BEFORE THE
STATE OF WISCONSIN
DIVISION OF HEARINGS AND APPEALS

Application of Flambeau Mining Company for Permits to Build and Operate a Surface Mine in Rusk County, Wisconsin	))))	Docket No. IH-89-14

DECISION
FINDINGS OF FACT
CONCLUSIONS OF LAW
AND PERMITS

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DECISION

This proceeding involves a proposal by the Flambeau Mining Company (Flambeau) to operate a metallic mineral mine in Rusk County, Wisconsin. The mine would be located primarily in the Town of Grant, although a small portion of the mining site would be located in the City of Ladysmith.

The ore body was discovered by exploratory drilling in 1968. Thereafter, in the mid-1970's, a proposal to mine was undertaken by a predecessor in interest to Flambeau. A mining permit and associated permits were applied for, an environmental impact statement was written by the Department of Natural Resources and a contested case hearing was commenced on the application. The hearing to determine whether the permits would be granted was in progress when Rusk County determined it would not issue necessary zoning approvals. The Department dismissed the applications in 1977.

In July, 1987, the process of obtaining the requisite approvals to mine was again initiated in the form of a Notice of Intent to Collect Data (NOI) to Support a Mining Permit Application. The entity which filed the Notice of Intent was Kennecott Minerals Company. A public hearing was held on the NOI in Ladysmith, Wisconsin on September 9, 1987. A scope of study (SOS) for the project was subsequently submitted to the DNR on October 7, 1987. Public comments were received and the scope of study was approved. After nearly 18 months of study by the Company's consultants, Flambeau submitted a six volume Environmental Impact Report (EIR), a mine permit application and other permit applications to the Department of Natural Resources on April 3, 1989. Revised permit applications were submitted in December, 1989.

In July, 1989, the applicant changed from Kennecott Minerals Company to Flambeau Mining Company. Flambeau Mining Company is a wholly owned subsidiary of Kennecott which, in turn, is owned by RTZ Corporation through several intermediate corporations. RTZ Corporation is a British-based holding corporation.

The DNR issued a draft environmental impact statement on September 3, 1989. Public comments were solicited from September 6 to October 23, 1989 and a public hearing was held on October 6, 1989. On March 9, 1989, after review of the public's comments and comments from other regulatory bodies, the DNR issued a final environmental impact statement (FEIS).

The regulatory process culminated with the master hearing under sec. 144.836, Stats., which commenced on July 16, 1990 in Ladysmith, Wisconsin. The master hearing consisted of an initial three days of public hearings, followed by twelve days of contested case hearings, and a second public hearing on the final day of the proceeding. During the contested case hearing, approximately fifty witnesses submitted testimony and were subject to extensive cross-examination. I believe it is fair to say that this project has been the subject of as much public scrutiny as any other project pending before a state agency in the history of the State of Wisconsin.

Despite the extraordinary technical analysis and public scrutiny, the project is quite limited in scope and impact. As detailed in the permit applications and EIR, the project involves an open pit mine approximately 550 feet wide, 2,600 feet long, and 225 feet deep which is expected to produce approximately 2.0 million tons of ore containing copper, gold and silver. The mining operations are expected to last six years and will be followed by a one to two year reclamation period. During operation, all water which comes into contact with ore or high sulfur waste rock will be collected and treated in a state-of-the-art waste treatment plant. The ore will be shipped offsite by rail. Consequently, the operation will involve no onsite processing, tailings, smelting, or refining. Reclamation will include back filling of the open pit, restoration to approximate original grades, re-establishment of a wetland and revegetation designed to improve wildlife habitat.

The permits and approvals required from the Department of Natural Resources for these activities are as follows:

- A plan approval for wastewater treatment facilities under sec. 144.04, Stats.
- A Wisconsin pollutant discharge elimination system (WPDES) permit under Ch. 147, Stats.
- An air pollution control permit under sec. 144.391, Stats., et seq.
- A high capacity groundwater withdrawal approval under sec. 144.025(2)(e), Stats.
- A permit for activities associated with construction adjacent to navigable waters under Chapter 30, Stats.
- A one-time demolition waste disposal approval under sec. NR 502.12, Wis. Adm. Code.
- A mining permit under sec. 144.85, Stats.
- In addition to Flambeau showing that its project qualifies for the listed permits and approvals, the Department must show that it complied with the requirements of sec. 1.11, Stats., in analyzing the environmental impacts of the project.

SCOPE OF AUTHORITY

Policy decisions regarding mining or any other industrial activity are primarily the responsibility of the elected officials of the State. The

legislature has codified its policy decisions on mining by enacting subchapter V in chapter 144 of the Wisconsin Statutes. This complicated and comprehensive set of regulations provides the blueprint for permitting certain mining projects in the State of Wisconsin. The statutes provide for permitting mining activity so long as such activity complies with the requirements of the environmental protection provisions contained in that statute. The fact that many of those who testified during the public informational portion of this proceeding did not agree with what their representatives have done does not render the legislature's decisions any less valid. Inasmuch as the mining law has been on the books for over a decade, as Hearing Examiner I must apply these statutes as lawfully enacted.

The role of administrative agencies is to implement the will of the Legislature. Some policy-like decisions must be made by administrative agencies in order for them to implement the statutes passed by the Legislature. Under Wisconsin law, this is done through the adoption of administrative rules.

Administrative rules adopted by the Department must go through a public hearing process and then be voted on by the Natural Resources Board, comprised of sevens citizens appointed by the Governor and confirmed by the Wisconsin Senate. The Natural Resources' Board meetings are public meetings at which citizens may appear to comment on proposed rules. Several of the objecting parties to these permits have participated in the rule-making process before the Natural Resources Board. Rules adopted by the Natural

Resources Board must then go before at least one committee of each house of the legislature for review before taking on the force and effect of law. Each of those legislative committees is empowered to conduct yet another public hearing on the proposed rule. See sections 227.10 through 227.27, Stats. All of the administrative rules that have been used by the Department to determine whether Flambeau's proposed project is environmentally acceptable have gone through this high profile process. These policies having been made by the appropriate governmental bodies, it is now the job of the Hearing Examiner to apply the laws of the State and rules lawfully promulgated thereunder to the specific facts associated with the proposed project presently before me.

