreational use, or deleterious to fish, bird, animal or plant life.
- (52) "Preventive action limit" has the meaning specified in s. NR 140.05 (17).
- (53) "Proof of financial responsibility" means a deposit or other financial instrument in compliance with ss. 289.41 and 293.51 (1g), Stats., ensuring that sufficient funds will be available to comply with the closure and long-term care requirements of this chapter and the approved plan of operation.
- (54) "Prospecting" has the meaning specified in s. 293.01 (18), Stats.
- (55) "Reclamation plan" means the proposal for the reclamation of the nonferrous prospecting or mining site, including the closure of a mining waste disposal site or facility, that is approved by the department under s. 293.45 or 293.49, Stats., and ch. NR 131 or 132 as part of the prospecting or mining permit.
- (56) "Refuse" has the meaning specified in s. 293.01(25), Stats.
- (57) "Soil" means material that has been physically and chemically derived from the bedrock by nature.
- (58) "Solid waste" has the meaning specified in s. 289.01 (33), Stats.
- (59) "Statistically significant change" means an amount of change determined by the use of valid statistical procedures for measuring significance at a level of 0.05.
- (60) "Storage" means the temporary placement of nonferrous mining waste in such a manner as to not constitute ultimate disposal, in compliance with a mining permit or prospecting permit and plans approved under this chapter.
- (61) "Tailings" means waste material resulting from the washing, concentration, chemical extraction or treatment of crushed ore.
- (62) "Termination" means the final actions taken by an owner or operator of a nonferrous mining waste facility when formal responsibilities for long-term care cease.
- (63) "Topsoil" means natural loam, sandy loam, silt loam, silt clay loam, or clay loam humus-bearing soils or other material that will easily produce and sustain dense growths of vegetation capable of preventing wind and water erosion of the material itself and other materials beneath.
- (64) "USGS" means the United States Geological Survey.
- (65) "Waste rock" means consolidated rock that has been removed during mining or prospecting but is not of sufficient value at the time of removal to constitute an ore.
- (66) "Waste site" or "waste sites and facilities" means any land or appurtenances used for the storage or disposal of nonferrous mining waste, but does not include land or appurtenances used in the production or transportation of nonferrous mining waste, such as the concentrator, haul roads, or tailings pipelines, which are permitted under ch. NR 131 or 132.

(67) "Well" means any drillhole or other excavation or opening constructed for the purpose of obtaining or monitoring groundwater.

(68) "Well nest" means 2 or more wells installed within 10 feet of each other at the ground surface and constructed to varying depths.

(69) "Wetland" means an area where water is at, near, or above the land surface long enough to be capable of supporting aquatic or hydrophytic vegetation and that has soils indicative of wet conditions.

NR 182.104 General submittal requirements. Unless otherwise specified in this chapter, all submittals for review and approval of any feasibility report, plan of operation, construction documentation report, or closure plan shall include the following:

(1) PAPER AND ELECTRONIC COPIES. Unless otherwise specified, an applicant shall submit 5 paper copies and one electronic copy of the plan or report prepared pursuant to the appropriate section of this chapter, and an additional reproducible digital or electronic copy of any plan sheets or drawings submitted as a part of the plan or report. The paper copies and electronic copies shall be submitted to the department's waste and materials management program in Madison unless otherwise specified by the department. The complete electronic copy of the report and the separate digital or electronic copy of any plan sheets or drawings shall be provided in formats and on media acceptable to the department.

(2) COVER LETTER. An applicant shall prepare a letter detailing the desired department action or response in reference to the submittal.

(3) CERTIFICATION. (a) An applicant shall prepare and submit the reports and plan sheets under the seal of a licensed professional engineer. In addition, the applicant shall include the following certification:

"I, _____, hereby certify that I am a licensed professional engineer in the State of Wisconsin in accordance with the requirements of ch. A-E 4, Wis. Adm. Code; that this document has been prepared in accordance with the Rules of Professional Conduct in ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements ch. NR 182, Wis. Adm. Code."

(b) An applicant shall prepare feasibility reports, plans of operation, site investigation, and any other reports that require interpretation of geology or hydrogeology under the seal of a licensed professional geologist. In addition, an applicant shall include the following certification:

"I, _____, hereby certify that I am a licensed professional geologist in the State of Wisconsin in accordance with the requirements of ch. GHSS 2, Wis. Adm. Code; that the preparation of this document has not involved any unprofessional conduct as detailed in ch. GHSS 5, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in ch. 182, Wis. Adm. Code."

(4) TECHNICAL PROCEDURES. An applicant shall use the current standard procedures as specified by ASTM International, USGS, U.S. environmental protection agency's standard methods for the examination of water and wastewater, or other equivalent or appropriate methods approved by the department to complete all technical procedures used to investigate a mining waste facility. An applicant shall specify the test procedures used in the report. An applicant shall explain in detail, with reasons provided, any deviation from a standard method used in the report.

(5) VISUALS. An applicant shall provide maps, figures, photographs and tables to clarify information or conclusions. The visuals shall be legible and submitted in reproducible printed form and electronic format, specified by the department. All paper copies of maps, plan sheets, drawings, isometrics, cross-sections and aerial photographs shall meet all of the following requirements:

(a) Printed visual materials may not be larger than 32 inches by 44 inches and may not be smaller than 8 1/2 inches by 11 inches. Printed photographs may not be smaller than 4 inches by 6 inches. Engineering plans shall be drawn on standard 24 inch by 36-inch plan sheets, except that if facility details cannot be adequately depicted on standard plan sheets at a 1:100 scale, the engineering plans may be drawn on 30 inch by 42 inch plan sheets.

(b) Be of appropriate scale to show all required details in sufficient clarity.

(c) Be numbered, referenced in the narrative, titled, have a legend of all symbols used, contain horizontal and vertical scales, where applicable, and specify drafting or origination dates.

(d) Use uniform scales.

(e) Contain a north arrow.

(f) Use mean sea level as the basis for all elevations.

(g) Contain a survey grid based on monuments established in the field that utilizes a coordinate system and datum acceptable to the department.

Note: Examples of acceptable coordinate systems include state plane, Universal Transverse Mercator, and Wisconsin Transverse Mercator.

(h) Show original topography and the grid system on all plan sheets showing construction, operation, or closure topography. For complex plans, existing conditions within the mining waste facility area may be shown by lighter lines or may be eliminated.

(i) Show survey grid location and reference major plan sheets on all cross-sections. A reduced diagram of a cross-section location plan view map shall be included on the sheets with the cross-sections.

(6) TABLE OF CONTENTS. An applicant shall include a table of contents listing all sections of the submittal.

NR 182.105 Location criteria. No person may establish, construct, operate, maintain, or permit the use of property for a nonferrous mining waste facility within any of the following areas, except pursuant to an exemption granted under s. NR 182.19:

(1) Within areas identified as unsuitable in s. 293.01 (28), Stats., and in s. NR 131.103 or 132.103 (27). In addition to the areas specified in s. 293.01 (28) (a), Stats., the presence of endangered and threatened species as designated by the department under s. 29.604, Stats., shall be considered.

(2) Within 1,000 feet of any navigable lake, pond, or flowage.

(3) Within 300 feet of a navigable river or stream.

(4) Within a floodplain.

(5) Except when the site is screened by natural objects, plantings, fences, or other appropriate means so as to be as aesthetically pleasing and inconspicuous as is feasible, within 1,000 feet of the nearest edge of the right-of-way of any of the following:

- (a) Any state trunk highway, interstate highway, or federal primary highway.
- (b) The boundary of any state or federal park.
- (c) The boundary of a scenic easement purchased by the department or the department of transportation.
- (d) The boundary of a designated scenic or wild river.
- (e) A scenic overlook designated by the department by rule.
- (f) A bike or hiking trail designated by the United States congress or the state legislature.
- (6) Within 1,200 feet of any public or private water supply well.
- (7) Within an area that contains known mineral resources at the time of initial application that are likely to be mined in the future and lie within 1,000 feet of the surface.
- (8) Within 200 feet of a fault that has had displacement in Holocene time.
- (9) Within seismic impact zones.
- (10) Within unstable areas.
- (11) Within 200 feet of the property line.
- (12) Within an area where the department, after investigation, finds that there is a reasonable probability that disposal of mining waste within such an area will result in a violation of applicable surface water quality criteria and standards as specified in chs. NR 102 to 104.
- (13) Within an area where the department finds, after investigation, there is a reasonable probability that disposal of mining waste within such an area will cause groundwater quality enforcement standards to be attained or exceeded beyond the design management zone specified in s. NR 182.107.
- (14) Within wetlands, except pursuant to the provisions under s. 281.36, Stats.

NR 182.106 Minimum design and operation requirements.

(1) An operator shall locate, design, construct, and operate a waste site or facility approved and licensed by the department under this chapter to meet all of the following requirements:

- (a) Comply with water quality standards issued under s. 281.15, Stats.
- (b) Comply with standards promulgated pursuant to s. 283.21 (1), Stats.
- (c) Comply with ch. 283, Stats., if the facility has a storm water discharge or a point source discharge to the waters of the state, including any point source discharge from a leachate or surface water runoff collection system.
- (d) Have the approval of the municipal authority for a point source discharge regulated under ch. 283, Stats., if the facility discharges to a publicly owned treatment works.

- (e) Prevent air emissions from such site or facility from causing a violation of standards or rules promulgated under ch. 285, Stats.
- (f) Ensure consistency with the requirements of ch. 293, Stats., chs. NR 131 and 132, and all permits and plans approved under those rules.
- (2) In addition to all other requirements of this chapter, no person may construct, establish, operate, or maintain a waste site except in conformance with the conditions attached to the feasibility approval pursuant to the hearing under s. 293.43, Stats., the approved plan of operation, and all of the following requirements:
- (a) An operator may not deposit waste in a manner that the waste or leaching therefrom will result in a violation of any groundwater standard or surface water quality criteria or standards as specified in chs. NR 102 to 104 or in this chapter.
- (b) An operator shall divert surface water drainage away from and off the active fill area and treat as necessary to ensure compliance with applicable water quality standards and criteria.
- (c) An operator shall restrict access to the site or facility, particularly the active disposal area, through the use of fencing, natural barriers, or other methods approved by the department.
- (d) An operator shall make the entire perimeter of the active disposal site accessible for inspection and appropriate heavy equipment and other vehicular access required for emergency maintenance.
- (e) An operator shall strip any area to be utilized for the disposal of mining waste or borrow areas of all topsoil to ensure that adequate amounts are available for closure or other measures approved by the department to protect topsoil. An operator shall consider environmental and reclamation factors, unless the department determines that such action will be environmentally undesirable.
- (f) An operator shall use effective means to control dust resulting from the site or facility as under s. NR 415.04.
- (g) An operator shall abandon all soil borings and monitoring wells in accordance with the requirements of ch. NR 141.
- (h) An operator shall make provisions for back-up equipment in the event of critical operating equipment breakdown.
- (i) An operator shall include contingencies for emergency conditions in design and operation specifications for mining waste facilities. Such contingencies may include emergency power supplies, equipment redundancies, or temporary holding facilities.
- (j) An operator shall ensure that any mining waste facility designed with a liner or situated in sufficiently low permeability soils to either partially or totally contain leachate are designed with a leachate management system that can effectively remove leachate, prevent surface seeps, and promote adequate settlement to permit final reclamation.
- (k) An operator may dispose or store only waste types and sources listed on the license or otherwise approved by the department in writing, in an approved mining waste facility.

(L) An operator shall maintain the final slopes of a closed mining waste site to be no less than 2 percent and no greater than 33 percent unless the site or facility is specifically designed for a final use compatible with other slopes.

(m) An operator shall ensure that all sites have a final cover designed to minimize infiltration and subsequent leachate production unless the department approves an alternate cover in the reclamation plan or unless the department determines that such cover is not necessary to comply with the environmental standards of this chapter.

(n) An operator shall make provisions for the collection and treatment of leachate for all sites designed to contain leachate.

(o) An operator shall locate, design, construct, and operate a waste site so that any liner system or naturally occurring soil barrier is compatible with all disposed or stored mining waste.

(p) An operator shall ensure that tailings impoundments and other water-holding facilities constructed as part of the mining waste site are designed to contain the 100-year, 24-hour rainfall event and to prevent overtopping by waves during this design storm, or designed to contain the 100-year, 24-hour rainfall event and maintain a minimum of 5 feet of freeboard. The size of the storm event shall be determined based on current rainfall probability data, including models or forecasts, approved by the department for this purpose.

(q) An operator shall select and design drainage or filter bed material to promote drainage, reduce the potential for piping, and be stable under leaching conditions.

(r) An operator shall ensure that material used in earth embankments or drainage or filter bed material is free, to the extent practicable, of vegetation, organic soils, frozen soils, and other extraneous matter that could affect the compactibility, density, permeability, or shear strength of the finished embankment.

(s) An operator shall compact embankment materials or drainage or filter bed materials to 95 percent of the maximum dry density as determined by the standard proctor compaction test or to a greater density as dictated by the embankment height. The material shall be compacted in lifts of 6 to 8 inches in thickness. If waste rock is approved by the department for use outside an earth core, compaction and crushing of such waste rock may not be necessary if the applicant demonstrates that stable slopes can be constructed and maintained without compaction and crushing of the waste rock.

(t) An operator shall provide emergency spill areas along the tailings pipeline corridor to allow for draining the pipeline, if necessary, in case of power interruptions or pipeline failure. Tailings pipelines should be self-draining to the tailings area or to an emergency spill area or both. In some cases, such as a long pipeline over rough country, the department may require several spill areas to be provided.

(3) An operator shall design and operate mining waste facilities to ensure management of stormwater in a manner that minimizes uncontrolled releases and adverse environmental impacts. Provisions for stormwater management shall incorporate all of the following:

(a) An operator shall design storm water drainage ditches, structures, and sedimentation basins such that the construction of these items shall occur during the initial stage of construction to control runoff and limit entrained sediment from reaching surface water bodies.

(b) An operator shall incorporate all of the following concepts in the design of both temporary and permanent erosion and sediment control measures:

1. Schedule grading and construction to minimize soil exposure.
2. Retain existing vegetation whenever feasible.
3. Vegetate and mulch disturbed areas.
4. Divert runoff away from disturbed areas and active fill areas.
5. Minimize runoff velocities.
6. Prepare drainageways and outlets to handle concentrated or increased runoff.
7. Trap sediment on site.
8. Inspect and maintain runoff control structures.

(c) An operator shall perform the design calculations required in pars. (d), (e), and (f) for the period in the mining waste facility's development during which the combination of surface conditions and contributing acreage would result in the greatest runoff volume.

(d) An operator shall design all permanent storm water drainage ditches, sedimentation or retention ponds, swales, conveyance channels, channel linings, outlet protection, culverts, and other storm water control structures handling flow onto or off the mining waste facility to accommodate peak flow rates from a 100 year, 24-hour storm event. The size of the storm event shall be determined based on current rainfall probability data, including models or forecasts, approved by the department for this purpose.

(e) An operator shall design temporary and permanent sediment control measures to settle 0.015 mm size particles for all storms up to, and including, the 25 year, 24-hour storm. The surface area for permanent sediment basins shall be calculated using the rainfall intensity over the 25 year, 24-hour storm event for the mining waste facility. Principal spillways, and outlet protection for sediment basins shall be designed to pass a 100 year, 24-hour storm event. Emergency spillways for sedimentation basins shall be designed to pass a 100 year, 24-hour storm event. The size of the storm event shall be determined based on current rainfall probability data, including models or forecasts, approved by the department for this purpose. The design of the dewatering structures for sediment basins shall be selected such that the basin is dewatered in no less than 3 days. An analysis shall be performed to document compliance with this requirement.

(f) An operator shall design containment berms placed around active fill areas to control and collect the liquid volume resulting from the 100 year, 24-hour storm event. The design shall consider the volume of liquid generated from active fill areas, including all areas with exposed solid waste or areas with waste covered by daily cover. The size of the storm event shall be determined based on current rainfall probability data, including models or forecasts, approved by the department for this purpose. Storm water in contact with active fill areas shall be handled and treated as leachate.

(g) An operator shall divert storm water away from the active fill area of the mining waste facility and any borrow areas to a sedimentation control structure.

(h) An operator shall ensure that storm water drainage ditches, structures, and sedimentation basins discharge along existing drainage patterns capable of accepting the anticipated flow volume. An operator shall perform an analysis to determine the amount and velocity of runoff prior to mining waste facility development and to document compliance with this requirement.

- (i) An operator shall design storm water diversion and construction at a mining waste facility to minimize impacts, such as erosion, sedimentation, and flooding.
- (j) An operator shall ensure that the design of all storm water management features complies with all applicable requirements of the department including ch. NR 103 and permits required under ch. 30, Stats.
- (4) An applicant shall consider the following parameters and concepts when planning, designing, constructing, and operating a mill and a mining waste facility, the application of which shall be dependent on the specific design, the nature of the waste, the composition of any leachate associated with the waste, and the hydrogeologic conditions existing at the disposal site:
 - (a) When practicable, on a site-specific basis, an operator shall ensure that a mining waste facility is located in the same watershed as the mining surface facilities.
 - (b) When practicable, on a site-specific basis, an operator shall ensure that a mining waste facility is located so that tailings pipelines do not cross any major watercourse or pass through any wetland where such crossing would be inconsistent with s. 281.36, Stats. Tailings pipelines shall be as short as practicable.
 - (c) An operator shall minimize upstream rainfall catchment areas.
 - (d) An operator shall ensure that the outside crest of the dam or embankment is higher than the inside crest in order to force runoff on the crest to the inside of the dam.
 - (e) When practicable, an operator shall ensure that the design of a mining waste disposal facility facilitates and incorporates ongoing or staged reclamation.
 - (f) An operator shall market mining wastes that are not used for construction or reclamation purposes and that present a significant risk of environmental pollution subject to all of the following requirements:
 1. An operator shall ensure that the products and by-products of such marketing will not result in a greater potential for environmental pollution.
 2. An operator shall ensure that a market for a particular waste is reasonably available.
 3. An operator shall ensure that the costs for disposing of such waste exceeds the costs for its marketing.
 - (g) An operator shall minimize, in the disposal of mining waste, the discharge of environmental pollutants to the groundwaters of the state.
- (5) The applicant shall give high priority to the selection of a design and operating procedure for the mine, mill, and mining waste disposal sites that will provide for the reclamation of all disturbed sites and minimize the risk of environmental pollution. When practicable, an applicant shall select facilities and practices to ensure any of the following:
 - (a) Minimize production of mining waste through the design and operation of the mining facility.
 - (b) Provide for the segregation of acid-generating wastes from those materials that are not acid-generating waste.
 - (c) Provide for eventual underground backfill of waste, in the event of underground mining, with emphasis on segregated acid-generating materials.

NR 182.107 Groundwater standards and evaluation. (1) GROUNDWATER QUALITY.

(a) *Applicability.* Notwithstanding the applicability provisions of s. NR 140.03, under the authority of ss. 293.15 (11) and 293.66, Stats., mining waste facilities regulated under this chapter and other facilities situated on a prospecting site regulated under ch. NR 131 or a mining site regulated under ch. NR 132, shall comply with the groundwater quality standards specified in ch. NR 140 as implemented in this section.

(b) *Design management zones.* 1. The horizontal distance to the boundary of the design management zone for mining waste facilities regulated under this chapter shall be 1,200 feet from the limits of filling, unless reduced under s. NR 140.22 (3), or at the boundary of property owned or leased by the applicant, whichever distance is less.

2. The horizontal distance to the boundary of the design management zone for a surface mine or surface prospecting excavation shall be 1,200 feet from the edge of the mine or prospecting excavation, unless reduced under s. NR 140.22 (3), or at the boundary of property owned or leased by the applicant, whichever distance is less.

3. The horizontal distance to the boundary of the design management zone for an underground mine or prospecting excavation shall be 1,200 feet from the maximum outer edge of the underground prospecting or mine workings adjacent to the ore body as projected to the land surface, unless reduced pursuant to s. NR 140.22 (3), or at the boundary of property owned or leased by the applicant, whichever distance is less.

4. The horizontal distance to the boundary of the design management zone for facilities, other than the prospecting excavation, mine, and mining waste facility, situated on a prospecting site regulated under ch. NR 131 or a mining site regulated under ch. NR 132, shall be as specified in Table 4 of ch. NR 140, if listed, or 150 feet from the edge of the facility, unless expanded or reduced under s. NR 140.22 (3), or at the boundary of property owned or leased by the applicant, whichever distance is less.

(c) *Depth of useable groundwater.* 1. For facilities located on a mining or prospecting site or any activity that will take place under a mining or prospecting permit or under another approval related to a mining or prospecting operation, the department shall determine the depth of useable groundwater.

2. For an activity regulated under a mining or prospecting permit or another approval related to the mining or prospecting operation, the department may not apply a groundwater enforcement standard at any point that is deeper than the depth of useable groundwater.

(d) *Mandatory intervention boundary.* The horizontal distance to the mandatory intervention boundary for a mining waste facility or a surface or underground mine or prospecting excavation shall be 150 feet from the limits of filling, the outer edge of the mine or prospecting excavation, or the outer edge of the underground workings as projected vertically to the land surface, unless the boundary of the design management zone is within 300 feet of the outer waste boundary, mine, prospecting excavation, or underground prospecting, or mine workings. In no case may the mandatory intervention boundary extend more than one half the distance from the limits of filling, mine, prospecting excavation, or underground prospecting or mine workings to the boundary of the design management zone. The mandatory intervention boundary shall apply as provided in subs. (1s) and (1u).

(1p) SUBSTANCES WITHOUT A STANDARD UNDER CH. NR 140. For any substance for which there is not an enforcement standard and preventive action limit in ch. NR 140, the waste site, mine and other facilities

on a mining site may not cause concentrations that have a substantial deleterious impact on a current beneficial use or a significant future beneficial use of groundwater, such as drinking, irrigation, aquaculture, maintenance of livestock, or maintenance of aquatic and terrestrial ecosystems, as designated by the department.

(1s) CONTINGENCY PLAN. (a) As part of its plan of operation approval issued under s. NR 182.109 (3) (b), the department shall determine the adequacy of the contingency plan submitted by the applicant under s. NR 182.109(2)(d) that specifies the action that will be taken if an analysis of groundwater samples requires a response under ss. NR 140.24 to 140.27 and this section. The contingency plan shall provide that the response protocol includes a comparison of the observed sampling results to the results of the original predictive modeling, completed as part of the feasibility report and mine permitting and environmental review processes, and updated predictive modeling completed subsequent to the start of operation. If the comparison indicates that the observed sampling results are consistent with the design and expected performance of the facility, and the sampling results indicate that an enforcement standard or a preventive action limit has not been exceeded within the depth of useable groundwater and beyond the mandatory intervention boundary, the operator may recommend a no response action in accordance with s. NR 140.24.

(b) If the analyses of groundwater samples collected as part of the operational groundwater monitoring program indicate that the quality of the groundwater is statistically significantly different from either baseline or background, the owner shall do all of the following:

1. Notify the department immediately.
2. Determine, if possible, the cause of the difference in quality, such as the result of a spill, a design failure, or an improper operation procedure.
3. Determine the extent of groundwater contamination or the potential for groundwater contamination.
4. Implement the applicable portion of the contingency plan and notify the department promptly of any additional remedial steps being taken.

(c) 1. If a preventive action limit or an enforcement standard has been exceeded within the depth of useable groundwater and beyond the mandatory intervention boundary, the department shall require a response in accordance with s. NR 140.24, but may not approve a no action response under s. NR 140.24 (5).

2. If a response under s. NR 140.24 (5) has previously been taken, and if subsequent monitoring results are consistent with updated predictive modeling projections and indicate that the groundwater standards will not be attained or exceeded within the depth of useable groundwater and at the design management zone, the department may determine that a no additional response is necessary.

3. Notwithstanding the provisions of s. NR 182.119, an exemption under s. NR 182.119 may not be granted to subd. 1.

(1u) MONITORING AND INTERVENTION. (a) The department shall apply all of the following requirements, in conjunction with the requirements of ss. NR 132.117 and 182.113:

1. The operator of a prospecting or mining site shall monitor groundwater quality at locations approved by the department along the mandatory intervention boundary and the boundary of the design management zone for the mining waste site and other facilities specified by the department.

2. The operator of a prospecting or mining site shall monitor groundwater quality at locations approved by the department within the mandatory intervention boundary and the design management zone for the mining waste site and other facilities specified by the department.
3. The department shall require intervention by the operator in accordance with the provisions of the contingency plan, submitted as part of the plan of operation under s. NR 182.109, when analyses of samples from monitoring points within the design management zone or within the mandatory intervention boundary show a reasonable probability that, without intervention, there may be a violation of the established groundwater quality standards at the boundary of the design management zone. The department shall use the results of the predictive modeling submitted by the applicant as part of the feasibility report, mining permit application, environmental impact report, and other information available to the department to determine criteria of "reasonable probability."
4. The department may specify additional monitoring locations and tests needed to support a comparative analysis of the observed groundwater quality and the predicted impacts to groundwater quality documented in the feasibility report, mining permit application, environmental impact report and wastewater engineering report.
5. An operator shall monitor groundwater at locations approved by the department in the vicinity of the prospecting or mining site on a monthly basis for at least 12 consecutive months during the initial site preparation and construction phase at the mining waste site and prospecting or mining site to further characterize baseline water quality prior to operation. An operator shall include, in the parameters analyzed, those substances specified by the department for monitoring, indicator parameters as specified by the department, parameters identified as important based on characteristics of the mining wastes, and any other parameters deemed appropriate by the department for the specific conditions of the site.
6. An operator shall conduct monitoring of groundwater quality within aquifers potentially affected by the prospecting or mining activity at locations which are not expected to be affected by the prospecting or mining operation or the mining waste facility.

(b) In addition to the requirements under par. (a), the department shall specify the parameters for groundwater analysis and may include those considered indicator parameters and those important parameters identified from the waste characterization studies that may be appropriate under the specific conditions.

(1x) NON-COMPLIANCE WITH GROUNDWATER STANDARDS. (a) If the department has reason to believe that a site is not in compliance with the requirements of this section, or if the department projects with reasonable probability that a site will not achieve such compliance at the boundary of the design management zone and within the depth of useable groundwater, it shall require the operator to take appropriate intervention measures specified in the contingency plan submitted under s. NR 182.109, and may take additional actions including those prescribed in s. NR 140.26.

(2) GROUNDWATER QUANTITY.

(a) The department shall evaluate proposed mining waste facilities to determine whether construction, operation, and closure of the facility will result in the unreasonable detriment of public or private water supplies or the unreasonable detriment of public rights in the waters of the state. The department may not approve any mining waste facility if the facility is likely to result in unreasonable detriment of public or private water supplies or the unreasonable detriment of public rights in the waters of the state.

(b) If the department finds that the proposed waste site will result in the unreasonable detriment of public or private water supplies or the unreasonable detriment of public rights in the waters of the state, the department shall either deny necessary approvals or the operating license for the facility or impose conditions on the necessary approvals and operating license in a manner consistent with s. 293.65 (3) (b), Stats.

NR 182.108 Feasibility report. (1) An applicant is encouraged to contact the department during the early stages of project planning and development to determine what permits and approvals may be required and to assure that submissions are consistent with department requirements.

(2) No person may establish or construct a mining waste site or expand an existing mining waste site without first obtaining approval of a feasibility report and a plan of operation from the department. The purpose of the feasibility report is to determine whether the site may be approved for the purpose intended and to identify any conditions that must be included in the plan of operation and in the license issued under this chapter. The feasibility report shall be prepared and submitted to the department in accordance with s. NR 182.104. The feasibility report shall be submitted at the same time as the permit application and plans submitted under ch. NR 131 or 132 and shall be consistent with the applications and plans submitted under ch. NR 131 or 132. If the proposed mining waste site is a surface mine backfilled with mining waste, the feasibility report submittal provisions of this section may be satisfied by including the information required by this section in the mining permit application submitted under ch. NR 132 and issuance of the mining permit shall constitute approval of the feasibility report and favorable determination of site feasibility. The amount of regional and site-specific information and data required for each waste site may vary and shall be based on results of the waste characterization studies, but shall, at a minimum, contain all of the following, unless such information is contained in the submittal of documents required under chs. NR 131, 132, or 150 or s. 23.11 (5), Stats.:

(3) The feasibility report shall contain a general overview of the proposed mining waste facility that includes all of the following:

- (a) The project title.
- (b) The name, address and phone number of the person who has been designated by the applicant as the primary contact for departmental correspondence.
- (c) The owner of the proposed facility.
- (d) The location of the proposed facility.
- (e) The proposed licensed acreage of the proposed facility.
- (f) The proposed facility life and range of disposal capacity of the proposed facility.
- (g) The estimated waste types and quantities to be contained in the proposed facility.

(4) The feasibility report shall include discussion of waste characterization studies and analysis of all mining wastes that may be disposed of or stored in the mining waste site. Waste characterization studies shall be conducted in accordance with all of the following:

- (a) Waste characterization and analysis shall identify the characteristics of the wastes necessary to enable the applicant to comply with the requirements of these regulations. The waste characterization shall include an evaluation of the quantities, variability, and physical, radiologic, and chemical properties of

each waste type at a level of detail necessary to support predictive modeling and assessment of potential environmental impacts related to waste handling, storage, and disposal that is sufficient to allow the department to evaluate the effectiveness of facility design and to determine the appropriate regulatory controls and monitoring requirements. The evaluation under this subdivision may include a review of the literature and results from similar existing facilities, materials, or studies in addition to project-specific characterization and analyses.

(b) Testing shall be performed on representative samples of material available or obtained through additional sampling programs, on individual wastes from the mining and milling process, and on composite wastes where mixed storage or disposal of individual wastes is proposed. When either physical or chemical segregation of a waste is proposed, each individual waste shall be tested. If representative samples of waste materials are not available and the applicant demonstrates the cost of obtaining the samples are prohibitive or technically infeasible, the analyses shall be based on the most suitable surrogate information, as determined by the department, and reasonable worst case assumptions and analyses, as determined by the department, shall be incorporated into the waste characterization evaluation and related analyses in the absence of direct analytical results. The major components of waste characterization and analysis shall include all of the following:

1. Identification of all wastes that will be disposed of or stored in the waste site. Identification shall include classification of waste types, estimation of the generation rates and volumes of each waste type, and an explanation of the ultimate disposition of each waste type.
2. Chemical, mineralogical, petrological, and radiological analyses of the wastes.
3. Particle size analyses of the wastes including specific surface area as a function of particle size.
4. Laboratory dissolution testing, of appropriate duration, to determine the acid producing characteristics of the wastes, the acid-consuming characteristics of the waste and how the waste composition and physical characteristics affect the overall acid-generation and dissolved solids dissolution from the wastes. Testing shall include both static and kinetic testing protocols appropriate for the specific waste material and shall follow the best available test methodology recommended by ASTM International or other appropriate authority.
5. Determination of the leaching potential of the wastes and determination of the composition of the resulting leachate.
6. Assessment of the presence, distribution, and abundance of asbestiform minerals in the waste materials.
7. A discussion and evaluation of the physical, radiologic, and chemical properties of the wastes materials that are critical in developing facility storage or disposal plans and designs.
8. An evaluation of the reagents proposed for use in the mining operation and how the degradation and transport of reagents may affect mineral dissolution of the waste materials, particularly tailings and leached ore materials.
9. The applicant shall describe in detail the testing methods and chain of custody protocols employed in evaluating the waste characteristics and shall provide to the department justification for the use of such methods. Test methods shall include static testing and kinetic testing of adequate duration so reactions are reasonably complete and shall also develop appropriate geochemical modeling to assess the waste characterization results and for use in predictive analyses. If the department cannot reasonably verify the

methods utilized by the applicant or the results therefrom other than by independent testing, the department may require that the applicant provide representative samples to the department for such independent testing. Use of these samples shall recognize the effect of time upon the representativeness of sample analysis results.

(c) When appropriate, and if sufficient quantities of materials from bulk sampling or prospecting are available, the applicant shall conduct, if required by the department, a field-testing program to both supplement and verify literature survey and laboratory-scale testing programs.

(d) The applicant is encouraged to develop methods of waste handling that will result in the reuse or recovery of such materials. Accordingly, the feasibility report shall include a discussion of alternative methods of disposal of waste materials, including an analysis of the practicability of the reuse, sale, recovery, or processing of such wastes for other purposes.

(e) The applicant shall use the results of the waste characterization and geochemical modeling analyses, combined with information from the evaluation of regional and other site-specific information, in the feasibility report and plan of operation to evaluate facility siting alternatives, determine necessary site specific information, and develop appropriate design, construction, operation, monitoring, and long-term care requirements for each category of waste.