In many cases parties appearing in opposition to the issuance of these permits have requested that the Hearing Examiner create new law and establish precedent within the mining field in the State of Wisconsin. The Hearing Examiner's decision to approve, conditionally approve, or deny permit applications must be based on the legal standards applicable to each permit. The Hearing Examiner does not have the authority to alter these standards:

> An order of an administrative agency must accord with the standards and policy prescribed by the legislature, and so cannot alter the legislative act governing the action of the agency making the order. 2 Am Jur. 2d Admin. l. sec. 479.

Similarly, in interpreting these standards, "the exercise of discretion must be predicated upon a judgement anchored in the language and spirit of the relevant statutes and regulations." Freepoint Minerals v. United States, 776 F 2nd 1029, 1032 (Fed. Cir. 1985). The Examiner does not have the authority

to pass on the constitutionality of statutes or rules. Nodel Inv. Corp. v. Glendale, 78 Wis. 2d 416, 426, 254 N.W. 2d 310 (1970).

These principles are in accord with the general rule that an agency or board created by the legislature has only those powers which are either expressly conferred or which are, by necessity, to be implied from the four corners of the statute under which it operates. American Brass Co. v. State Board of Health, 245 Wis. 440, 14 N.W. 2d 27 (1944); Racine Fire and Police Commission v. Stanfield, 70 Wis. 2d 399, 234 N.W. 2d 307 (1975). Thus, the Examiner's function is limited to determining whether the evidence presented meets the legal standards established by statute or rule.

BURDEN OF PROOF

The issue of burden of proof has two elements. The first is the standard of proof required to establish a fact or position of law. The second element involves the assignment of responsibility as to who must carry that burden. The Wisconsin Greens and the Lac Courte Oreilles Band of Lake Superior Chippewa Indians (LCO) have taken the position that the Hearing Examiner should utilize the standard imposed in criminal cases, that of "beyond a reasonable doubt," in making the findings of fact in this matter. A review of the applicable case law establishes that administrative proceedings use the normal standard of proof applicable in civil court proceedings. The standard of "the greater weight of the credible evidence" which is synonymous

with the "preponderance of the evidence" is the standard which I used in reviewing the entire body of evidence presented during the hearings in this matter. That standard is discussed at length in Wangen v. Ford Motor Company, 97 Wis. 2d 260, 299, 294 N.W. 2d 437 (1980). Also, see Koch, Administrative Law and Practice, s. 6.44 (1985) which provides: "As with most civil trials, the standard of proof in an administrative adjudication is preponderance of the evidence."

As the main proponent for the granting of the permits and the party who wishes to change the status quo, the Flambeau Mining Company carries the burden of persuasion in this case. State v. McFarren, 62 Wis. 2d 492, 499, 215 N.W. 2d 459 (1974); K. C. Davis, Administrative Law Text, s. 14.12 (3d Ed., 1972). While many of the citizens who testified during the public informational portion of the hearing seemed to think that the burden had been shifted away from the company, neither the Hearing Examiner nor the company denied that the applicant carries the burden of establishing each and every one of the requirements set out in the statutes in order to receive permission to operate this mine.

TREATY RIGHTS

The Lac Courte Oreilles Band is a sovereign, federally recognized Indian Tribe with a long history of negotiating with the United States as a separate, distinct government. It is a Band of the Lake Superior Chippewa,

which in turn is a part of the greater Chippewa Nation, located from Michigan to North Dakota, from Quebec to Saskatchewan. The Lake Superior Chippewa made several treaties with the United States in the nineteenth century, but the relevant land cession treaties between the Lake Superior Chippewa and the United States began in 1837.

In 1837, LCO and other Lake Superior Chippewa Bands negotiated and signed a treaty with the United States in which these Tribes ceded certain territory in what is now Wisconsin to the United States, and reserved particular interests in the territory ceded. In 1842, LCO and the other Lake Superior Chippewa ceded another large land parcel to the United States in what is now northeastern Wisconsin and Michigan and again reserved particular interests in the territory ceded. In 1854, the Lake Superior Chippewa negotiated a treaty with the United States which ceded territory in Minnesota and additionally established the reservation lands of the Chippewa in Wisconsin.

The particular interests reserved by the Lake Superior Chippewa in these land cession treaties generally have been interpreted by the federal courts to be "usufructuary" rights to harvest the fruits of lands in the territories ceded. The United States Constitution holds that the treaties with the various Indian Tribes are the "supreme law of the land," and there has been extensive litigation in the federal courts interpreting these treaties.

The Hearing Examiner does not hold himself out as an expert on the treaty rights of the Chippewa. This is obviously an area of the law which

some individuals have devoted their entire professional lives. It is not my intention to provide a dissertation on the whole bundle of rights to which the LCO Band is entitled in accordance with the numerous federal court determinations handed down over the years. What I have done is to examine the specific areas which the LCO has argued were deficiently handled by Flambeau and the DNR and to address these limited issues within the context of the permits which are before me.

When the issues are reduced to their core, the LCO contends that (1) the State of Wisconsin and the Flambeau Mining Company have a duty to consult with the Chippewa Tribes prior to the issuance of any permits to the company and (2) that the mine as proposed will have impacts which adversely affect the usufructuary rights of the LCO.

In its brief the LCO acknowledges that the state is the manager of the natural resources of Wisconsin and that the Lake Superior Chippewa Band do not have an independent permitting authority in the ceded territories. The mine site is clearly private property located within the lands ceded by the Chippewa to the United States.

The process of reviewing the permit applications which have been submitted by Flambeau has been an open and highly participatory process. Since the filing of the Notice of Intent in July of 1987, the entire population of the State of Wisconsin, including the Indian Tribes, municipalities and individuals, have been on notice of the proposal of the Flambeau Mining Company. Throughout this three-year period input has been accepted, and on

several occasions requested, from all sources. The LCO has been represented at all of the public hearings and had access to the voluminous data base which is being utilized to make the decision on whether to grant the requested permits.

During the contested case hearing the LCO participated as a full party to the action. As such the tribal attorneys, as well as all the other parties, meticulously cross-examined each and every one of the over 40 expert witnesses proffered by the company and the DNR. It also called several of its own experts including the Tribal Chairman Gaiashkibos. Given this lengthy and open procedure and the many opportunities which the LCO have had to involve itself in the decision making process, I cannot agree with the contention of the LCO that it was not adequately consulted by the DNR or by the company.