(f) The applicant shall provide a summary of the waste characterization as it relates to the handling, storage, and disposal of the waste.

(5) The feasibility report shall include a discussion of the regional site setting to provide a basis for comparison and interpretation of site-specific information obtained through field investigations. The applicant shall limit the discussion to information available from state agency files and publications although some field verification and updating may be necessary. The applicant shall collect and synthesize regional information from that area that may affect or be affected by the proposed mining waste site, which in most instances will be the proposed site, and the area within a radius up to 5 miles from the site. The applicant shall supplement the discussion with maps or cross-sections, when appropriate. In the discussion, the applicant shall address all of the following:

(a) Topography.

(b) Hydrology, including surface water drainage patterns and important hydrologic features such as navigable waters, springs, drainage divides, and wetlands.

(c) Geology, including the nature and distribution of bedrock and unconsolidated deposits.

(d) Hydrogeology, including depth to groundwater, flow directions, recharge and discharge areas, groundwater divides, aquifers and the identification of the aquifers used by all public and private wells within at least 1,200 feet of each proposed site, and other information needed to establish the depth of useable groundwater under s. NR 182.107 (1) (c).

(e) Groundwater and surface water quality and precipitation chemistry.

(f) Climatology.

(g) Identification of adjacent landowners.

(h) Zoning.

(i) Present land uses, with emphasis on known recreational, historic, archaeological, scientific, cultural, or scenic significance and whether any portion of the facility lies within an area in which Indian tribes retain federally guaranteed treaty rights.

(j) Present or proposed access roads and any weight restrictions for those roads.

(k) Factors identified in s. NR 182.105.

(l) Identification of aquatic and terrestrial ecosystems such as stream orders and habitat classifications and any sensitive water resources including areas of special natural resource interest as defined in s. 30.01 (1m), Stats.

(6) (a) The feasibility report shall include site-specific information and the applicant shall perform field and laboratory investigations to further define site physical, chemical and biological characteristics in accordance with all of the following:

1. Perform field investigations to define the site-specific topography, soil types, hydrogeologic characteristics including initial assessment of the depth of useable groundwater, surface water characteristics including drainage patterns and flow rates and the presence and nature of wetlands.

2. Prepare an existing site conditions plan sheet to include a detailed topographic survey of the area of investigation. All elevations shall be tied to USGS mean sea level datum. The map, if practicable, shall have a scale no greater than 1:2,400 with a contour interval of 0.1 to 4 feet.

3. Prepare the plan in compliance with requirements of s. NR 182.104 and delineate the property boundaries, proposed waste facility and site boundaries, survey grid, buildings, water supply wells, utility lines, man-made features, soil boring locations, observation well locations and other pertinent information.

(b) The department shall determine the number and depth of soil borings required depending on the relative homogeneity of the soils at the site, the size of the area, character of the wastes and the geotechnical design requirements for the waste site. The applicant shall drill borings to define sub-surface conditions both inside and outside the proposed limits of filling. The department shall determine the number and location of borings sufficient to sample adequately major geomorphic features such as ridges and lowlands. The applicant shall classify each major soil layer encountered during the boring investigation according to the unified soil classification system. The applicant shall bore the site subject to all of the following provisions:

1. At a minimum, drill borings in 10 separate locations distributed over the first 5 or less acres of the proposed fill area. Drill a minimum of 2 additional borings for each additional 5 or less acres of proposed fill area. The applicant shall ensure that borings are located on a grid pattern covering the proposed facility and are located in or within 300 feet of the proposed limits of filling.

2. Extend borings a minimum of 25 feet below the anticipated sub-base grade. If the boring is located outside the proposed limits of filling, the applicable sub-base grade is the elevation of the bottom of the proposed base liner nearest to the borehole.

3. If regional information suggests that bedrock is within 50 feet of the lowest elevation of the proposed sub-base grades, extend one boring at least 5 feet into bedrock. Every attempt shall be made to locate this boring outside the proposed limits of filling. The applicant shall perform bedrock drilling in accordance with ch. NR 141.

4. Collect and retain samples and prepare boring logs. In each log, the applicant shall include soil and rock descriptions, method of drilling, method of sampling, sample depths, date of boring, and water level measurements and dates. The applicant shall refer all elevations to USGS mean sea level datum. The applicant shall prepare borings using a format and terminology consistent those recommended by the USGS, American Society of Testing and Materials or other industry standards.

5. Abandon borings not converted to wells in accordance with s. NR 141.25.

(c). 1. The applicant shall collect soil samples to adequately determine the geology and ensure proper design and monitoring of the site. The applicant shall collect soil samples at maximum 5-foot depth intervals, unless physical conditions, such as soil homogeneity, indicate that greater intervals would be adequate. When appropriate, the applicant shall collect samples using generally accepted undisturbed soil sampling techniques. The applicant shall classify all soil samples according to the unified soil classification system.

2. The applicant shall perform soil tests including grain-size distribution and Atterburg limits as required for classification and correlation purposes and to develop necessary geotechnical design parameters for the waste site. The applicant may not composite samples for testing purposes.

3. The applicant shall include other physical, chemical, and biological testing as appropriate in soil testing.

(d) The applicant shall determine the hydraulic conductivity of the various soil strata. The applicant shall use in situ hydraulic conductivity testing procedures to confirm laboratory values.

(e) The applicant shall install groundwater wells and piezometers at locations sufficient to define the hydrogeologic and groundwater quality conditions of the proposed mining waste facility and for determining whether the proposed facility will be capable of complying with applicable groundwater standards required under s. NR 182.107. The applicant shall comply with all of the following requirements:

1. Install observation wells to adequately define the water table surface and horizontal and vertical hydraulic gradients in and around the proposed site. At a minimum, install 5 water table observation wells for the first 5 or less acres of disposal area and one additional observation well for each additional 5 or less acres of disposal area. Construct the observation wells so that the water table intersects the well screens at all times during the year.

2. Install a piezometer adjacent to a water table observation well at 2 separate locations to create well nests for the first 5 or less acres of disposal area. Install one additional piezometer for each additional 10 or less acres of disposal area to create additional well nests. For every 20 acres of disposal area, place at least one well nest within the proposed limits of filling.

3. For proposed limits of filling located in a fine-grained soil environment, each well nest required under par.(e)2. shall consist of 3 wells: a water table observation well, a piezometer installed at or just below the proposed sub-base grades, and a deeper piezometer installed at least 15 feet below the bottom of the upper piezometer's well screen.

4. Ensure that wells are located upgradient and downgradient of the proposed facility, within the limits of filling, within and at the mandatory intervention boundary and within and at the design management zone.

5. Construct water table observation wells and piezometers in compliance with ch. NR 141 unless an alternative method of well design and installation is approved by the department prior to well construction.

6. Collect and analyze soil samples as described in par.(c)1 to 3. from all observation wells and piezometers, or the deepest well of a well nest, or a sampled boring within 20 feet of such a well if the soil boring is of similar depth.

7. Document well construction in accordance with ch. NR 141 and include the elevation of the ground surface, the top of the pipe, the bottom of each boring, the well seals, the screened interval, a description of well construction, and a boring log, as required in par (b)4.

8. Upon completion, develop each well in accordance with s. NR 141.21.

9. Make successive water level measurements in each well or piezometer until stabilized readings are obtained.

10. Design, install, develop, document and sample all wells in accordance with ch. NR 141. The department may approve alternative methods of well design and installation that achieve comparable results prior to well construction.

(f). The applicant shall prepare an environmental characterization report that describes the structure and functional relationships of potentially impacted ecosystems. The report shall include an analysis of all relevant site-specific environmental information data and all of the following:

1. A baseline environmental monitoring program consistent with the requirements of ss. NR 132.105 and 132.117. The baseline program shall address physical-chemical and biological monitoring in the vicinity of the proposed mining waste facility necessary to evaluate the potential environmental impacts associated with construction and operation of the facility. The applicant shall select physical-chemical parameters based on transport and transformation mechanisms in the environment as well as other factors affecting the mobility and toxicity of pollutants. The applicant shall select biological parameters based on the environmental characterizations, the degree of impact predicted, and the potentially affected organisms' sensitivity to contaminants. The applicant shall select monitoring programs of sufficient scope and duration to adequately characterize seasonal and spatial variability in natural conditions.

2. A land use map showing plant communities, wildlife habitat, endangered and threatened species occurrences, to the extent that disclosure of such information is not restricted, archeological or historic sites, buildings, and areas of social and cultural importance. The applicant shall use the existing site conditions map as a base map.

3. The baseline groundwater quality at all wells that were installed outside the proposed limits of filling to evaluate the proposed mining waste facility. The applicant shall analyze samples for appropriate indicator parameters including, calcium, magnesium, sodium, potassium, iron, manganese, bicarbonate, sulfate, nitrate, chloride and alkalinity, public welfare related parameters identified in ss. NR 140.20 and 140.12, and other constituents based on the specific waste types and waste characteristics. The department may require additional parameters based on the results of ongoing monitoring and characterization studies. To determine baseline groundwater quality for the parameters, the applicant shall collect and analyze a minimum of 8 samples, with at least 30 days between samples, and submit the results to the department with the feasibility report and plan of operation.

4. A table showing existing water quality of all potentially affected surface waters. The table shall include navigable waters as defined in s. 30.01 (1m), Stats., and important aquatic habitat, including wetlands, springs and area of special natural resource interest as defined in s. 30.01 (4m), Stats.

5. Local climatological data for seasonal precipitation, evaporation, air temperature, and wind velocity and direction. The applicant shall collect meteorological data in the vicinity of the proposed facility to facilitate correlation of the on-site conditions with data from existing regional sites with long-term meteorological records.

(7) The applicant shall propose a facility design, based on the conclusions resulting from the analysis of site data and waste characterization, capable of ensuring compliance with applicable standards. The proposed facility design shall consist of the preliminary type, size, and location of the proposed facility, engineering plans, a general discussion of proposed operating procedures, and a proposed monitoring program. This section of the feasibility report shall include, for each waste site, all of the following:

(a) A map, using the existing site conditions map as a base, that shows proposed access, lateral extent of filling, and phases of facility development.

(b) A series of cross-sections showing present topography, proposed base grades, and final grades, using the geological sections as a base.

(c) The preliminary earth work balance calculations.

(d) The proposed methods for leachate minimization, collection, and treatment.

(e) The proposed operating procedures including the method of site development, phasing, erosion control, and stormwater management, screening, access control, and other special design features.

(f) The estimated material balances prepared from best available information showing the quantities of the wastes identified in par. (a). These material balances shall include all of the following:

1. The projected conditions existing at the end of a typical year of production.

2. The projected conditions existing before and after a significant change in operating practice of the mine waste site or facility, such as the end of active filling and subsequent closure of a cell of a tailings disposal area and the establishment of another.

3. The projected conditions existing at the end of operations.

4. The projected conditions existing at the end of closure and final reclamation.

(g) A discussion of the reasoning and logic behind the design of the major features of the site, such as traffic routing, base grade, and relationships to subsurface conditions, phases of development, anticipated waste types and characteristics, acid-generation controls, liner system and final cover system design, facility monitoring, and similar design features necessary to ensure compliance with applicable standards.

(h) A proposed monitoring program developed for the purpose of determining whether the proposed facilities meet all environmental standards. The initial monitoring program design and specifications should be based on potential variations in the quality and quantity of waste materials, methods of processing, transport and disposal, and the variability of important environmental conditions.

(i) The information, based on predictive modeling, to demonstrate that there is a reasonable certainty that the facility, as designed, will not result in a violation of the groundwater quality standards, specified in ch. NR 140, beyond the design management zone and within the depth of useable groundwater. The operator shall demonstrate compliance with applicable groundwater and surface water quality standards for a period consisting of the time period in which the mining waste site is proposed to operate, plus 250 years after closure of the mining waste site, unless a shorter time period is specified by the department. If any statistically significant change in baseline groundwater quality is predicted, the applicant shall prepare a specific assessment of any adverse environmental impacts reasonably expected to result. If the background concentration of a substance attains or exceeds a preventive action limit for that substance or if it is expected, with reasonable certainty, that a preventive action limit will be exceeded beyond the design management zone, the applicant shall request an exemption under ss. NR 140.28 and 182.119.

(j) For expansion of existing facilities, an evaluation of the effectiveness of the existing site design and operation.

(8) The applicant shall complete a groundwater modeling analysis of potential impacts. The analysis shall include enough information to assess existing groundwater flow conditions and to predict possible impacts to groundwater quality and quantity from the mining waste facility and other facilities on the mining site in compliance with the requirements of s. NR 182.107 and sub. (7)(i). The groundwater modeling analysis shall be completed in coordination with groundwater studies conducted to comply with chs. NR 132 and 150, ss. 281.34 and 293.65, Stats., and other applicable laws and rules of the department. The modeling analysis shall include the following:

(a) A clear statement of the purpose and objectives of the model.

(b) A discussion of the hydrologic data necessary to construct the groundwater model and the methods proposed to obtain the necessary data.

(c) A discussion of the formulation of the conceptual hydrologic model of the study area, including dimensionality, transience, and boundary conditions.

(d) A discussion of the selection criteria for choosing the model code used to simulate the study area and forecast future conditions. Models used for groundwater flow and contaminant transport analyses shall consist of public domain open source software. Secondary models used to generate and organize input files, process model outputs or evaluate model boundaries are not required to consist of public domain open source software but must be fully documented and verified.

(e) A description of the design and construction of the model, including how the conceptual understanding of groundwater flow is translated to the groundwater model.

(f) A discussion of model calibration and verification, including what model parameters were adjusted, what targets were used in the calibration process, how well the model performs at verification/history matching, and why the history matching process and selected targets are appropriate for the modeling purpose. Also included in the model calibration should be a discussion of statistics used to quantify model calibration.

(g) A sensitivity analysis to determine how uncertainty in model parameters or boundary conditions might impact the model predictions.

- (h) The predictive simulations that address the modeling objectives and that simulate a range of possible outcomes.
- (i) The uncertainty analyses of the model overall to help quantify the underlying uncertainty of assumptions made during the modeling process, and analysis of how this uncertainty impacts the model predictions.
- (j) A modeling report that addresses all the information in this paragraph, as well as all modeling files and data necessary to review the modeling effort.
- (9) The feasibility report shall include a preliminary water budget for 3 time periods: before construction, during active operation, and after facility closure. The water budget calculations shall be made for 3 climatological situations depicting dry, wet, and average precipitation — evaporation conditions based on climatologic records. The water budget shall describe the estimated amount and quality of seepage and discharge to surface and groundwater. The applicant shall consider all of the following factors in preparation of the water budget: precipitation, slurry water input and return, evaporation, surface runoff, infiltration, evapotranspiration, groundwater recharge rates, soil and waste moisture holding capacity, and groundwater flow velocities and volume.
- (10) The feasibility report shall include an analysis of the impact of the waste disposal site on aesthetics and how such impact can be minimized.
- (11) The feasibility report shall include a summary of the slope stability analyses of all mining waste facilities conducted as part of the plan of operation under s. NR 182.109 (2) (b) 15., in the feasibility report.
- (12) The feasibility report shall include a discussion of design, location and operational alternatives that includes all of the following:
- (a) Identification and evaluation of alternatives to the design and location of any new proposed waste site, including an economic analysis of sites that are both environmentally and economically feasible. Operation alternatives shall be discussed to the extent they have a significant impact on design and location alternatives.
 - (b) Identification and analysis of various alternative sites so that a legitimate comparison between several of the most viable sites can be made. In order to minimize the total adverse environmental impact, a viable site shall be chosen that will result in the least total overall adverse environmental impact.
 - (c) Documentation of the process by which the preferred site and critical design elements were selected. The analysis shall document that the preferred site and design will result in the least overall environmental impact compared to other viable sites and designs.
 - (d) Supporting data for all viable alternative waste sites and designs considered by the applicant in the siting and design alternatives analysis.
- (13) The feasibility report shall include an appendix that contains all of the following:
- (a) Boring logs, soil tests, well construction data, and water level measurements.
 - (b) The measured baseline values for all parameters monitored, the spatial and temporal variability of these baseline values, and the error associated with the baseline values and the natural variability. For all parameters with significant variability or sample frequency problems that will make comparison with

subsequent analyses less reliable than expected or desired, the applicant shall identify additional monitoring or analytical measures to achieve the desired levels of precision. The applicant shall provide sufficient data, documentation of statistical procedures, and summary statistics to allow independent evaluation of baseline values.