The term "consultation" as used in the context of the tribe's argument implies not only being apprised of the activity which is being proposed, but also a concomitant responsibility on the part of the LCO to actively participate when given the opportunity. The record in this case reveals that while provided numerous opportunities to do so, the tribal government did not seriously concern itself in this controversy until it intervened as a party in the contested hearing. And even then when all parties were informed of the deadline to submit direct testimony, the LCO did not provide its direct testimony until several months later. In reviewing this entire permitting continuum, I cannot find that the LCO was inappropriately excluded from the

statutorily created decision-making procedure nor were its rights to be consulted ignored as alleged by the Tribe.

The second and more important issue raised by the LCO is whether the usufructuary rights of the LCO will be adversely impacted by the construction and operation of the proposed mine. The Flambeau project has been studied, designed, and reviewed with concern over the environmental impacts of the over-all project. While the LCO has special rights, over the fishery, wildlife, and the plant community in the ceded territory, I can find absolutely no support in the record to establish that there will be any measurable adverse impact upon the resources of concern to the LCO Band.

Witness after witness testified in detail, as to the design of the various components of the mining operation. Each explained the basis for his or her judgment. While each expert witness was subjected to extensive cross-examination, the credibility of these witnesses was only reinforced by the lengthy explanations which were elicited. The more the witnesses for Flambeau and the DNR were pushed to back up their professional judgments, the more it became clear that these individuals had carefully studied and accurately assessed the impacts of the mining operation.

None of the experts who reviewed the data, not even those called directly by the LCO, testified that there would be an adverse impact upon the fishery, wildlife, or the plant community to which the LCO has harvesting rights. Certainly, many of those who testified at the public meeting and some of the LCO experts "expressed concern" over the myriad of potential negative

results which could flow from the operation of a mine in the relatively pristine environment of Rusk County. It would be ridiculous to imply that there are no risks associated with this project, but the standard for granting these permits is not the "zero" impacts on the environment which many opponents have suggested.

In addition to the substantial planning which has preceeded this project there are literally hundreds of conditions attached to the various permits which are being issued with this decision. These conditions create a monitoring system and a reclamation plan to further protect the natural environment from unforeseen events. All of this must be considered in weighing the proposal against the alleged adverse affects to the LCO's usufructuary rights.

Finally, it must be noted that there was specific expert testimony tendered that after review of all the species of plant, fish and animal life identified by the LCO as being harvested for the benefit of the tribal members, none of these will be endangered by the operation of the mine. Since the mine itself utilizes only 181 acres of private land and discharges off the property will not measurably reduce the resources available for harvest by the LCO, I conclude that the permitting of this mining operation will not adversely impact the treaty rights to which the LCO are entitled.

PERMITS AND APPROVALS

Flambeau has applied to the Department of Natural Resources for eleven separate permits or approvals which are necessary for it to construct and operate the proposed mining project in Rusk County. Each of the permits and approvals has its own set of statutory and administrative code requirements. The Hearing Examiner has the responsibility for reviewing the record to determine if Flambeau has established by a preponderance of the credible evidence that it meets all the requirements set out in the various authorizing statutes and codes.

While the individual permits contain specific findings of fact regarding all of the requirements referred to above, I will address in this section some of the issues most frequently discussed during the contested and public meeting portions of the master hearing. It should also be noted that with the exception of the mining permit itself none of the necessary approvals are particularly unique. All industrial and municipal dischargers in Wisconsin are required to obtain similar permits to authorize their particular activities. As such the permits which are issued by this decision contain the standard conditions applicable to all other permittees in this state. In addition a plethora of conditions have been added to make certain that the regulated activity is conducted in an environmentally sound manner given the specific circumstances of the mine's location and its potential impacts.

1. Plan Approval for Wastewater Treatment Facilities

Plan approvals for wastewater treatment facilities and WPDES permits are elements of one regulatory discipline within the Department, that of controlling the quality of wastewater discharged from point sources of pollution.

The record reflects that Flambeau submitted a Final Engineering Report which, in turn, was reviewed by an engineer in the Department's Industrial Wastewater Section. The product of that review was a conditional Plan Approval for Wastewater Treatment Facilities submitted for approval at the hearing as Exhibit No. 188. Part of Exhibit No. 188 is a document entitled "Report of the Examination of Plans and Specifications for a Wastewater Treatment System, Flambeau Mining Company, Ladysmith, Wisconsin."

The whole of Exhibit No. 188 is a thorough evaluation of the treatment design proposed by Flambeau. It concludes that, subject to the referenced conditions, the treatment design is approvable. The testimony of the reviewing engineer, Ms. Priscilla Mather, also established satisfaction with the treatment design.

No expert testimony was provided to contradict the position taken by the DNR through its design review engineer. No expert witness was called, besides those of Flambeau or of the Department, who had any experience in designing or reviewing wastewater treatment plan designs.

There is but one conclusion that can be drawn from the record with regard to the sec. 144.04, Stats., approval requirement. The draft approval submitted by the Department as Exhibit No. 188 conforms with all the requirements of sec. 144.04, Stats., and generally accepted engineering principles and should be approved.

2. The WPDES Permit

Related to the approval of design of the wastewater treatment facilities is the issuance of the operating license in the form of the Wisconsin Pollutant Discharge Elimination System (WPDES) permit. WPDES permits have a maximum term of 5 years. Section 147.03, Stats. These permits are issued under the authority of Ch. 147, Stats., and rules adopted under that chapter. One requirement of Ch. 147, Stats., is that effluent limitations in discharge permits be in conformance with applicable water quality standards, which are adopted under the authority of sec. 144.025(2)(b), Stats. Section 147.04(5), Stats.

The WPDES permit program is a creation of state law, but is a reflection of the National Pollutant Discharge Elimination System (NPDES) permit program, as delegated to the state by the U.S. Environmental Protection Agency (EPA). WPDES permits for discharges to surface waters are sent to EPA, which accepts them for enforcement purposes as NPDES permits. WPDES permits, and their counterparts throughout the country, have many

elements to them but their primary purpose is to provide limitations on the quality or quantity of waterborne pollutant discharges.