(c) Methods and assumptions used in the analysis of the raw data.

(d) References.

(13)(a) The department shall review a feasibility report submitted under this chapter in accordance with the time limitations specified in ss. 293.40 and 293.495, Stats.

(b) Following completion of the hearing and within the time periods specified under s. 293.43, Stats., the department shall issue a final determination of feasibility that states the findings of fact and conclusions of law upon which the determination is based. The site may be found feasible if it meets the design, operation, location, and environmental standards contained directly or by cross-reference in this chapter. The department may condition the issuance of the final determination of feasibility upon special design, operational, or other requirements deemed necessary to ensure compliance with applicable standards. The final determination of feasibility shall specify the design capacity of the proposed facility. The issuance of a favorable final determination of feasibility constitutes approval of the facility for the purpose stated in the application but does not guarantee plan approval under s. NR 182.109, or licensure under s. NR 182.111.

NR 182.109 Plan of operation. (1) No person may establish or construct a mining waste site or expand an existing mining waste site until a plan of operation has been submitted to the department in accordance with this section and approved in writing by the department. No person may establish, construct, operate, maintain, close, provide long-term care for, or terminate a mining waste facility except in accordance with the approved plan of operation. The plan of operation shall be prepared and submitted to the department in accordance with s. NR 182.104. The plan of operation shall be submitted at the same time as the permit application and plans submitted under ch. NR 131 or 132 and shall be consistent with the applications and plans submitted under ch. NR 131 or 132. For new facilities on permitted mining or prospecting sites, a person may submit a plan of operation with the feasibility report or at any time after the feasibility report is submitted. No person may submit a plan of operation for a facility prior to the time the person submits a feasibility report to the department for that facility. If the proposed waste site is a surface mine backfilled with mining waste, a person may satisfy the requirements for submitting the plan of operation under this section by including the information required by this section in the mining permit application submitted to the department under ch. NR 132 and issuance by the department of the mining permit shall constitute approval of the plan of operation requirements.

(2) All plans of operation for waste sites shall be consistent with the feasibility report and mining permit application for the waste site and shall contain detailed plans and specifications necessary for the construction, operation, closure, long-term care and termination of the project. All information shall be presented in a clear and understandable manner. The plan of operation shall contain all of the following information:

(a) A set of engineering plans drawn on standard 24-inch by 36-inch plan sheets. If facility details cannot be shown on standard plan sheets at a 1:100 scale, the engineering plans may be drawn on 30-inch by 42-inch plan sheets. All plan sheets except the title sheet, existing conditions sheet, cross-sections, and details sheets shall utilize the existing conditions sheet as a base map. For complex plans, existing

conditions within the mining waste facility area may be shown by lighter lines or may be eliminated. All plan sheets shall also be submitted in digital form using appropriate geographic information system format. The engineering plans shall include all of the following:

1. A title sheet that indicates the project title, who prepared the plans, the date the plans were prepared, the applicant for whom the plans were prepared, a table of contents, a map showing the location of the facility relative to the other mining project facilities, the location of the facility within the county or multicounty area, and the location of the county or multicounty area within the state.
2. An existing conditions plan consisting of a detailed topographic map of the proposed facility and all areas within 1,500 feet of the proposed limits of filling prior to development. The minimum scale shall be 1" = 200 feet with a maximum 2-foot contour interval. The contour interval selected shall be sufficiently small to clearly show surface water flow patterns within and around the facility. All elevations shall be related to USGS datum. The existing conditions plan shall identify and define all of the following:
 - a. The surface waters including intermittent and ephemeral streams and wetlands.
 - b. The property boundaries, the proposed waste facility boundary, and the proposed limits of filling.
 - c. A north arrow, mining waste facility survey grid, a formula for converting grid locations to the state plane coordinate system, and the locations of all existing and proposed survey monuments.
 - d. Any nearby residential and commercial structures and other buildings.
 - e. The locations of all soil borings, all existing and abandoned groundwater monitoring wells, all public and private water supply wells, and the general locations of all known septic system drain fields within 1,000 feet of the mining waste facility or within 500 feet of any monitoring well.
 - f. Any utility lines, underground pipelines and electrical lines, access control, and other constructed topographic and drainage features.
3. Plan sheets that depict the sub-base grades, all sub-base appurtenances, such as lysimeters or drain pipes, and the base grades.
4. Separate plan sheets that depict the overall mining waste facility area and the limits of liner construction and filling. The plan sheets shall depict the layout and slope of the liner system and leachate collection system including pipes, sumps, riser pipes on interior sideslopes, manholes, trenches, berms, lift stations, permanent storm water control structures, pipe cleanouts, and other pertinent structures. Invert elevations shall be provided at any changes in grade for all leachate and groundwater collection and transfer systems.
5. A series of phasing plan sheets that show facility development through time. The location of peripheral features such as support buildings, access roads, drainage ditches, sedimentation basins, any other storm water management features, and screening berms shall be indicated on this plan. At a minimum, the engineering plan shall provide a separate plan sheet for initial construction and for each subsequent phase of development or new area where substantial construction is to be performed. These subsequent phasing plan sheets shall present the final filling surfaces in the previous phases of development; the limits of clearing, grubbing, and topsoil removal; the base grades of the new phase of filling; the anticipated surface contours of soil stockpiles at the time depicted on the plan sheet; and storm water management features. Each plan shall include a list of construction items and quantities necessary to prepare the phase of development indicated on the plan.

6. Plan sheets that depict the features to be constructed for storm water management at the time of initial construction, during phased development, and after closure of the mining waste facility. Plan sheets shall include the locations of sediment basins, drainage ditches, auxiliary sediment traps, and the anticipated extent of cleared ground and stockpiles during each major phase of facility development. Plan sheets shall include a list of anticipated actions and materials needed for sediment and erosion control.

7. A final waste grades plan sheet that indicates waste final grades. The engineering plan shall include a final topography plan sheet to indicate the condition of the entire facility following closure including storm water drainage features and the location of all other penetrations of the final cover, if applicable.

8. A facility monitoring plan that shows the location of the design management zone as determined under s. NR 182.107 and all devices for the monitoring of leachate quality and quantity, unsaturated zone water quality and flow rate, groundwater quality, storm water quality, and surface settlement.

9. A long-term care plan sheet that shows the topography of site at the completion of closure. This plan sheet shall include a table identifying those items anticipated to be performed during the period of long-term care for the site including the proposed schedule for monitoring and maintenance of the facility. The applicant may include the information in this subdivision in the final site topography plan sheet if clarity is not compromised, or reference may be made to the appropriate section of the operations manual and design report.

10. Detailed plan review sheets that show a minimum of 2 cross-sections in each direction drawn perpendicular and parallel to the facility baseline through the major dimensions of the facility. The applicant shall illustrate the location of the cross-sections using a reduced scale plan view on each cross-section. Each combined engineering and geologic cross-section shall show all of the following:

a. Existing grades.

b. Sub-base, base, top of leachate collection blanket grades, and final grades.

c. Soil borings and monitoring wells that the depicted cross-section passes through or that are adjacent to the cross-section.

d. Soil and bedrock types. For clarity, a number or symbol shall be used to label major soil units instead of extensive shading.

e. Stabilized water table contours.

f. Leachate collection and monitoring systems.

g. Limits of waste filling.

h. Erosion, storm water, and sediment control structures.

i. Access roads and ramps on the perimeter of the disposal area and within the active fill area.

j. Filling sequence or phasing interfaces and other facility features.

k. Important construction features of the liner, final cover, lysimeters, leachate collection trenches and sumps, liner penetrations, sideslope risers, and drainage systems for storm water.

11. Drawings showing details and typical cross-sections for all of the following:

- a. Storm water control structures.
 - b. Access roads.
 - c. Fencing.
 - d. Final cover and base liner systems.
 - e. Leachate collection system components, including pipe bedding, manholes, transfer lines, force mains, and storage tanks.
 - f. Leachate transfer lines that extend through the liner.
 - g. Groundwater and unsaturated zone monitoring devices.
 - h. Buildings.
- (b) An operations manual and design report consisting of all of the following information:
1. A table of contents that outlines, by section title and page number, the discussion required in this section.
 2. General information that identifies all of the following:
 - a. The name of the facility.
 - b. The registered professional engineer who prepared the plans.
 - c. The facility owner, licensee, and operator.
 - d. The location by quarter-quarter section.
 - e. The proposed limits of filling.
 - f. The anticipated life and approximate closure date.
 - g. The disposal capacity.
 - h. The waste tonnages and corresponding volumes.
 - i. The waste types and quantities to be disposed.
 - j. Any exemptions requested from the department.
 3. A discussion of the considerations and rationale behind design of the major engineering features of the facility. As appropriate for the specific facility design, the discussion shall include base grade configuration and relationship to subsurface conditions, liner design, phases of facility development and closure, traffic routing, storm water management, erosion, and sediment control measures, final cover systems, and monitoring systems. Specific attention shall be given to sidewall penetrations, sideslope riser and sump area volumes and construction, and piping located outside of the limits of filling. In addressing each of the above design items, the report shall indicate how the anticipated waste types and characteristics influenced the chosen design.
 4. A discussion of all of the following:

- a. Initial site preparations and construction methods relating to clearing and grubbing, topsoil stripping, and other excavations.
 - b. Soil storage and visual screening development.
 - c. Storm water control features.
 - d. Base liner and granular drainage layers.
 - e. Leachate collection systems.
 - f. Access roads and entrance area screening and fencing.
 - g. Environmental monitoring device installation.
 - h. Other special design features.
5. A certification plan for initial site preparations that specifies a schedule of field measurements, photographs to be taken, sampling and testing procedures to be utilized to verify that the in-field conditions encountered were the same as those defined in the feasibility report and that documents that the site was constructed according to the engineering plans and specifications.
6. A description of storm water management at the time of initial construction, during phased development, and after closure of the mining waste facility that includes all of the following:
- a. A narrative demonstrating compliance with s. NR 182.106 (3).
 - b. A detailed description of temporary and permanent erosion and sediment control measures to be used to accomplish the concepts in s. NR 182.106 (3).
 - c. The specifications for the design of sediment basins, culverts, drainage ditches, auxiliary sediment traps, and the anticipated extent of cleared ground and stockpiles during each major phase of facility development.
 - d. A maintenance and follow-up program designed to ensure compliance with the concepts in s. NR 182.106 (3) following initial implementation.
 - e. The tentative schedules for the following activities: cleaning sediment basins and ditches; seeding and stabilization of stockpiles and drainage channels; and topsoil placement, seeding, and stabilization of disturbed areas and areas affected by erosion.
7. A summary of soil testing protocols and soil specification related to facility construction that includes all of the following:
- a. The proposed testing schedule to document the placement of all general soil fill and backfill, base liner, final cover layers and all venting or drainage layers used in any phase of development or closure. The report shall contain an explicit statement and description of testing methods.
 - b. The proposed gradations of soil materials and the proposed size of the perforations used in leachate collection system piping and the drainage layer in the final cover system. The report shall include an analysis of the pipe and soil materials to demonstrate whether the gradation of sand and gravel and the pipe opening sizes are stable and self-filtering. The report shall describe the use of filter layers or other

mechanisms used to maintain the porosity in the leachate collection blanket, collection trenches and sumps.

8. A proposed program to monitor the volume and quality of groundwater, surface water, unsaturated zone, and leachate. The proposed monitoring program shall include a table listing frequencies of sampling, parameters to be analyzed, and a schedule for the anticipated installation or abandonment of sampling points. The table shall indicate existing and proposed sampling points and devices and the anticipated periods during which the points and devices will be monitored before mining waste facility development, during each major phase of facility development, and during the period of long-term care.

8m. A list of all groundwater elevation data collected from all groundwater sampling points subsequent to preparation of the feasibility report.

9. A description of typical daily operations including all of the following:

a. Discussion of the timetable for the construction of each phase of liner or final cover.

b. Waste types accepted or excluded.

c. Typical waste handling techniques and methods for handling unusual waste types.

d. Hours of operation.

e. Traffic routing.

f. Storm water management.

g. Sediment and erosion control.

h. Windy, wet, and cold weather disposal operations.

i. Anticipated staffing requirements.

j. Dust control methods.

k. Leachate removal procedures.

L. Record keeping.

10. A description of the mining waste facility operations and the development of subsequent phases. A description required under this subdivision shall define the critical stage of waste disposal for each phase as it relates to the start of construction of subsequent phases. The purpose of this planning is to ensure that the scheduling of future construction takes into account the length of the construction season, limitations imposed by weather and season, and the capacity remaining in existing phases such that an orderly transition is maintained. The report shall describe the anticipated construction in each phase for storm water management, monitoring, abandonment of fill areas, and the installation and maintenance of leachate control structures.

11. A description of facility operations, actions taken when phases of the facility reach final waste grades, and closure of phases at final waste grades. The report shall include a discussion of the anticipated sequence of the required events for closure of the facility and a discussion of those actions necessary to prepare the facility for long-term care and final use.

12. A proposed long-term care schedule that describes the procedures to be utilized for the inspection and maintenance of cover vegetation, storm water control structures, refuse or ground surface settlement or siltation, erosion damage, leachate control features, leachate and groundwater monitoring, and other long-term care needs. The report shall include a final use plan for the facility and shall be consistent with the reclamation plan submitted under ch. NR 131 or 132.

13. The specifications for construction, operation, and closure of the facility. These specifications shall include detailed instructions to the operator and any contractors for all aspects of construction and operation. References to specifications on the plan sheets shall be described. The specifications under this subdivision may include information such as geosynthetic material installation instructions, tank manufacturer installation instructions and pump performance criteria, materials, and construction methods for sideslope risers, sidewall penetrations, sump areas, and all piping located outside the limits of filling.

14. All design calculations and an explanation of those calculations that will facilitate department review, including a discussion of all calculations, such as base liner and final covering soils materials needs related to available borrow soil volumes, stockpile sizing estimates, required interface shear strength, and shear strength of the soil materials where the interfaces evaluated include the upper and lower interfaces for all geosynthetics such as geomembranes, geotextiles, and geosynthetic clay liners, design of the storm water management system, infiltration and leachate collection, and leakage volumes. All calculations shall be summarized with the detailed equations presented in the appendix of the report. References to the appropriate plan sheets from which variables are obtained for these calculations shall be included in these summaries.

15. A slope stability analysis of any mining waste facility dams and embankments taking into consideration all of the following:

- a. Geology of the mining waste facility including type and homogeneity of the foundation.
- b. Materials and methods to be used for embankment construction.
- c. Engineering modifications to be included in the design and interim and final waste slopes for all waste facilities, incorporating in-field waste densities, settlement, leachate recirculation, precipitation, and any other factors that affect strength of waste or final cover. The analyses shall include interior slopes between filling phases and exterior slopes after attainment of waste final grades.
- d. Haul roads and access ramps on interim slopes at waste final grades and on final cover, including passive load of cover soils and dynamic loads due to construction, hauling, and maintenance vehicles.
- e. Physical and chemical characteristics of the waste as deposited and predicted changes through time.
- f. Endangerment to human safety.
- g. Potential area to be affected in case of failure, considering land use and the surrounding environment.
- h. Any applicable requirements specified under federal mine safety regulations.

16. A detailed analysis of the costs associated with closure of the facility and the cost of completing all tasks related to long term care of the facility for each year of the long-term care period. All assumptions used in developing the cost estimates shall be listed, including sources of the cost estimates and rationale for the selected cost factors. The anticipated operating life and replacement schedule of all engineering

design features shall be addressed and reflected in the cost estimates. The analysis shall specify the proposed methods of establishing proof of financial responsibility required under s. 289.41, Stats.

17. An analysis of the reasonably anticipated costs during the period between 40 and 250 years after closure of the mining waste facility to repair or replace any engineered cover systems or tailings water management control systems used at the mining site or mining waste site to avoid adverse environmental consequences. The report shall list all assumptions used in developing the cost estimates, including sources of the cost estimates and rationale for the selected cost factors. The anticipated operating life and replacement schedule of all engineering design features shall be addressed and reflected in the cost estimate. The analysis shall specify the proposed methods of establishing proof of financial responsibility required under s. 293.51 (1r), Stats.

18. An appendix that includes lists of the references used and includes any additional data not previously presented, supplemental design calculations, material specifications, operating agreements, such as draft leachate treatment agreements or signed soil borrow agreements, documents related to long-term care funding, and other appropriate information.

(c) For a plan of operation for any facility that includes a composite liner or composite capping layer or that utilizes a geomembrane for a liner or utilizes a geomembrane or geomembrane-GCL for a capping layer, all of the following design details and specifications for the geosynthetic components together with any additional requirements specified by the department for other geosynthetic materials used in significant structural features of the mining waste facility:

1. A description of the proposed geomembranes, GCLs and other geosynthetics to be used in construction of the facility, including resins and additives, physical properties, bentonite characteristics, chemical resistance properties and potential suppliers. For GCLs, this shall include identification of the geotextile properties and reinforcement.

2. The design calculations that demonstrate the stability of the facility and its components against failure along potential failure surfaces, such as the leachate collection system and final cover, during operations as well as after closure. Potential failure surfaces considered shall include the interfaces both below and above the geomembrane in the liner and final cover. Potential failure scenarios considered shall include both saturated and unsaturated conditions for the cover. The design calculations may use typical data or specifications from technical literature rather than values from testing of site-specific materials if the sources of the typical data or specifications and the test methods used to generate the data or specifications are cited with the calculations and a safety factor of at least 1.3 is used to assess stability.

3. The construction methods and supervisory controls for preparing the surface of the topmost lift of compacted clay prior to the installation of a geomembrane or soil barrier layer prior to installation of a GCL. The plan of operation shall propose inspection methods and removal of coarse gravel or cobbles after rolling the topmost lift of compacted clay or soil barrier layer to achieve a smooth surface.

4. A description of all of the following:

a. The measures to be taken to store and protect all geomembranes, GCLs, and geocomposite drains.

b. The measures to transport geomembrane, GCL, and geocomposite drain panels from storage to the working area.

c. The construction methods to be used to place geomembrane, GCL, and geocomposite drain panels.

5. The proposed orientation of all geomembrane and GCL panels for the facility liner and capping layer in relation to slope, collection trenches, penetrations, anchor trench and phase boundaries, seaming methods, and phased construction.

6. The design details of geomembrane and GCL seams and seaming methods, anchor trenches, patches, collars for all penetrations, installation in corners, and leachate collection trenches. The plan of operation shall describe acceptable working conditions for geomembrane, GCL and geocomposite drain installation, installation instructions for working under weather variations and extremes, and criteria for halting or limiting GCL and geomembrane installation.

7. The proposed methods for testing welds or other joining methods for geomembranes and other components or penetrations if geomembranes used in previously constructed phases are obtained from different manufacturers or are made from different resins. The plan of operation shall also include measures to preserve the edges of geomembranes and GCLs to be joined to future phases and describe measures to repair all geomembrane, GCL and geocomposite drain defects, unacceptable wrinkling, and unacceptable seams.

8. The construction methods for placing the leachate collection system, sump backfill, and sideslope riser over the composite liner; placement of the first 10 feet of waste materials over the leachate collection system; and placing the subsurface drain layer and rooting zone soils over the composite cap. The measures under this subdivision shall assure that the geomembrane and GCLs are not damaged by construction of soil layers, placement or compaction of wastes, waste consolidation, or mass movements or puncturing of the geomembrane.

9. A construction quality control plan that will be followed by all contractors preparing the surface of the compacted clay liner or soil barrier layer, constructing the geomembrane liner, or placing drainage blanket. The construction quality control plan shall describe how progress in construction, as well as any variations from the approved plans, will be recorded and reported. The construction quality control plan shall include means for determining and documenting all of the following:

a. Receipt of the proper geomembrane, GCL, and geocomposite drain material.

b. Acceptable subgrade and weather conditions for work to occur.

c. Seamer qualifications and procedures for trial seams.

d. Acceptability of test welds and machine settings.

e. Acceptable seaming practices.

f. Achieved seam quality and procedures for dealing with failing tests.

g. Patching.

h. Sealing of geomembrane penetrations.

10. A construction quality assurance plan that will be followed by the registered professional engineer and qualified technician responsible for evaluating the construction and ensuring that the fabrication and installation meet design specifications. The construction quality assurance plan shall include continuous observation of all aspects of geomembrane, GCL, and geocomposite drain installation activities by qualified engineers or technicians. The construction quality assurance plan applicable to liner and cover system components shall include use of nondestructive and destructive testing of seams and samples and

shall follow a schedule of tests and associated frequencies in a manner that is consistent with the requirements of s. NR 516.07. The construction quality assurance plan shall include proposed methods of verifying the acceptability of the prepared subgrade, repairs, patches, penetrations, seams, and adaptations by the owner and contractors to unforeseen conditions.

11. A construction quality assurance plan for conducting a leak location survey on the installed geomembrane. The leak location survey shall be conducted after placement of the leachate collection layer for a composite liner. The quality assurance plan shall include continuous observation of all aspects of the leak location survey testing by qualified professional engineers or technicians. The quality assurance plan shall include use of nondestructive methods to detect, locate, and verify repairs of defects in geomembrane. The quality assurance plan may include electrical resistivity testing or other testing methods acceptable to the department.

(d) A contingency plan to prevent or minimize human health and environmental impacts in the event of an accidental or emergency discharge or other condition not anticipated in the feasibility report or plan of operation that does not comply with license conditions or other applicable standards. As a minimum, the contingency plan shall do all of the following:

1. Follow the provisions of 33 U.S.C. s. 1251 et seq. related to, spill prevention, control and counter-measures plan, as applicable.

2. Incorporate the requirements specified in s. NR 182.107 (1s) related to evaluation of groundwater monitoring results.

3. For the various monitoring programs required by this chapter, indicate threshold levels that, if exceeded, trigger implementation of the contingency plan.

4. Include a provision for additional monitoring locations, more frequent monitoring, additional sampling parameters, or other types of monitoring in the area of any excessive measurement.

5. Describe possible accidental or emergency discharges or other unplanned events and identify the corresponding corrective action or alternative action to be implemented if the criteria for action are exceeded.

6. Identify the time necessary for successful completion of each of the identified actions.

7. Provide for revisions in cases of changed circumstances, changed regulations, or failure of the plan to be adequate in an emergency.

(e) Proof that a notation of the existence of the facility has been recorded in the office of the register of deeds in each county in which a portion of the facility is located. Owners of facilities applying for re-licensure need only submit this proof if the legal description of the facility has changed from that identified previously.

(3)(a) The department shall review a plan of operation submitted under this chapter in accordance with the time limitations specified in ss. 293.40 and 293.495, Stats.

(b) The department may not approve or disapprove a plan of operation unless the applicant has obtained a favorable determination of feasibility for the mining waste facility. The department shall either approve or disapprove the plan of operation in writing within the time limits specified in s. 293.40 or 293.495, Stats.,

or within 60 days after the department issues a determination of feasibility if the determination is not issued as part of its decision following the hearing held under s. 293.43, Stats.

NR 182.1095 Preconstruction meetings and reporting. (1) For composite-lined or composite-capped mining waste facilities, the department shall schedule a preconstruction meeting with representatives of the owner prior to the initiation of construction for each phase of construction of the geomembrane component of the liner or cap. At a minimum, the meeting shall include the design engineer, the appropriate department district and central office staff, the engineer or engineers responsible for quality assurance of all aspects of construction, and the geomembrane installer. The department shall use the meeting to clarify or confirm design changes, acceptability of selected construction materials, and construction concepts or practices required in the approved plan of operation or identified in the preconstruction report.

(2) The owner shall prepare a preconstruction report for construction of each phase of a composite liner as well as each phase of a composite capping or cover layer. The department may also require a preconstruction report for each phase of construction that utilizes other geosynthetics, or when other geosynthetic materials are used in significant structural features of the facility. The owner shall submit the preconstruction report to the department no later than 15 days prior to each of the preconstruction meetings under sub. (1) for the construction of the geomembrane component of a composite liner or a composite capping layer. Unless otherwise specified, the owner shall submit 3 copies of each preconstruction report to the appropriate department office as directed by the department. The preconstruction report shall include all of the following:

(a) An explanation of any proposed revisions to the plan of operation. The report shall include detail diagrams incorporating the changes and include all instructions regarding the changes between the owner, the installer, and the quality assurance contractor. The report shall highlight and explain any proposed changes to the information provided in the plan of operation. If, in the department's opinion, major changes are proposed to previously approved plans, the department shall require a plan modification approval. The report shall indicate the proposed limits of installation and the schedule for construction.

(b) An identification of the manufacturer of the geomembrane, GCL, and other geosynthetics used in construction, manufacturer qualifications, technical specifications of the geomembrane resin and polymer selected, technical specifications for geotextile and reinforcement of the GCL, bentonite specifications used for manufacture of the GCL, and results of the manufacturer's quality control tests on the geomembranes and GCLs supplied to the project.

(bd) An identification of the fabricator of geotextiles and other geosynthetics used in site construction, technical specifications of the products and materials to be used, methods used to bond the materials together and to connect panels together, installation contractor, contractor qualifications, and on-site supervisory staff.

(bh) A description of any contractor-specific storage and material handling procedures, deployment methods, attachment methods, panel overlaps, patching, procedures for minimizing bentonite loss in the GCL, and acceptable limits on sub-grade for geomembrane or GCL, including maximum rut depth, maximum stone size, removal of gravel cobbles and other debris, and limits imposed by weather conditions.

(bm) A description of methods to be used to assure the GCL does not become saturated prior to covering with soil and the procedure that will be followed if the GCL does become saturated, methods and

equipment to be used to place the geomembrane over the GCL, and the maximum time between deployment of the GCL and placement of soil cover layers.

(br) A description of the selected materials and source of the sideslope riser pipe, methods proposed to assemble and place the sideslope riser pipe, and measures to be taken to prevent puncture of the geomembrane below the sideslope riser pipe and protective drainage material.

(c) The results of a shear test conducted, in accordance with ASTM method D5321, which is incorporated by reference, on the soils and geosynthetic materials selected for use in construction of the liner system and the final cover system. The test shall be conducted using wetted soil and geomembrane interfaces. The shear test results shall be used to evaluate the stability of the geomembrane component over the clay component and the drainage layers and overburden placed on the geomembrane component. For designs which utilize a GCL, the shear test results shall be used to evaluate the stability of the geomembrane component over the GCL component and the soil barrier layer and the drainage layers and overburden placed on the geomembrane component. Wet unit weights of soils shall be used in analyses. If all soil and geosynthetic materials to be used are identical to those that were tested for a previous construction phase, then the test need not be conducted again. The department may waive testing of materials which are proposed exclusively for use on liners or final cover systems with slopes of less than 10 percent.

Note: Copies of the ASTM D5321/D5231M-20, "Standard Test Method for Determining the Shear Strength of Soil-Geosynthetic and Geosynthetic-Geosynthetic Interfaces by Direct Shear," revised 2020, are available for inspection at the Department of Natural Resources, 101 South Webster St., Madison, Wisconsin 53703; and the Legislative Reference Bureau, 1 E. Main St., Ste. 200; Madison, Wisconsin 53703; and for purchase at <http://www.astm.org>.

(d) A quality control plan which provides all information specified in s. NR 182.109 (2) (c) 9., as well as identification of the installation contractor, contractor qualifications, and on-site supervisory staff. Any proposed changes to the quality control plan contained in a mining waste facility's approved plan of operation shall be highlighted and explained.

(e) A quality assurance plan that provides all information specified in s. NR 182.109 (2) (c) 10. and 11. and that identifies the registered professional engineer and qualified technician who will be providing quality assurance and that summarizes of their qualifications and related work experience.

NR 182.110 Construction documentation and completion reports. (1) REPORT PREPARATION. The owner shall construct a waste site in accordance with the approved plan of operation. The owner shall prepare a report documenting all aspects of construction for the initial construction of the mining waste facility; the construction of all subsequent phases or portions thereof; the construction of any storm water, groundwater, or leachate control structures; the implementation of remedial actions; and the closure of each major disposal area. Approval of a report that documents the construction of any portion of the base of a mining waste facility shall be obtained from the department prior to initiating disposal operations in the newly established area and subsequent phases.

(2) QUALITY ASSURANCE.

(a) 1. The owner shall employ a registered professional engineer or a qualified technician who is directly supervised by a professional engineer who shall be continuously on-site and performing assigned quality assurance duties throughout all of the following:

a. Placement and testing of the clay component of liner and cover systems.

- b. Installation and testing of the geosynthetic components of liner and cover systems.
 - c. All aspects of sump and sideslope riser construction or penetrations of sidewall liners.
 - d. Manhole and tank installation. Placement of the drainage layer or cover soil above the geosynthetic liner.
2. The registered professional engineer or qualified technician described in subd. 1. shall also be on-site to inspect the following activities after their completion:
- a. Temporary and permanent erosion control measures such as ditches, fencing, and sedimentation basins.
 - b. Sub-base and leachate collection line undercut excavation and grading.
 - c. Clay liner surface preparation and grading, leachate, lysimeter, and gas piping prior to being covered with soil.
 - d. Piping with tanks, manholes, or vaults and installation of instrumentation and controls.
3. The department may require by written approval that a registered professional engineer be present during other critical construction activities.
- (b) With respect to registered professional engineers or qualified technicians employed to meet the requirements of par. (a), substitution of personnel may only occur due to substandard performance, vacations, or uncontrollable circumstances such as injury, illness, employee termination, or resignation. However, if necessary in order to provide experienced personnel, geomembrane installation quality assurance may be performed by a different registered professional engineer or qualified technician directly supervised by the registered professional engineer described in par. (a). In no case, however, may the personnel performing quality assurance for geomembrane installation be an employee of the geomembrane manufacturer, fabricator, or installer. Also, when justified by the size of the construction project, multiple registered professional engineers or qualified technicians may perform quality assurance work concurrently.
- (3) CERTIFICATION. The first section of any construction documentation report prepared for the construction or closure of a portion of a mining waste facility shall be a certification section that includes all of the following:
- (a) A statement signed and sealed by each licensed professional engineer who either performed quality assurance work on the project or supervised qualified technicians who performed quality assurance work.
 - (b). A table clearly identifying all of the following:
 - 1. Each licensed professional engineer and qualified technician who performed quality assurance during the construction.
 - 2. Which aspects of construction each licensed professional engineer and qualified technician provided on site quality assurance for.
 - 3. The number of days each licensed professional engineer and qualified technician was present at the facility performing quality assurance work.
 - 4. The total hours each licensed professional engineer and qualified technician spent at the site performing quality assurance work.

5. The licensed professional engineer who supervised each qualified technician that performed quality assurance during the construction.

(c) A second table identifying who prepared each portion of the construction documentation report including both narrative and plan sheets.

(d) Separate signed statements by the licensed professional engineers identified in sub. (2) certifying to the best of their knowledge, information, and belief that the construction of each item identified in the following subdivisions was accomplished in conformance with the approved plans and applicable rules. All observed deviations shall be explicitly noted and discussed including any changes in materials. This certification may not be construed to be either an implied or express guarantee or warranty regarding the performance of the construction documented in this report. No further qualifications to the certification statement may be made and each statement shall also clearly identify the personal observations, knowledge or other information on which the certification is based. The certification section shall include a signed statement for all of the following:

1. The clay component of a liner or cap. The statement shall specifically address:

a. The quality of clay material used, and the methods utilized in its placement.

b. The connections with previously placed clay layers.

c. The preparation of leachate collection trenches, sumps, and any pipe penetrations through the clay component.

d. The preparation of the upper portions of the clay component or soil barrier layer component of a composite-lined or composite-capped facility for installation of the geomembrane or GCL, including smoothness of the surface, removal of rocks and other foreign objects, and repair of the clay or soil barrier layer surface due to rain, rutting, or other damage.

e. The placement of soil or other materials placed over a composite liner or composite cap.

2. The geomembranes, grids, fabrics, nets, and appurtenances. The statement shall specifically address:

a. The connections with all previously placed geosynthetics.

b. The placement of geomembrane in collection trenches, sideslope riser sump areas and other irregularly shaped areas.

c. The connections of geomembrane around leachate transfer pipes and any other penetration of the composite liner or composite cap.

d. The removal of geomembrane wrinkles which were higher than they were wide.

3. The elements of the construction relating to leachate or storm water routing, collection, storage, and transportation systems. The statement shall include construction of leachate collection and transfer lines, side slope risers for leachate pumping, all liner penetrations, collection tanks, manholes, lift stations, lysimeters and leachate head wells.