Before a permit is issued the Department must determine what pollutants might exist in a given discharge. In this case, with the exception of the incidental influence of the few additives to the treatment process, any pollutants expected in the wastewater would come from contact between waste rock and precipitation or groundwater. To assist in determining which constituents might be leached from the waste rock under the worst case conditions, an engineering consulting firm retained by Flambeau developed a "synthetic wastewater" by repeatedly passing acidified water through columns containing core samples of the waste rock.

Once a determination was made of possible pollutants in the wastewater, limitations were placed on the concentration or the mass of each pollutant present in concentrations warranting control. The limitations are either a treatment technology based limitation or a water quality based limitation, whichever is more stringent.

Treatment technology based limits are those applied equally across the country based on the type of manufacturing process. These limitations are established by EPA and are published in the Federal Register. Water quality based limitations are those that are necessary to protect the uses of individual streams. They are calculated on a site-specific basis.

a. Treatment technology based limitations

The treatment technology based limitations appearing in Exhibit 185, the proposed WPDES permit, include the following parameters: total suspended solids (TSS), pH, and cadmium. They were obtained from sec. NR 270.104, Wis. Adm. Code, New Source Performance Standards. Exhibit 187 outlines the considerations factored into the process by the Department. No expert testimony was provided to show that treatment technology based effluent limitations different from those incorporated by the Department should have been used.

b. Water quality based limitations

Most of the controlling proposed effluent limitations are water quality based. They were calculated from water quality standards and procedures specified in Chs. NR 102, 105, 106 and 207, Wis. Adm. Code. Contrary to the apparent perception of some of the parties, these effluent limitations are not unique to mining projects. All wastewater discharges to surface waters of the State are subject to the same set of standards and procedures.

The water quality standards for pollutants that can be toxic if present in high enough concentrations were adopted as recently as February, 1989, after extensive public and legislative involvement. The Department used these standards to calculate the water quality based effluent limitations in Exhibit

185. James Schmidt testified to how those calculations were done. Again, as with the treatment technology based effluent limitations, no one meaningfully challenged Mr. Schmidt's determinations. No expert testimony was provided regarding how the operative standards should have or could have been applied differently.

c. Hydrogen Sulfide

There was substantial testimony provided by members of the public as well as by Mr. Larry Brooke regarding concern over hydrogen sulfide in the discharge. Mr. Brooke testified that EPA is in the earliest stages of generating a water quality criteria for hydrogen sulfide. Consequently, absent the availability of a water quality criteria, at this time a water quality based effluent limit for hydrogen sulfide cannot be generated. He not only did not dispute that the appropriate means of measuring for hydrogen sulfide was through use of a bioassay, he agreed the criteria being proposed for the bioassay in the permit were traditional and correct. Finally, he agreed that hydrogen sulfide is very volatile, and therefore should be removed from the waste stream by the methods employed in the plans. No testimony was provided to contradict this conclusion by a witness who was familiar with treatment processes in general or the design of this particular treatment facility.

Although bioassay on synthetic effluent may be the best information available on a yet to exist waste stream, they are only as good as the characterization of the waste. Consequently, the only true test of acceptability of the waste stream will be the testing done of that waste stream. The testing required in the discharge permit, herein, is consistent with that being done statewide in the WPDES program. Therefore, Flambeau is being treated like other dischargers who must monitor and conduct bioassay testing to ensure their discharges will not have a toxic effect on organisms in the receiving water.

The Wisconsin Resources Protection Council (WRPC) has recommended that the testing frequency be increased for several of the parameters in the WPDES permit (as well as in other of the permits requested). The reason cited for this increased testing is that the objectors do not trust the DNR to protect the safety and well-being of the citizens of Rusk County. The WRPC then provides two examples of testimony supporting different monitoring requirements.

The two examples cited are legitimate areas where modification to the proposed conditions of permits are necessary to protect the public health and welfare. The permits issued with this decision reflect changes to the DNR proposed permits where deficiencies were brought out by the witnesses' testimony. In fact numerous changes have been made to the proposed permits to make them more clear and to reflect the reasonable concerns presented by various witnesses who testified during the master hearing.

However, the wholesale changes in monitoring and testing recommended by the WRPC are simply not supported by the record. While it is appealing to accept the theory that "more is better," I cannot substitute that slogan for the reasoned judgment of those persons who supervise the monitoring of all discharges in the State of Wisconsin. It should also be noted that if it should become necessary to modify the terms or conditions of any of the issued permits at some later time, the DNR has the authority to implement such changes.

3. The Air Pollution Control Permit

As with the wastewater plan approval and discharge permit, the air pollution control permit is based on statutory authority independent from mining related laws. The requirement to obtain an air pollution control permit, the considerations effecting the determination whether a permit should be issued to a particular source, and the conditions to be placed on the permit granted, are grounded in sec. 144.391, Stats., et seq., and the administrative codes adopted thereunder. The fundamental question in determining whether an air pollution control permit should be issued is whether the criteria for permit approval in sec. 144.393, Stats., are met.

The air permit application and the supporting plans and specifications filed with the Department for the Flambeau mine established the design of the mining operation and how air pollution from the operation would be

controlled. The operational design and pollution control techniques were reviewed by the Department in its analysis of the air pollution control permit application and supporting documents.

The air pollution control permit includes findings regarding the nature of the source to be constructed; it lists the operative standards under which the Department analyzes applications of the sort made by Flambeau; and it states the conditions under which the facility must be operated in order to comply with the air pollution laws of the state.

Mr. Daniel Johnston testified that the operations to be conducted at the proposed mine (i.e., crushing, conveying, vehicular traffic, wind erosion from storage piles) and the fugitive emissions of particulate matters from the operations were not significantly different from a number of other sources in the state being regulated by the air management program. He further testified that the permit conditions placed on this facility are consistent with those placed on other facilities that have operations similar to those being proposed by Flambeau.

The testimony presented at the hearing establishes that the primary pollutant of concern from the mining operations is particulate matter. These particulates will be emitted as fugitive emissions, that is, emissions not vented from a stack or flue. The standard method of regulating operations which result in fugitive emissions is by means of an opacity or visible emissions limitation and ambient monitoring. The permit conditions reflect this regulatory method.