(4) CONSTRUCTION DOCUMENTATION REPORT. In order to fulfill the construction report requirements of sub. (1), the owner of a waste mining facility shall prepare a comprehensive constructive documentation report for the construction of a new mining waste facility. The report shall contain a detailed narrative

describing the construction of the facility in a logical fashion that shall contain, all of the following information, as applicable to the specific design of the facility:

(a) A set of 24-inch by 36-inch engineering plan sheets, or alternative size if approved by the department in writing, that includes all of the following:

1. A plan view documenting the constructed grades for the sub-base, sidewalls, leachate collection trench undercuts, and all sub-base appurtenances such as lysimeters and drain pipes, prior to liner placement. Documentation of the grades shall consist of spot elevations taken on a maximum 50-foot grid pattern, with leachate collection trench undercut elevations at least every 25 linear feet. If a total station or laser equipment is used to set elevations, the elevations may be taken every 50 linear feet. The approved sub-base grades shall also be shown for the same area in a clear and legible manner.

2. A plan view drawing showing the locations of all the various soil and geomembrane testing performed. Each test location shall be clearly labeled with appropriate identification codes. The plan view drawings shall clearly show any areas where removal and re-compaction of clay was necessary in order to attain the minimum required specifications. For composite-lined and composite-capped mining waste facilities, a plan view drawing shall also clearly show geomembrane panel placement, geomembrane patches and seam repairs, and geomembrane destructive sample locations. Multiple plan views may be shown on a single plan sheet if legibility is not compromised.

3. A plan sheet documenting the constructed elevations for the liner system. This plan sheet shall contain spot elevations of the base, sidewalls, and leachate collection trenches. Documentation of grades shall include spot elevations taken on a maximum 50-foot grid pattern, with leachate collection trench elevations taken every 25 linear feet. If a total station or laser equipment is used to set elevations, the leachate collection trench elevations may be taken every 50 linear feet. The approved base grades shall be shown for the same area in a clear and legible manner.

4. A plan view drawing showing the constructed base grades as well as the locations and elevations of all leachate collection and transfer piping, manholes, lift stations, culverts, and berms and the location of all unsaturated zone, groundwater, leachate monitoring and cleanout devices, surface drainage features, and other pertinent structures. This information may be shown on the plan sheet required in par. (c) if legibility is not compromised.

5. A cross-sections through the constructed area parallel and perpendicular to the base line of the facility. A minimum of 4 cross-sections shall be prepared, 2 of which shall be in each direction. Additional cross-sections shall be prepared as necessary to add clarification. Each of the cross-sections shall show actual and design sub-base and base grade contours, the top of the granular drainage blanket, leachate and groundwater pipe elevations, and the actual base and sub-base contours of adjacent filled areas. The design sub-base and base grade contours do not need to be shown if there is not an observable variation from the design grades.

6. A detail drawing, both plan view and cross-sections, of all manholes, lift stations, storage tanks, sumps, and sideslope risers or locations where leachate transfer piping exits the lined area and the secondary containment of these features as well as leak detection monitoring points and other pertinent construction details. At a minimum, these drawings shall show base and top elevations, the invert elevations of all associated piping, pump details, float level elevations, and the extent of recompacted clay placed around and below the structures. If float elevations are not available at the time of submittal of the construction documentation report, they shall be provided to the department when they are available.

7. The cross-section details to illustrate all important construction features of the liner, lysimeters, leachate collection trenches and sumps, and sediment control and storm water management systems.
8. The drawing details for leachate header lines or drain lines located outside the limits of waste in critical areas of below-ground piping, such as where several pipes cross or meet to illustrate sufficient pipe location and invert information.

(b) A narrative description of important facility design features including all of the following:

1. An analysis and discussion of all soil and geomembrane testing work performed. All density and moisture content testing results shall clearly indicate which Proctor curve or line of optimums is applicable to the soil being compacted. Any change in the referenced Proctor curve or line of optimums shall be identified as to when the change occurred and why the change was made. All raw data from the soil and geomembrane testing performed shall be included in an appendix to the construction documentation report unless other arrangements were previously approved by the department. The raw data shall be summarized using a tabulated format. The discussion shall also include the make, model, weight, and foot length of each piece of equipment used to compact clay, if applicable.
2. A table containing thicknesses of each layer in the liner system on a 100-foot grid pattern.
3. A discussion of how the leak tests were performed on lysimeters and sideslope riser sumps and a discussion of any problems encountered and how they were resolved.
4. Documentation of the initial leachate collection pipe cleanout and pressure testing of force mains and leachate storage tanks. All provisions used to seal pipe connections, manhole sections, and leachate storage tanks including protective coatings and corrosion protection shall be described. The manufacturer's recommendations for the installation of all equipment shall be included. Any deviations from the recommendations shall be documented and discussed.
5. The daily summary reports prepared by the registered professional engineer or qualified technician performing continuous quality assurance for each day that installation of geomembrane or other geosynthetics is either attempted or accomplished when constructing composite-lined sites. The reports shall specifically describe practices employed for base grade preparation and acceptance before geomembrane installation and drainage layer placement and all of the following:
 - a. Identification and location of geomembrane panels placed, with modifications of the fabrication plan noted.
 - b. Identification of field seams and ends of panel, and results of all destructive and nondestructive field tests of test seams and installed seams.
 - c. Methods and procedural steps taken prior to field seaming of panels.
 - d. Identification of wrinkles that were large enough to double over and were cut out and repaired.
 - e. Identification of repairs and destructive samples and the results of the nondestructive testing of those repairs.
 - f. Amount and location of geotextile and other geosynthetics used in construction of the liner.

g. Identification of the sources and product information for manufactured items used in site construction including geosynthetics, including the identification of all solvents and other sealants used in pipe construction.

h. Weather conditions and constraints.

(c). A series of properly labeled 35-millimeter film color prints or prints from digital photographs documenting all major aspects of facility construction. The images shall also be provided in reproducible electronic format. As determined by the specific design features, the photographic series shall include close-up images of the construction process including clay liner and soil barrier layer placement and compaction equipment, deployment of geomembrane and all other geosynthetics, deployment equipment, leachate pipe placement including all places where transfer piping exits the lined waste fill area or sideslope riser installation, and drainage blanket placement and the installation of all manholes, sumps, sideslope risers, lift stations, and storage tanks. Panoramic views shall be included showing the prepared sub-base and the completed liner before and after granular blanket placement.

(5) CLOSURE DOCUMENTATION. In order to fulfill the closure reporting requirements of sub. (1), the owner shall prepare a comprehensive report containing a detailed narrative describing the closure of the mining waste facility in a logical fashion in coordination with reporting requirements specified in the prospecting permit issued under ch. NR 131 or the mining permit and reclamation plan approval issued under ch. NR 132. Particular emphasis shall be placed on any deviations from the approved plans. All construction documentation reports for the closure of mining waste facilities shall contain all of the following information, as applicable to the facility's design and closure specifications:

(a) A set of 24-inch by 36-inch engineering plan sheets, and corresponding electronic versions with digital geographic information system files, unless an alternative size is approved by the department in writing, that include all of the following:

1. A plan sheet documenting the final waste grades. Documentation of grades shall include spot elevations taken on a maximum 100-foot grid after grading has been performed to establish uniform slopes.
2. A plan view drawing for each one-foot thickness of clay or soil barrier layer placed, showing the locations of the various soil testing completed and detailing the tests performed at each location. Multiple plan views may be presented on a single engineering plan sheet if legibility is not compromised.
3. A plan view drawing showing the location of all geomembrane tests, geomembrane panel layout, geomembrane patches and seam repairs, and geomembrane destructive samples.
4. A plan sheet documenting the constructed final cap grades prior to topsoil placement on a maximum 100-foot grid. Approved final cap grades shall be shown for the same area in a clear and legible manner. For areas less than 4 acres, a 50-foot grid shall be used.
5. The cross-sections through the closed area that are constructed parallel and perpendicular to the base line of the facility. A minimum of 4 cross-sections shall be submitted, 2 of which shall be in each direction. Each of the cross-sections shall show all surficial and subsurface features encountered including leachate lines, and other facility structures and shall be tied into the grades of adjacent previously filled areas. At a minimum, each cross-section shall show actual sub-base grades, base grades, final waste grades, and final topsoil grades.

6. The cross-section details shall be included to illustrate all important construction features of the final cover, and sediment control and storm water management structures.

(b) An analysis and discussion of all soil, geomembrane, and other geosynthetic testing work performed. All density and moisture content testing results shall clearly indicate which Proctor curve or line of optimums is applicable to the soil being compacted. Any changes in the referenced Proctor curve or line of optimums shall be identified as to when they occurred and why the change was made. All raw data from the soil, geomembrane, and other geosynthetic testing performed shall be included in an appendix to the closure documentation report unless other arrangements were previously approved by the department. The raw data shall be summarized using a tabulated format. Also included shall be the make, model, weight, and foot length of each piece of equipment used to compact clay.

(c) A table containing thicknesses of each layer in the cover system on a 100-foot grid pattern. When determining soil thickness by using surveying information, the table shall contain elevations before and after soil layer placement on the 100-foot grid. For areas less than 4 acres, a 50-foot grid shall be used. As an alternative to the survey method, soil thickness shall be controlled using settlement plates and grade stakes, and clay thickness shall be established on a 100-foot grid using auger borings. Boreholes shall be backfilled with a soil-bentonite mix such that the in-place permeability of the backfilled material is equal to or less than the surrounding clay cap.

(d) Daily summary reports shall be prepared for each day that installation of geomembrane or other geosynthetics is either attempted or accomplished for composite-capped mining waste facilities and shall contain the information required in s. NR 182.110 (4) (a) 13.

(e) A series of properly labeled 35-millimeter film color prints or prints from digital photographs that document all major aspects of facility closure. The images shall also be provided in reproducible electronic format. This photographic series shall include panoramic views of the closed area as well as close-up photos of the construction process and completed engineering structures.

(6) DEPARTMENT ACTION. Within 65 business days after receipt of a complete construction documentation report or a complete closure documentation report, the department shall do one of the following:

(a) Object to the construction or closure documentation report, identifying the issues that prevent the department from approving the report.

(b) Issue an approval and determination that the facility has been constructed or closed in substantial compliance with the plan of operation.

NR 182.111 Facility License. (1) No person may maintain or operate a waste site unless the person has obtained an operating license from the department. The owner or operator of the mining waste facility shall submit an application for an initial operating license using forms supplied by the department. The department shall issue the license for the design capacity specified in the determination of site feasibility and the approval of the plan of operation unless the department establishes any of the following by a clear preponderance of the credible evidence:

(a) The site is not constructed in substantial compliance with the approved plan of operation as determined by the department under s. NR 182.110.

(b) The applicant has failed to pay any required fees or has failed to post or maintain financial assurance instruments as specified in s. 293.51, Stats.

(c) The applicant has failed to submit adequate evidence that a notation of the existence of the facility has been recorded in the office of the register of deeds in each county in which a portion of the facility is located.

(2) The department may suspend or revoke a license issued under this section for grievous and continuous failure to comply with the approved plan of operation, or for grievous and continuous failure to comply with the requirements of this chapter. The department shall review the license and plan of operation to determine compliance annually or at such other intervals as it determines necessary, but no more frequently than annually.

(3) Following closure of a site or facility and issuance of a certificate of completion of reclamation under s. NR 132.122 for the portion of the mining site that includes the mining waste facility, the owner, or any successor in interest, shall apply for and maintain a license during the period of long-term care owner financial responsibility indicated in s. NR 182.117 and s. 289.41 (1m) (g), Stats.

NR 182.112 Inspections. (1) Subject to applicable state and federal safety rules or regulations, personnel or agents of the department may accompany employees of the owner on any routine inspection required by these rules, or may conduct inspections of their own at any other time that is reasonable under the circumstances involved. Department personnel or agents may conduct inspection of proposed mining waste facilities, mine waste facilities that are under construction, and mining waste facilities that have been licensed under this chapter, including closed facilities. Personnel or agents of the department may also examine any routine inspection reports and shall be furnished copies thereof upon request.

(2) Except as provided in subs. (4) and (5), a qualified representative of the owner of a mining waste facility licensed under this chapter shall, at least weekly, visually inspect all of the following:

(a) The active sites or facilities, including dams, for possible damage or structural weakening.

(b) The waste handling and monitoring equipment and readings to ensure normal operation and measurements.

(c) The fences or barriers for possible damage.

(d) The buffer area around the facility for possible environmental damage related to its operation.

(3) A qualified representative of the owner shall record the observations made in each visual inspection under sub. (2) in the facility's operating log as set forth in these rules.

(4) A qualified representative of the owner shall inspect active dam sites monthly. The findings on each inspection shall be recorded and filed with the department. The monthly the inspection report shall include all of the following:

(a) Condition of vegetation on the dam and within 50 feet from the outside base of the dam.

(b) Piezometric levels within the mass of the dam.

(c) Condition of soil surfaces on the top and slopes of the dam and within 50 feet from the outside base of the dam.

- (d) Condition of drainage ditches near the base of the dam.
 - (e) Liquid surface level and amount of freeboard.
 - (f) Condition of spillways, conduits, and water level control structures.
- (5) A qualified representative of the owner shall inspect inactive dams quarterly. The findings on each inspection shall be recorded and filed with the department. The quarterly inspection report shall include all of the following:
- (a) Condition of soil surfaces on the crest, slopes, and within 50 feet from the outside base of the dam.
 - (b) Determination of piezometric levels within the mass of the dam where such instrumentation has been determined to be necessary or required in the long-term care section of the plan of operation.
 - (c) Condition of spillways, conduits, and water level control structures.
- (6) When a potentially defective condition is found in a dam during an inspection under sub. (4) or (5), the owner shall ensure that it is recorded and corrected at the earliest practicable time in a manner consistent with the contingency plan, if applicable. A report of the condition shall be made to the department within 24 hours after completion of the inspection and the actions proposed and taken by the owner for its correction shall be made to the department at the earliest practicable time. The department shall notify the owner, in writing, of the title, address, and telephone number of the person to whom any report under this section shall be given, which notification shall specifically refer to this section and shall specify to whom reports are made both inside and outside of normal working hours. The department may confirm correction of the condition and specify any necessary additional corrective action. The department shall consider any of the following as indicating a condition that requires prompt investigation and may require corrective action:
- (a) Seepage on the outer face of the dam accompanied by boils, sand cones or, deltas.
 - (b) Silt accumulations, boils, deltas, or cones in the drainage ditches at the base of the dam.
 - (c) Cracking of soil surface on crest or either face of the dam.
 - (d) Bulging of the outside face of the dam.
 - (e) Seepage, damp areas, or boils in the vicinity of or erosion around a conduit through the dam.
 - (f) Any shrinkage of the crest or faces of the dam.
- (7) Any of the following conditions found in a dam during an inspection under sub. (4) or (5) indicate potential defects and shall be closely checked on subsequent inspections for an active dam and shall necessitate an intermediate inspection of an inactive dam:
- (a) Patches of overgrowth vegetation on the outside face or close to the base of the dam.
 - (b) Surface erosion, gullyng, or wave erosion on the inside of the dam.
 - (c) Surface erosion, gullyng, or damp areas on the outside of the dam, including the berm and the area within 50 feet from the outside base of the dam.
 - (d) Erosion below any conduit.

(e) Wet areas or soggy soil on the outside or in natural soil below the dam.

NR 182.113 Monitoring. (1) GENERAL. The department shall require the owner or operator of any nonferrous mining waste disposal site or facility, or any person who permits the use of property for such purposes, to conduct monitoring of groundwater, leachate, surface water, or other physical features located at the site or facility. The department may conduct its own monitoring or retain an independent contractor, at the expense of the owner or operator of any mining waste disposal site or facility or any person who permits the use of property for such purposes, to monitor groundwater, leachate, surface water, or other physical features located at the site or facility. Monitoring of the mining waste facility shall be in accordance with the monitoring plan required under ss. NR 132.107 (4) (c) and 132.117.

(2) GROUNDWATER AND LEACHATE MONITORING. (a) The department shall require adequate monitoring to detect the effects of leachate on groundwater located at the disposal site or facility. The department may require the installation of groundwater monitoring wells and may require installation of leachate monitoring wells, lysimeters, moisture probes, and similar devices, and associated water quality sampling programs.

(b) The department shall determine the number and location of required wells required under par. (a) based on the site size, waste types, site design, and the hydrogeologic and geologic setting of the site. The number shall be adequate to yield samples representative of the groundwater quality both up and down gradient from the disposal site or facility.

(c) The owner shall construct all monitoring wells in compliance with the requirements of ch. NR 141 and in such a manner as to prevent surface water from entering the well bore and inter-aquifer water exchange.