The permit conditions call for fugitive dust emissions from the crusher and crusher transfer operation causing no greater than 10% opacity; and 20% opacity from all other open pit mining operations. These opacity limitations apply to activities that are within the property boundaries of the mine. There is a separate opacity limitation of 0% that is applicable at the property boundary of the mining site and on public roads and waterways running through mining property.

As an additional measure to deal with fugitive emissions a permit condition requires Flambeau to install and operate four ambient air monitors for particulate. These monitors will ensure that the level of particulate does not exceed the ambient air quality standards. The filters from these ambient monitors will be analyzed quarterly to verify that the levels of potential hazardous air pollutants.

In the opinion of Mr. Johnston, the engineer whose job it is to review applications for potential new sources of air pollution, this permit complies with the operative requirements of the statutes and administrative codes. There was no testimony provided which contradicted the testimony of Mr. Johnston, although there was testimony by Dr. Thomas Paulsen, a medical expert, regarding the potential impact of particulate emissions and diesel fumes on the health of the workers in the mining pit. Such concerns about worker health and safety are under the jurisdiction of the Occupational Safety and Health Administration of the federal government and are outside the authority of the Department of Natural Resources. Accordingly, such concerns cannot

be covered by the air pollution control permit and therefore are not an element of the master hearing decision process.

Dr. Paulsen's testimony on the potential adverse health impacts from mining projects in general (e.g., uranium exposure, silicosis, asbestosis and increased respiratory illnesses) could not be utilized by the Hearing Examiner as the sole basis of a finding of fact because he testified on cross-examination that: 1) he did not know what levels of particulate or any contaminant might be, if any, off-site from the Flambeau project if it was subject to the proposed air pollution control permit conditions; 2) he could not testify to a reasonable degree of medical certainty that asbestosis or silicosis will be a problem at the Ladysmith mine; and 3) he could not state to a reasonable degree of medical certainty that anyone at the hospital or nursing home in Ladysmith will experience any effect associated with the mine due to airborne contaminants. In sum, Dr. Paulsen's testimony on potential health impacts from mining projects, while well founded in a medical context, was too speculative when applied to the specific facts of the case before me.

Finally, there was substantial questioning at the hearing about fugitive dust associated with transportation of the ore off-site. That question was specifically addressed in a condition of the draft permit which states:

> "No person shall cause, allow or permit any materials to be handled, transported, or stored without taking precautions to prevent particulate matter from becoming airborne. . ..

3. Covering or securing of materials likely to become airborne while being moved on public roads, railroads, or navigable waters."

That condition remains part of the final air pollution permit and should address the concerns regarding this issue.

4. The High Capacity Groundwater Withdrawal Approval

Flambeau has applied for a High Capacity Groundwater Withdrawal Approval. Section 144.855(3)(a), Stats., requires that a mining permit applicant apply for an approval under sec. 144.025(2)(e), Stats., if groundwater withdrawal or mine dewatering would occur in excess of 100,000 gallons per day.

The review of the application consisted of several elements. First, there was a determination of the amount of groundwater drawdown that would occur due to inflow of water into the open pit, and the dimensions of the resultant groundwater cone of depression. The initial evaluation of the inflow and cone of depression was done by Mr. Thomas Prickett, a consultant for Flambeau. His work was evaluated for the Department by Mr. Kenneth Wade. Doctor Douglas Cherkauer, a professor of geology at the University of Wisconsin-Milwaukee, was retained by the Office of the Public Intervenor to also evaluate the work of Mr. Prickett.

Both Mr. Wade and Dr. Cherkauer conducted thorough reviews of the work of Mr. Prickett. Their independent conclusions were that Mr. Prickett's calculations were reasonable and accurate. A cone of depression in the groundwater would be created by operation of dewatering the mine. The maximum drawdown of groundwater would occur 2.3 years after the time the maximum depth of the pit is reached. At its maximum, the cone of depression would extend 3200 feet from the open pit. The minimum measurable projected impact on groundwater drawdown was two feet. Therefore, to the extent that there is an impact outside the boundary of the mine site, it will be two feet or less.

The Department then analyzed the impact of such a drawdown on public and private wells. Mr. James Scharch, an engineer with the Department's Bureau of Water Supply, determined that the combination of the size of the drawdown and the distance to the nearest public water supply would mean no public water supply would be affected by the mine dewatering.

Mr. Roger Gerhardt, a hydrogeologist with the Department, investigated the impact of the drawdown on private water supplies. He concluded that the impact on the existing wells on the property owned by Flambeau were such that most would have to ultimately be abandoned.

He also reviewed the impact on private wells not owned by Flambeau. His conclusion was that one well would most probably experience a drawdown in excess of 8 feet, and would be expected to experience water shortages during the maximum drawdown. One other potentially affected well owner

failed to provide the information necessary to determine well impacts. Mr. Gerhardt concluded it would be possible that this well could also be adversely affected by the mine dewatering.

Based on his conclusions, Mr. Gerhardt drafted the High Capacity Groundwater Withdrawal Approval to include provisions that would assure forewarning if the groundwater modeling predictions were proving true. Consequently, if the drawdown were to threaten the water supply of either or both of the private wells, adequate time would be available to initiate the procedures set out in sec. 144.855(4), stats.

In addition to the protection built into the approval, the local agreement contains a guarantee by Flambeau to remedy any water supply problem caused by the drawdown. Based on these considerations, I have concluded there would not be an unreasonable detriment of public or private water supplies or the unreasonable detriment of public rights in the waters of the state.

5. The Water Regulatory Permits

A number of activities associated with the project require permits to physically alter a waterway under various provisions of Ch. 30, Stats. The activities consist of removal of materials from the bed of a tributary to the Flambeau River, change the course of and placement of culverts on the bed of a tributary to the Flambeau River, grading in excess of 10,000 square feet on the bank of the Flambeau River, placement of riprap on the bed of the

Flambeau River, and construction of a 3.5-acre pond within 225 feet of the Flambeau River.

Each of these permitting activities are common proposals received each year by the Department. They are processed largely by field personnel and evaluated for compliance with statutory standards. The fact that the proposals at issue in this proceeding are associated with a mining proposal does not modify the standards which must be applied to the activity to determine if the permits should be issued.

Flambeau provided testimony by Mr. David Krohn and Mr. Jerry Sevick who described the activities being proposed. Mr. Roger Jasinski was called as a witness by the Department. He testified to the review conducted by the Department and provided a draft consolidated Ch. 30, Stats., permit, Exhibit 190. In his testimony he described the nature of his review and the conclusions he drew regarding the compliance of the proposals with the operative standards for approving such applications.

There was very little dispute at the hearing regarding these physical alteration to waterway proposals. Flambeau is the riparian owner of real property located on both sides of tributary streams A, B, and C. It also owns land abutting the Flambeau River. The activities described in the applications will not obstruct navigation in the Flambeau River or navigable stream C. The project will not reduce the effective flood flow capacity of any stream as evidenced by the calculations submitted in Exhibit 5. In addition the erosion control plan and other conditions of the permit ensure that the physical

alterations being proposed will not cause environmental pollution within the meaning of sec. 144.01(3), Stats., and are not detrimental to the public interest in the navigable waters of the State. I find that all the requisite requirements for permit issuance have been met and these permits should be issued.

There was a concern raised at the hearing that the Ch. 30, Stats., permit was proposed to extend to the year 2007. Under the requirements of sec. 30.20(2)(c), Stats., there is a maximum term of 10 years for a permit issued to remove materials from the bed of a stream. Consequently, the permit has been limited to this maximum. This revision should have no effect on the work authorized by the permit.

6. The One-Time Demolition Waste Disposal Approval

In conjunction with the submittal of revised applications in December 1989 and January 1990, Flambeau submitted a new application for the one-time disposal of demolition materials on the mining site. The one-time disposal facility is proposed to be located where a settling pond would be during mining operations, and hence an already disturbed area.

A review of this application was conducted by the Department. It was determined the proposal fell into the smallest of demolition landfill categories, based on projected volume of material to be disposed. Mr. Walter Wasko, Jr., stated that because of the relatively inert nature of the waste, the proposed

disposal has lesser environmental impact and is of less concern than normal municipal waste.

A draft one-time disposal approval was proffered by the Department through Mr. Wasko, and identified as Exhibit 160. The permit herein includes the conditions the Department has determined to be appropriate for the proposed disposal. No qualified testimony was provided which in any way countered the position taken by Mr. Wasko of his testimony and his proposed approval.

The WRPC has recommended that the one-time disposal permit be conditioned on video taping the site during its operation. This recommendation is unreasonable on its face, but also appears to serve little useful purpose. It is inconceivable that anyone would be willing to watch six months of video tape of a demolition site. Moreover, since the site will only become operational after all the mining wastes have been backfilled and covered, I do not believe such a permit condition is warranted. The ability of DNR personnel to make unscheduled inspections and to randomly examine the in-ground waste should provide adequate monitoring to ensure compliance with the permit conditions.

7. The Mining Permit

The discussion to this point has involved applications for permits and approvals which are governed by regulatory programs that do not specifically

focus on mining projects. They deal with discharges to the air or to the water, regardless of the nature of the source of the discharge. The mining permit is the one regulatory approval which applies only to proposed mining activities.

The scope of regulation under the mining law is quite broad. However, it does not supersede the requirements of the other regulatory programs discussed above. See section 144.937, Stats. The determinations left to be made in the review of a mining permit application are specifically set out by statute and administrative code.

The responsibility of the Hearing Examiner is to apply the law as it appears in the statutes and administrative code. In terms of the mining permit, the controlling statutes are ss. 144.80 through 144.94, Stats. The controlling administrative codes are Ch. NR 132 and NR 182 of the Wisconsin Administrative Code. The limited issue facing the Hearing Examiner is whether the application, as appropriately conditioned, meets the requirements of these statutes and codes.

In this narrative portion of the decision I will not attempt to address all of the findings which are required to be made to authorize this mining project. Pursuant to sec. 144.85(5)(a)(2), Stats., all such findings are detailed in the mining permit itself. However, I will attempt to discuss the issues which were most seriously contested by the parties in their evidentiary presentations as well as in the briefs submitted to the Examiner.

a. Local Zoning Approvals

One issue in particular which received considerable attention concerns conformance of the proposed mining operation with all applicable zoning ordinances. Section 144.85(5)(a)1.e., Stats. Testimony was presented by Mr. Robert Plantz on behalf of the City of Ladysmith, Town of Grant and Rusk County which indicated that Flambeau has complied with all applicable zoning requirements and has been issued a conditional use permit by the local governments. Mr. Plantz is the authorized representative of the local units of government and had authority to testify on their behalf. In addition the local agreement which was entered into by the town, city and county has been reviewed judicially by the Circuit Court and the State Appeals Court. The Hearing Examiner has no choice but to accept the determination of the local municipalities as to the validity of their zoning decision.

Some of the objectors also question the validity of the local agreement because it was executed by Kennecott Exploration (Australia), Ltd. and not Flambeau Mining Company, the applicant for the mining permit. However, the agreement itself expressly provides that Kennecott could transfer and assign its interest in the agreements. The testimony establishes that Flambeau is the successor in interest to Kennecott Exploration Ltd., and further the Court of Appeals found no problems with Flambeau carrying out the obligations established in the local agreement.

The WRPC and the Rusk County Citizens Action Group (RCCAG) also argued that moratoria passed in 1982 and 1988 by citizens in the Town of Grant establish a failure on the part of Flambeau to satisfy local zoning obligations. The Court of Appeals in its November 27, 1990, decision specifically addresses this issue and determined that the town board is the "governing body" of the Town of Grant under sec. 144.839(4), Stats., and that the local agreement was in conformance with the specific language contained in the moratoria. See, Churchill v. Town of Grant, Court of Appeals District III, No. 90-0640 (November 27, 1990). The Court's determination on all these issues is binding upon the Hearing Examiner.

b. Track Record of the Applicant's Parent Companies

Numerous comments were made during the public hearing that the Department should have more closely examined the environmental track record of Flambeau's parent company, RTZ Corporation. Based on that evaluation, it was argued, the Department should deny the requested permits. An evaluation of unrelated mining operations throughout the world, operating under considerably less stringent and in some cases non-existent regulatory constraints would be meaningless to the evaluation of the subject proposal and of little probative value.