(d) The owner shall submit the results of all water elevation measurement and water quality sampling to the department within 60 days of the end of the sampling period. The owner shall submit an explanation of any deviation from the approved sampling plan or analytical procedures at the same time. The owner shall submit data in the format specified by the department.

(e) The owner shall conduct groundwater sampling quarterly, during the months of March, June, September, and December, unless an alternate schedule is specified by the department. An alternate schedule may be based on the hydrogeologic system's characteristics such as flow velocity, stratigraphy, and other factors and fluctuations in quality, as defined by background or baseline sampling and waste type.

(f) 1. The owner shall base sampling parameters on the results of the waste characterization and specified in the approved plan of operation. The quarterly analysis shall include parameters listed in subd. 2., with a comprehensive analysis, described in subd. 3., completed once each year, during the summer or fall sampling period.

2. At a minimum, all of the following parameters shall be measured on each sampling date:

a. Water level.

b. Field specific conductivity, micro-mhos/cm at 25° C.

c. Field and lab pH.

d. Concentration of total dissolved solids, mg/liter.

e. The concentrations of the principal contaminant constituents, or indicators thereof, found in the largest quantity in the waste disposed of or stored in the site or facility. Toxicity of contaminants should be considered when parameters are selected.

3. A comprehensive analysis shall quantify all of the following:

a. The characteristics listed in subd. 2.

b. The concentrations of other contaminants specified by the department that would reasonably be expected to occur in leachate from the waste disposed of or stored in the site or facility.

(g) Groundwater, lysimeter, and leachate samples shall be handled and analyzed in accordance with the requirements of methods listed in, "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW 846, third edition, November 1986, as amended by Updates I in July 1992, II in September 1994, IIA in August 1993, IIB in January 1995, III in December 1996 and IIIA in April 1998, which are incorporated by reference.

Note: The test methods are available at no cost at <https://www.epa.gov/hw-sw846/basic-information-about-how-use-sw-846#UseWhich>. Copies of the test methods are available for inspection at the offices of the department of natural resources and the legislative reference bureau. Copies may be obtained from the superintendent of documents, U.S. government printing office, P.O. Box 371954, Pittsburgh, PA 15250-7954, (866) 512-1800, www.gpo.gov. Copies may also be obtained from the national technical information service, U.S. department of commerce, 5285 Port Royal Road, Springfield, VA 22161, (800) 553-6847, www.ntis.gov.

(h) All chemical analyses under this subsection shall be conducted by a laboratory certified under s. 299.11, Stats., and ch. NR 149 for that test category. The limit of detection and the limit of quantitation shall be determined according to s. NR 149.48 (2). The analytical laboratory shall meet the requirements of the analytical method and ch. NR 149. Section NR 140.16 (4) applies to analytical results that do not meet the requirements of this subsection.

(i) If for any reason a monitoring well or other monitoring device is destroyed or otherwise fails to properly function, the site operator shall immediately notify the department in writing. The owner shall restore or properly abandon and replace with a functioning device all such devices within 60 days of notification of the department unless the owner is notified otherwise in writing by the department.

(j) The department may require the operator to sample, contract for third-party sampling, or provide cost reimbursement to well owners for sampling public or private wells as part of a regular monitoring program or to determine the extent of groundwater contamination.

(k) No person may begin construction of a nonferrous mining waste disposal site or facility until baseline groundwater quality in accordance with the parameters under par. (e) 2. have been determined and results of such analyses submitted to the department.

(3) SURFACE WATER. The department may require the operator to monitor surface water runoff, leachate seeps, sedimentation ponds, and other surface water discharges resulting from site operation and of surface waters that may be affected by such discharges.

(4) MONITORING PHYSICAL FEATURES. The department may require the operator to monitor air quality, waste facility settlement, berm or embankment stability, vegetation growth, and drainage control structures, and may require the operator to monitor other chemical, physical, or biological conditions, if

determined to be necessary to assess the impact of the disposal site on critical aquatic and terrestrial ecosystems.

(5) REQUIREMENTS FOR CERTIFIED OR REGISTERED LABORATORY. The state laboratory of hygiene or at a laboratory approved or certified by the department of agriculture, trade and consumer protection shall analyze microbiological and radiological samples. Other laboratory test results submitted to the department under this chapter shall be performed by a laboratory certified or registered under ch. NR 149. All of the following tests are excluded from the requirements under this subsection:

- (a) Geotechnical and biological tests of soils.
- (b) Air quality tests.
- (c) Field pH tests.
- (d) Field conductivity.
- (e) Waste material and ore testing.
- (f) Precipitation chemistry tests.
- (g) Leachate-liner compatibility testing.

NR 182.114 Recordkeeping and reporting.

(1) OPERATING LOG. (a) The owner of a mine waste disposal site or facility shall keep an operating log. This log shall, at all reasonable times, be open for inspection by any authorized department employee.

(b) The owner shall promptly record all of the following information, as it becomes available, in the operating log under par. (a) and maintain the log until closure of the facility unless, otherwise provided by the department:

1. A record of each waste type disposed of or stored on a weekly basis at the waste site or facility that includes all of the following:
 - a. A description of the type of each mining waste.
 - b. The quantity in units of volume or weight of each waste type disposed of or stored on the site and the method of treatment, disposal, or storage used for each.
 - c. Locations, with respect to permanently surveyed benchmarks, where each waste type is disposed of or stored.
 - d. The waste characterization and analyses, as specified under this chapter and the approval of the plan of operation.
 2. The monitoring data required under this chapter.
 3. The summary reports and records of all incidents requiring initiation of a contingency plan as specified under this chapter or resulting in human health or environmental damage.
 4. The records or results of visual inspections required under this chapter.
- (c) The owner of a mine waste facility shall retain all records of monitoring, analytical, and quality assurance activities and data collection, including raw data, and instrumentation, calibration, and

maintenance records until termination of owner responsibility, except to the extent that copies of such records have previously been provided to the department.

(d) The owner of a dam shall maintain, in a permanent file, all of the following construction records pertaining to the dam for future reference should they be needed:

1. Aerial photos of the construction site before construction.
2. Construction drawings and modifications necessary during construction.
3. Construction specifications and modifications.
4. Results of all soil tests on foundations and fill materials.
5. Logs of borings and engineering geology reports.
6. Copies of construction progress inspections pertinent to core trench, toe drain, internal drains, and other significant phases of the structure including, at the option of the owner photographs of various structural items.
7. Aerial stereo photos, or similar documentation using alternative technology, of the entire dam taken within 90 days after all construction is completed.
8. A description of and justification for all deviations or variances from the construction plans and specifications.

(2) INCIDENTS REPORT. (a) The owner of a mine waste disposal site or facility shall comply with the requirements under these rules in reporting incidents such as fires, explosions, discharges, or releases of materials into the environment. In the event that a facility has an accidental or emergency discharge, a fire, an explosion, or other unplanned or unpredicted event that has the potential for damaging human health or the environment or exceeds any limit, the operator shall follow the procedures set forth in the contingency plan and shall report such incidents to the department, county, towns, and tribal government officials identified in the plan immediately after the operator has discovered the event.

(b) The operator shall report to the department by telephone, or other communication method specified by the department, any condition listed under s. NR 182.112 (6) and par. (a) at the earliest practicable time. A written report of the reported condition shall be submitted within 5 days. The department shall notify the owner, in writing, of the title, address, and telephone number of the person to whom any report under this section shall be given, which notification shall specifically refer to this section and shall specify to whom reports are made both inside and outside of normal business hours.

(c) The owner shall turn over to the department duplicate copies of all records required under sub. (1) (b), (c), and (d) upon closure of the facility, except to the extent that copies of such records have previously been provided to the department.

(d) The owner of a mine waste disposal site or facility shall forward to the department at the end of each reporting quarter the monitoring data developed pursuant to the requirements of this chapter during the reporting quarter. A printed copy of the monitoring data shall be submitted in addition to an electronic version of the data in a format specified by the department.

(e) The owner of a mine waste disposal site or facility shall submit an annual summary report containing statistical summaries of annual and cumulative project data including monitoring data and volumes of

waste disposed or stored at the facility. The monitoring data summaries shall include comparisons to waste and leachate characterizations, geochemical modeling, effluent predictions, and baseline and background water quality data as contained in the feasibility report or plan of operation. The report shall also include the results of quality assurance and quality control procedures and present the error associated with each parameter presented. Information from unimpacted control stations should include a discussion on whether the baseline values should be modified due to natural variability and what the new values would be. At a frequency determined by the department, the report shall periodically include updated results of predictive groundwater modeling by incorporating currently available data into the original predictive model, submitted as part of the feasibility report.

(f) The owner of a mine waste disposal site or facility shall notify the department prior to cessation of disposal operations or prior to final facility closure as specified under this chapter.

(3) OPERATIONS REPORT. The department may require the owner or operator of any land disposal site or facility, or any person who permits the use of property for such purpose, to submit an operations report to assess the effectiveness and environmental acceptability of site operations. The contents of the report may include any of the following:

(a) A discussion of confinement of the active area.

(b) An analysis of leachate and pore water chemistry and comparisons to geochemical modeling results generated during the permitting process.

(c) An updated geochemical analysis.

(d) An analysis of groundwater monitoring results and comparison to results from predictive modeling completed as part of the feasibility report.

(e) Other monitoring, surface water control and erosion control, revegetation, settlement, volume utilized, leachate quantity and quality, slope stability, equipment performance, volume and type of disposed waste, and other relevant mine parameters.

NR 182.115 Closure.

(1) Mining waste facilities shall be closed in compliance with the plan of operation approved under s. NR 182.109 and the reclamation plan approved under s. NR 132.114.

(2) At the time of completion of closure of the mining waste site or a portion of the mining waste site, the operator shall provide proof of financial responsibility to the department in an amount equal to the reasonably anticipated costs during the period between 40 and 250 years after closure of the mining waste site, or portion of the waste site, to repair or replace any engineered cover systems or tailings water management control systems used at the mining site or mining waste site to avoid adverse environmental consequences. The proof of financial responsibility required under this paragraph shall be in the amount determined under ss. NR 132.116 (6) and 293.51 (1r), Stats., and shall be in the form of a cash deposit, which the department shall segregate and invest in an interest-bearing account, certificates of deposit, government securities, or other interest-bearing forms of security, or proof of establishment of an interest-bearing account, including an escrow account or trust account.

(3) At the completion of closure of a closed facility, or portion of a facility, the owner or operator shall reasonably secure the closed facility, or closed portion of a facility, so that injurious contact with waste by

humans or animal life will be minimized, and so that discharges harmful to health or the environment will not occur.

(4) At the completion of the closure of a facility, or portion of a facility, all required equipment shall be provided and arrangements shall be made to continue post-closure monitoring as required under this chapter.

(5) At the completion of the closure of a facility, or portion of a facility, the owner or operator shall submit to the department a closure documentation report under to s. NR 182.110 (5) certifying that the facility, or portion of the facility, has been closed in accordance with this chapter and approved plans.

(6) The long-term care period for a mining waste facility, or a closed portion of a facility, shall commence after the department completes all of the following:

(a) Issues an approval and determination that the facility has been closed in substantial compliance with the plan of operation in accordance with s. NR 182.110 (6) (b).

(b) Issues a certification of completion of reclamation for the facility, or portion of the facility, under s. NR 132.122.

NR 182.116 Financial responsibility for closure. (1) The intent of this section is to coordinate the financial responsibility requirements of ch. NR 132 and this chapter as those financial responsibility requirements affect closure of a mining site. Financial responsibility for closure of a mining waste facility shall be incorporated in the bond or other financial assurance under s. 293.51 (1), Stats., provided for reclamation of the mining site and release of the financial assurance shall be processed according to reclamation procedures. A demonstration of financial responsibility by whatever means shall not be required twice for the same obligation regardless of whether the same is set forth in more than one chapter of the administrative code.

(2) The closure requirements of this chapter shall be incorporated in and made part of the reclamation plan submitted pursuant to s. 293.37 (2) (b), Stats., and s. NR 132.109 but shall be referenced in the plan of operation submitted under s. NR 182.109. Release of the amount bonded to ensure closure according to the reclamation plan shall be processed under the provisions of s. 293.63, Stats., and s. NR 132.122 relating to the release of reclamation bonds.

NR 182.117 Financial responsibility for long-term care.

(1) **METHODS OF PROVIDING PROOF OF FINANCIAL RESPONSIBILITY.** The owner shall specify, as part of the plan of operation submittal, which method of providing proof of financial responsibility will be used for long-term care in compliance with ss. 293.51 (1g) and 289.41, Stats. To provide proof of financial responsibility, the owner may use any of the following methods to provide proof of financial responsibility under this section:

(a) *Performance or forfeiture bond.* 1. If the owner chooses to submit a bond, it shall be in the amount determined according to sub. (3) (b), conditioned upon faithful performance by the owner and any successor in interest, of all long-term care requirements of the approved plan of operation. The bond for long term care shall be delivered to the department as part of the initial operating license application submitted under s. NR 182.111. Bond forms shall be supplied by the department.

2. All bonds submitted under this paragraph shall be issued by a surety company among those listed as acceptable sureties for federal bonds in Circular 570 of the U.S. department of the treasury. At the option

of the owner a performance bond or a forfeiture bond may be filed. The department shall be designated as the obligee of the bond. Surety companies may have the opportunity to complete the long-term care of the facility in lieu of cash payment to the department if the owner or any successor in interest fails to carry out the long-term care requirements of the approved plan of operation. The department shall mail notification of its intent to use the funds for that purpose to the last known address of the owner. If the owner submits a written request for a hearing to the secretary of the department within 20 days after the mailing of the notification, the department shall, prior to using the funds, hold a hearing for the purpose of determining whether, or not, the owner has fulfilled the long-term care requirements of the approved plan of operation.

Note: Copies of Circular 570, "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" can be obtained from surety bond branch, financial management service, department of the treasury, Washington D.C. 20227, phone (202) 874-6850.

3. Each bond shall provide that, as long as any obligation of the owner for long-term care remains, the bond may not be canceled by the surety unless a replacement bond or other proof of financial responsibility under this section is provided to the department by the owner. If the surety proposes to cancel a bond, the surety shall provide notice to the department and to the owner in writing by registered or certified mail not less than 90 days prior to the proposed cancellation date. Not less than 30 days prior to the expiration of the 90-day notice period, the owner shall deliver to the department a replacement bond or other proof of financial responsibility under this section, in the absence of which all disposal operation shall immediately cease and the bond shall remain in effect as long as any obligation of the owner remains for long-term care. The surety may discharge its obligation under the bond at any time by paying the unused portion of the bond to the department.

4. If the surety company becomes bankrupt or insolvent or if its authorization to do business is revoked or suspended, the owner shall, within 30 days after receiving written notice, deliver to the department a replacement bond or other proof of financial responsibility under this section, in the absence of which all disposal operations shall immediately cease, and the bond shall remain in effect as long as any obligation of the owner remains for long-term care.

(b) *Deposit with the department.* An owner may deposit cash, certificates of deposit, or U.S. government securities with the department. The amount of the deposit shall be determined according to sub. (3) and shall be submitted to the department as part of the initial license application under s. NR 182.111. Cash deposits placed with the department shall be segregated and invested in an interest-bearing account. All interest payments shall be accumulated in the account. The department shall have the right to use part, or all of, the funds to carry out the long-term care requirements of the approved plan of operation if the owner fails to do so. The department shall mail notification of its intent to use the funds to carry out the long-term care requirements of the approved plan of operation to the last known address of the owner. If the owner submits a written request for a hearing to the secretary of the department within 20 days after the mailing of the notification, the department shall, prior to using the funds, hold a hearing for the purpose of determining whether, or not, the owner has fulfilled the long-term care requirements of the approved plan of operation .

(c) *Insurance.* 1. If the owner chooses to submit an insurance policy for long-term care, a policy shall be issued for the maximum risk limit determined according to sub. (3) (b). A certificate of insurance for

long-term care shall be delivered to the department as part of the initial operating license application under s. NR 182.111. Certificate of insurance forms shall be supplied by the department.

2. Except for captive insurance companies, the insurer that issues the policy under this paragraph shall be licensed to transact the business of insurance or eligible to provide insurance as an excess or surplus lines insurer in one or more states. The department, after conferring with the Wisconsin insurance commissioner, shall determine the acceptability of a surplus lines insurer or captive insurance company to provide coverage for proof of financial responsibility. The department shall ask the insurance commissioner to provide a financial analysis of the insurer including a recommendation as to the insurer's ability to provide the required coverage. The department shall be the beneficiary of the insurance policy. The department may require a periodic review of the acceptability of a surplus lines insurer or captive insurance company.