The legislature, through the mining statutes, has established the criteria by which an applicant's past performance is evaluated by the Department.

Section 144.85(3)(e), Stats., requires submittal of information pertaining to forfeitures of mining bonds by the applicant, its parent, principal shareholders, subsidiaries and affiliates. Section 144.85(5)(b), Stats., sets the conditions under which the Department may deny issuance of a mining permit to an applicant due to its previous corporate activities. This statutory standard has been satisfied and the Department and Flambeau presented testimony to that effect.

If more stringent regulations regarding a company's past history are needed as the Wisconsin Greens have maintained, the legislature and/or the Natural Resources Board will have to enact such regulations. As it stands today the bodies which are charged with making policy have opted not to include review of past company actions beyond those objective standards contained in sec. 144.85, Stats.

c. Compliance with Suitability Criteria

WRPC argues that the mine site is unsuitable for mining under sec. 144.85(5)(a)1.c., Stats., because of the "need for exemptions", the mine's proximity to "habitable premises" and "other concerns about the environment." WRPC has apparently overlooked the definition of the term "unsuitability" contained in sec. 144.81(18), Stats. Unsuitability is limited in this definition to the protection of habitat for endangered species and certain unique features of land designated by the state or federal government. Flambeau offered direct

testimony demonstrating that the project site was "suitable" under that definition.

The only contention advanced by WRPC which arguably relates to the suitability standard is the contention that blasting could affect eagles nesting over a mile from the site. Although there has been no quantitative study on the impact of blasting on eagles, impacts caused by noise and human activity have been studied. Conditions have been added by the Examiner to the mining permit to give further assurance that the eagles will not be harmed by the mine's blasting.

d. Core Sample Data

The Greens argue that the failure of various Flambeau and DNR experts to physically review all of the core samples somehow warrants denial of the mine permit. No reference is made to any statute or regulation which establishes such a standard for denial. All of the experts who testified regarding the geology of the mining site indicated they were satisfied with the quantity and quality of the data which they had available to them. This included those witnesses of the DNR who reviewed the application for engineering and geological adequacy.

In addition the argument that the core sample data was not made available or was not properly reviewed is inconsistent with the testimony presented at the hearing. Flambeau, its consultants, and the DNR had access

to all of the core samples and logs even though samples were only taken of representative cores. DNR staff witnessed the drilling of core samples, and had full access to the core samples. DNR utilized its access to inspect the core samples, review all of the core samples selected for the waste characterization, and cross-check the actual core samples with the core logs. To the extent that some experts relied on a review of the core logs rather than the physical core samples, they testified that it is standard practice to do so.

Data from the core samples was also made publicly available as part of the NOI and EIR submittal. Ironically, those complaining about the core sample and core logs have not bothered to review the public data, or to review the core samples, logs or data during the discovery phase of this proceeding. Those parties who were concerned about the core samples and core logs could have filed a discovery request to inspect them. They chose not to do so.

e. Economic Impact Criteria of the Mining Permit

A very great amount of testimony presented at the hearing involved the perceived shortcomings in the socio-economic analysis provided by the company and the DNR. However, the objecting parties have focused their arguments on peripheral issues and not upon the applicable legal standards and the preponderance of the evidence submitted on the record.

For purposes of granting a mine permit, an economic not a socio-economic analysis is required. The mine must not produce "a net

substantial adverse economic impact in the area . . . most impacted." Sec. 144.85(5)(a)1.e., Stats. To the extent that it is required at all, a socio-economic analysis is an EIS criteria not a mine permit criteria. The parties criticizing the economic analysis have ignored the two key factors demonstrating that the Flambeau Mine satisfies the required finding for the mining permit.

First, no one seriously disputes that the project will produce a guarantee economic benefit of $2.0 to $5.0 million in tax revenue. Second, the infrastructure of the local economy will not be stressed by the project. Schools, medical facilities, housing, police and fire protection all are adequate to handle the small temporary influx of persons working in the mine.

Rather than focusing on the applicable legal standard and key evidence, the opposing parties have stressed that the data concerning such factors as wage scales, spending patterns, housing, spin-off jobs and post-mining employment were incomplete or too "generalized." Even if one assumes no wage income, no spending, no increases in housing, no spin-off jobs and no post-mining employment of workers, the Flambeau mine will not have a substantial net adverse economic impact because the guaranteed tax revenues and the community infrastructure remain unchanged. An analysis run by the DNR to determine the impacts in a worst case scenario (i.e., the mine is constructed, but not operated) disclosed that "there would not be a net substantial adverse economic impact."

In addition the proffered criticism does not invalidate the data base. Although the economic analysis was not exhaustive, it was based on reasonable data complied by two experts. In preparing her report, Ms. Bacon relied on published reports including the Rusk County Comprehensive Plan, Census data, Bureau of Labor Statistics data and other government data. She also conducted interviews with school administrators, the hospital administrator, the City Administrator, the County Zoning Administrator and others. Williams Tans reviewed and verified the information gathered by Bacon and also performed an independent evaluation which employed a computer model to estimate tax and fiscal impacts. No credible countervailing testimony was offered by the opposing parties.

I believe an objective and detached review of all the information contained in the economic analysis as well as the other testimony presented on the record, leads one to the conclusion that the applicant has satisfied the economic test of sec. 144.85, Stats.

f. Variances to Locational Criteria

As part of the mine permit, Flambeau has requested three locational variances from the standards established in sec. NR 132.18, Wis. Adm. Code, which states as follows:

"(1) To the extent practicable no person shall establish, construct, operate or maintain the use of property for any mining related buildings,

roads, ponds, or other construction within the following areas, except pursuant to an exemption granted under s. NR 132.19:

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

(d) Within a flood plain.

(e) Within 1000 feet of the nearest edge of the right of way of any of the following: Any state trunk highway . . ."