3. The insurance policy under this paragraph shall provide, either that the unused proceeds of the policy shall be payable in full to the department upon expiration of the policy or that, as long as any obligation of the owner for long-term care remains the insurance policy may not be canceled by the insurer unless a replacement insurance policy or other proof of financial responsibility under this section is provided to the department by the owner. If the insurer proposes to cancel an insurance policy, the insurer shall provide notice to the department in writing by registered or certified mail not less than 90 days prior to the proposed cancellation date. Not less than 30 days prior to the expiration of the 90-day notice period, the owner shall deliver to the department a replacement insurance policy or other proof of financial responsibility under this section, in the absence of which all disposal operations shall immediately cease, and either the policy shall remain in effect as long as any obligation of the owner remains for long-term care or the proceeds of the policy shall be payable in full to the department.

4. If the insurance company who issues the policy under this paragraph becomes bankrupt or insolvent or if the company receives an unfavorable evaluation under s. 618.41 (6) (d), Stats., the owner shall, within 30 days after receiving written notice of the bankruptcy, insolvency, or unfavorable evaluation, deliver to the department a replacement insurance policy or other proof of financial responsibility under this section, in the absence of which all disposal operations shall immediately cease, and the policy shall either remain in effect as long as any obligation of the owner remains for long-term care or be payable in full to the department.

5. The insurance policy under this paragraph shall provide that funds, up to an amount equal to the maximum risk limit of the policy, will be available to the department to carry out the long-term care requirements of the approved plan of operation if the owner fails to do so. The department shall mail notification of its intent to use the funds for that purpose to the last known address of the owner. If the insurer or owner submits a written request for a hearing to the secretary of the department within 20 days after the mailing of the notification, the department shall, prior to using the funds, hold a hearing for the purpose of determining whether, or not, the owner fulfilled the long-term care requirements of the approved plan of operation.

6. Each insurance policy under this paragraph shall contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditioned upon the consent of the insurer, provided that the insurer's consent is not unreasonably refused.

(2) COST ESTIMATES. (a) For the purpose of calculating under sub. (3) the amount of proof of financial responsibility that is required under sub. (1), the owner shall estimate the annual cost of long-term care of the facility in current dollars for each year of the long-term care proof of owner responsibility period for

the facility and submit the estimated long-term care costs, together with all necessary justification, to the department for approval as part of the plan of operation submitted under s. NR 182.109. The costs shall be based on the assumption that a third party performs the work and shall be reported on a per unit basis. The source of estimates shall be indicated.

(b) The owner shall prepare and submit to the department a new cost estimate for long-term care during the active life of the facility as follows:

1. Once every 10 years following issuance of the initial operating license for the waste facility, using current dollars, unless the costs are revised under subd. 2. within the 10-year period.

2. Within 60 days of the written approval by the department of a change in site design or operation for the facility.

(c) 1. At a minimum, long-term care cost estimates under this subsection shall include all of the following when applicable:

a. Land surface care.

b. Unsaturated zone monitoring.

c. Leachate pumping, transportation, monitoring, and treatment.

d. Groundwater monitoring, including sample collection and analysis.

e. Leachate collection line cleaning, on an annual basis.

f. Annual cost of electricity for maintaining the closed site.

g. A 10 percent contingency.

2. For the purposes of preparing the long-term care cost estimates under this subsection, all monitoring requirements specified in the plan of operation shall be assumed to apply over the entire long-term care period. Leachate quantity and strength shall be assumed to remain constant over time and the calculation of leachate generation volumes shall be performed assuming that the waste is at field capacity unless an alternative method is approved by the department in writing. Only detailed performance data shall be considered when evaluating estimates for leachate strengths and leachate generation volumes. Leachate treatment costs shall be based on those available from a municipal wastewater treatment plant capable of accepting the leachate in accordance with the applicable requirements of a permit issued under ch. 283, Stats., authorizing discharge from the municipal wastewater facility. The expected operating life of all pumps, manholes, blowers, extraction wells, and other engineering design features shall be specified in the plan of operation, and as each design feature reaches the end of its anticipated operating life, the cost of its replacement shall be added to the cost estimate for the appropriate year of the long-term care period.

(d) The rates of inflation applied to cost estimates under this subsection approved by the department in previous years shall be the annual gross domestic product implicit price deflator published in the survey of current business by the bureau of economic analysis, U.S. department of commerce for the appropriate years. The projected rate of inflation to be applied in proof of financial responsibility calculations for all future years shall be equal to the annual gross domestic product implicit price deflator for the last full calendar year.

(3) CALCULATING THE AMOUNT OF THE PROOF OF FINANCIAL RESPONSIBILITY. The owner shall, as part of the plan of operation submitted under s. NR 182.109, calculate the amounts of the proof of financial responsibility required under sub. (1) for long-term care based on the chosen methods for providing proof of financial responsibility, subject to all of the following:

(a) Proof of financial responsibility for long-term care deposited as cash, certificates of deposit, or U.S. government securities under sub. (1) (b) shall be provided in accordance with all of the following:

1. Annual payments shall be made into the account at the beginning of each year of site life. All estimated annual expenditures during the long-term care proof of financial responsibility period shall be assumed to occur at the end of each year of the proof period.

2. Annual payments shall be made in equal dollar amounts or in dollar amounts that increase each year by no more than the projected rate of inflation. However, payments in excess of these minimum amounts may be made in any year, thereby reducing the amounts of subsequent annual payments for the remainder of the site life.

3. The amount of the annual payments shall be calculated and made such that, at the end of the projected facility life, the minimum dollar value of the account is equal to the sum of all estimated long-term care expenditures for the entire long-term care proof of financial responsibility period when the expenditure for each year has first been expressed in future dollars and then brought to present value using a discount rate equal to the projected rate of inflation plus 2 percent.

4. In estimating future earnings on cash, certificates, and securities deposited as proof of financial responsibility for long-term care, the weighted average rate of return of the investments held in the account may be used for a period of time not to exceed the weighted average maturity of the investments held in the account rounded to the nearest whole year. Earnings for years beyond the weighted average maturity of the investments in the account shall be calculated based on a projected rate of return equal to the projected rate of inflation plus 2 percent.

5. If an annual payment is missed or made late, the subsequent annual payment shall be increased so that the end of year balances originally calculated based on beginning of year payments are maintained.

(b) Proof of financial responsibility for long-term care provided in the form of a performance or forfeiture bond under sub. (1) (a) or insurance under sub. (1) (c) shall be equal to the sum of the costs in current dollars of performing each of the years of long-term care for the required long-term care proof of financial responsibility period.

(4) CHANGING METHODS OF PROOF OF FINANCIAL RESPONSIBILITY. The owner of an approved mining waste facility may change from one method of providing proof of financial responsibility under sub. (1) to another, but not more than once per year. A change may only be made on the anniversary of the submittal of the original method of providing proof of financial responsibility. The amount of the new method of providing proof of financial responsibility shall be in the amount that is equal to the amount that would have accumulated had the new method been used as the original method.

(5) ADJUSTMENT OF FINANCIAL RESPONSIBILITY. The owner of a facility for the land disposal of mining waste shall prepare a new long-term care cost estimate whenever a substantial change in the long-term care requirements in the approved plan of operation affects the cost of long-term care. Proof of the increase in the amount of all bonds or other approved methods established under this section shall be submitted annually to the department. The department may adjust the amount of the required proof of

financial responsibility for long-term care based upon prevailing or projected interest and inflation rates and the latest cost estimates and may annually require the owner to adjust the amount of proof of financial responsibility accordingly.

(6) ACCESS AND DEFAULT. Whenever on the basis of any reliable information, and after opportunity for a hearing, the department determines that an owner or operator of an approved mining waste facility is in violation of any of the requirements for long-term care specified in the approved plan of operation, the department and its designees shall have the right to enter upon the facility and carry out the long-term care requirements. The department may use part, or all of the money deposited as cash, certificates of deposit or government securities, performance or forfeiture bonds, or insurance under sub. (1) to carry out the long-term care requirements.

(7) AUTHORIZATION TO RELEASE FUNDS. One year after closure, and annually thereafter for the period of owner responsibility under s. 289.41 (1m) (g), Stats., the owner, who has carried out all necessary long-term care during the preceding year, may make application to the department for reimbursement from deposits with the department, or for reduction of the bond or insurance equal to the estimated costs for long-term care for that year. The application shall be accompanied by an itemized list of costs incurred. Upon determination that the expenditures incurred are in accordance with the long-term care requirements anticipated in the approved plan of operation, the department may authorize in writing the release of funds or approve a reduction in the bond or insurance. Prior to authorizing a release of the funds or a reduction of the bond or insurance, the department shall determine that adequate funds exist to complete required long-term care work for the remaining period of owner responsibility. For facilities using deposits with the department, the department may authorize the release and return of up to 75 percent of the expected cost of long-term care for the current year. Determinations shall be made within 90 days of the application. Any funds remaining in deposits with the department at the termination of the period of owner responsibility shall be released to the owner.

(8) TERMINATION OF REQUIREMENT TO POST PROOF OF FINANCIAL RESPONSIBILITY. The owner of an approved mining facility may apply, at any time at least 40 years after the closing of the facility, to the department for termination of the owner's obligation to maintain proof of financial responsibility for long-term care of the facility. The department shall process the application in accordance with the notice, hearing, and all other requirements under s. 289.41 (1m) (g), Stats.

(9) SUCCESSORS IN INTEREST. Any person acquiring rights of ownership, possession, or operation of a licensed facility shall be subject to all requirements of the license for the facility and shall provide any required proof of financial responsibility to the department in accordance with this section. The previous owner is responsible for long-term care, and shall maintain any required proof of financial responsibility, until the person acquiring ownership, possession, or operation of the facility establishes any required proof of financial responsibility.

NR 182.117 Environmental fees. (1) ENVIRONMENTAL REPAIR FUND. All owners or operators of licensed mining waste disposal facilities shall pay to the department an environmental repair fee for each ton of waste received and disposed of at the facility, until the facility no longer receives waste and begins closure activities. The environmental repair fee shall be as specified in s. 289.67 (1), Stats.

(2) GROUNDWATER FUND. All owners or operators of licensed mining waste facilities shall pay to the department a groundwater fee for each ton of waste received and disposed of at the facility, until the facility no longer receives wastes and begins closure activities. The amount of the groundwater fee shall

be as specified in s. 289.63 (3), Stats. The department shall deposit all groundwater fees into the groundwater fund as provided for in s. 25.48, Stats.

(3) **SOLID WASTE FACILITY SITING BOARD FEE.** All owners or operators of licensed mining waste facilities shall pay to the department a solid waste facility siting board fee for each ton or equivalent volume of waste or that is disposed of at the mining waste facility. The amount of the solid waste facility siting board fee shall be as specified in s. 289.64 (3), Stats. The fees collected under this subsection shall be credited to the appropriation under s. 20.370 (4) (eg), Stats., for transfer to the appropriation under s. 20.505 (4) (k), Stats.

(4) **CERTIFICATION AND PAYMENT OF FEES.** (a) *Certification of waste received.* The owner or operator of a licensed mining waste facility shall certify, on a form provided by the department, the amount of waste received and disposed of during the preceding reporting period. The department shall specify the term of the reporting period on the certification form. The department shall mail the certification form to the owner or operator every January. The certification form shall be completed and returned to the department within 45 days after mailing of the form by the department to the owner or operator.

(b) *Payment of fees.* Based on information certified by the owner or operator under par. (a), the department shall mail notice of fees due in May and the owner or operator shall within 30 days after mailing of the fees notice, remit the appropriate fees to the department. An owner or operator failing to remit the appropriate fees within 30 days after mailing of the fees notice to the owner or operator shall pay a late processing fee of \$50.00 in addition to the appropriate fees.

(5) **DETERMINATION OF WASTE TONNAGES.** The owner or operator shall, subject to department approval, use one of the following methods for determining the number of tons of waste received and disposed of at the mining waste facility for purposes of certification under sub. (4):

(a) The owner or operator may use actual weight or volume records as recorded under s. NR 182.114 (1) (b) 1. b.

(b) The owner or operator may establish by field measurement the volume of waste disposed and convert to a weight using an assumed compaction density.

NR 182.119 Exemptions and modifications. (1) **AUTHORITY.** The department may grant exemptions from the requirements of this chapter and modifications to any license, plan of operation, or other authority issued under this chapter as provided in ss. 293.15(9), Stats., if such exemptions or modifications are consistent with the purposes of this chapter and ch. NR 132 and will not violate any applicable federal or state law or regulation or rule.

(2) **EXEMPTION AND VARIANCE REQUESTS SUBMITTED AS PART OF THE APPROVAL PROCESS UNDER S. 293.40, STATS.** (a) To the extent feasible, an applicant shall submit all requests for exemptions or variances under this section as part of the mining waste site feasibility report or plan of operation and shall describe the grounds for the exemption or variance including documentation identifying the physical conditions that necessitate the exemption or variance, other reasons for the exemption or variance, discussion of any environmental impacts that will result from issuance of the exemption or variance, mitigation measures, if any, proposed to offset adverse impacts resulting from the exemption or variance, and the reasonableness of the exemption or variance.

(b) An applicant shall submit an application for an exemption or variance under this subsection no later than 60 days after the mining permit application is considered complete under s 293.495 (1) (a) 2., Stats.

The department may consider an application for an exemption or variance submitted after that time, but only if the application is received in time to allow the application to be considered at the public informational hearing for the mining permit and other approvals under s. 293.43 (3m), Stats.

(c) The department shall issue a decision on a request for an exemption or variance as part of the decision on the feasibility report and plan of operation under ss. NR 182.108 and 182.109, except as provided in par. (d). The department shall grant the exemption or variance if all of the following conditions:

1. The exemption or variance is consistent with the purposes of this chapter and ch. 293, Stats.
2. The exemption or variance will not violate any applicable state environmental law outside of this chapter and ch. 293, Stats.
3. The exemption or variance will not endanger public health, safety, or welfare and will not result in significant adverse environmental impacts on or off the mining site.

(d) The department shall deny a request for an exemption or variance if granting the exemption or variance will result in a violation of federal law.

(e) If federal law imposes a standard for an exemption that differs from the standard in par. (c) and that cannot be modified by state law, and if that standard has been approved by the federal government for use by the state through a delegation agreement, federally approved state implementation plan, or other program approval, then the department shall determine whether to grant the request for the exemption using the federal standard.

(3) EXEMPTION AND VARIANCE REQUESTS SUBMITTED AFTER FEASIBILITY REPORT AND PLAN OF OPERATION REVIEW PERIOD AND BEFORE ISSUANCE OF APPROVALS. If an applicant submits a request for a variance or exemption under this section more than 60 days after the feasibility report and plan of operation are considered complete but before the department issues or denies approval of the feasibility report or plan of operation, the application for an exemption or variance shall be processed following the provisions of s. 293.495 (1) (c), Stats.

(4) EXEMPTION AND VARIANCE REQUESTS SUBMITTED AFTER ISSUANCE OF FEASIBILITY REPORT AND PLAN OF OPERATION APPROVALS. The department shall process exemption and variance requests under this section submitted after issuance of a mining permit as a modification under s. 293.55, Stats., and s. NR 132.120.

(5) ADDITIONAL INFORMATION REQUESTS. The department may require the applicant submitting the request for a variance or exemption to conduct specific studies and analyses and submit additional supporting documentation, as necessary, to facilitate the review of the request by the department.

NR 182.120 Enforcement. If the department has reason to believe that a violation of ch. 289, Stats., or the provisions of this chapter which are adopted pursuant to ch. 289, Stats., or any special order, plan approval, or any term or condition of a license issued under the authority of ch. 289, Stats., occurred, the department shall follow the procedures specified under s. 289.97, Stats.

SECTION 5. EFFECTIVE DATE. This rule takes effect on the first day of the month following publication in the Wisconsin Administrative Register as provided in s. 227.22 (2) (intro.), Stats.

SECTION 6. BOARD ADOPTION. This rule was approved and adopted by the State of Wisconsin Natural Resources Board on January 27, 2021.

Dated at Madison, Wisconsin _____.

STATE OF WISCONSIN DNR

DEPARTMENT OF NATURAL RESOURCES

BY _____

For Preston D. Cole, Secretary

(SEAL)