Exemptions are governed by sec. NR 132.19, Wis. Adm. Code, which provides that the Department may grant exemptions if the exemptions are consistent with the purposes of the chapter and will not violate any applicable federal or state environmental laws or rules. Exemptions are therefore not mandatory, but rather discretionary, and must be consistent with the metallic mineral mining chapter. The purpose of the chapter is set out in NR 132.01, which reads as follows:

> "The purpose of this chapter is to establish procedures and standards for the comprehensive regulation of metallic mineral mining in the state and to coordinate and reconcile applicable state and federal statutes and regulations so as to facilitate the procedures by which Department permits, licenses and approvals may be applied for, hearings may be held, and determinations may be made by the Department in a coordinated and integrated manner."

The locational criteria specified in sec. NR 132.18, Wis. Adm. Code, are guidelines to be considered by an applicant when designing a proposed mining project and not totally inflexible mandates as suggested by the mine opponents. This more liberal interpretation of the loctional criteria is also the interpretation the DNR has made in its regulatory supervision of the mining program over the years since the adoption of the mining rules. It has long

been established that interpretation of its own rules by an administrative agency should be given great weight unless it is plainly erroneous. State ex rel. Durando v. State Athletic Commission, 272 Wis. 191, 75 N.W. 2d 451 (1956).

The criteria were clearly never intended to be applied as strict limits or standards. The drafters of sec. NR 132.18, Wis. Adm. Code, recognized that, due to the fixed location of mineral deposits, compliance with the criteria would not always be possible. They began the section with the phrase "To the extent practicable . . ." and followed the identification of locational criteria with a statement that exemptions to the criteria may be obtained.

The LCO, Wisconsin Greens, RCCAG and WRPC each argue that the proposed variances relating to the locational criteria specified in sec. NR 132.18, Wis. Adm. Code, should not be granted because the sole reason for seeking the exemptions is related to project profitability. The term "practicable", which appears at the outset of sec. NR 132.18, is widely used in environmental control programs and invariably involves economic considerations. While economic feasibility of the project may have been a major and legitimate reason behind the request for the variances, it is not the basis on which the Hearing Examiner has decided to grant the variances. When an application for a variance is made which complies with the criteria for obtaining a variance, the Department is obligated by the specific terms of sec. NR 132.19, to at least evaluate whether there is a valid environmental protection reason for denying the request.

Numerous witnesses testified that the distance from the proposed pit to the Flambeau River does not pose a significant environmental threat. Extensive studies have been conducted to demonstrate the stability of the so-called "river pillar". While the mine opponents legitimately question the reduction in the separation distance from 300 to 140 feet at its narrowest point, the evidence submitted by those who have investigated the pillar establishes it is safe. The rock in that area can withstand a force of 5000 pounds per square inch. This is approximately equivalent to the strength of concrete. Mr. Zavodny testified that the structure will remain stable during the entire mining operation including the period when controlled blasting will occur. This opinion was corroborated by Markart of the DNR.

Special precautions are to be undertaken as the mine operation approaches the narrowest pillar width to assure that no unforeseen cracks or problems develop. This phase of the mining operation is to be carefully monitored by the DNR. Based on an absolute worst case analysis with respect to fractures, rock saturation, rock strength and other factors, the river pillar will still remain stable.

If, notwithstanding the premining analysis, signs of some failure appear during mining, they will be detectable well before a failure could occur and can be addressed by remedial measures. Such measures include a grout curtain to prevent seepage, wells to relieve water pressure, rock bolts to increase rock strength, and leaving a wider pillar. Mining can be stopped by order of the DNR or the mine manager on site if there is a safety problem. Given these

facts and the substantially reduced viability of the project if the exemption is not obtained, Flambeau has met its burden under the regulation and there is no reason to deny the request.

The local municipalities agree that the exemption should be granted for the river pillar, but have requested that additional conditions be included in the permit to improve the monitoring of the stability of the pillar. I have incorporated several of these recommendations in restrictions to blasting contained in the Mining Permit, Part 2 - Mining Plan Approval, provisions 31a through 31e.

The next exemption to be considered involves the siting of certain structures in the floodplain of the Flambeau River. These structures include concrete spillways, riprap, a flood control dike and the underground slurry wall. All of these items have been included in the mining project to address specific environmental protection concerns. In addition they are by their very nature items which cannot be sited anywhere other than the floodplain. The testimony presented establishes that these structures will not create any environmental problems and that they would help protect the environment. Granting this exemption is clearly consistent with the purposes set out in NR 132.01.

The proposed exemption regarding location of the waste stockpiles and other mine components closer than 1000 feet to a state highway presents a slightly different problem than the others already discussed. In this case it is acknowledged that placing these facilities as proposed will cause a greater

visual impact than they would if placed further from the highway. However, both Weyenberg and Lynch testified that by placing the piles as proposed a substantially smaller amount of wetland would be impacted by the project and there will be less overall disturbance to the area. When weighing the temporary visual impact against a longer term environmental harm, it is justified to grant the exemption and thereby minimize any environmental impacts from the project.

g. Baseline Groundwater Monitoring Variances

Flambeau also has requested a variance from certain baseline groundwater monitoring which would otherwise be required under NR 182.075(1)(d)5. This section specifies that before mining operations begin, 12 months of groundwater monitoring be undertaken on a site which will contain mining wastes. This "baseline monitoring" is designed to provide information on groundwater quality before the mining operation begins. Parameters include state or national primary and secondary drinking water standards and other parameters specified by the Department. However, similar to the provisions of NR 132.19, NR 182.19 also provides that variances may be granted from this section.

Flambeau specified the parameters that it would include in its October 1987 Scope of Study. While the monitoring program provided for monitoring of many primary and secondary parameters, some were not included because

they were viewed to have no relationship to mining operations at this site. These include primary organic compounds (pesticides), turbidity and radioactivity. This monitoring program was approved by the DNR after a public hearing in the City of Ladysmith. The DNR did not receive any adverse comments about the parameters included in the groundwater monitoring program. Groundwater monitoring took place in 1987 and 1988 according to the approved study.

In November, 1988, after the monitoring was completed, the DNR indicated that Flambeau should request a variance for the parameters that were not monitored. As a result, Flambeau submitted a variance request as part of its mine permit application specifying why the variance should be granted.

WRPC and the LCO both argue that issuance of a variance relative to baseline groundwater monitoring for turbidity, radioactivity and certain organic compounds would be inconsistent with the purpose of Ch. NR 182, Wis. Adm. Code. As with the variances from the locational criteria, Flambeau and the Department through the testimony of Possin and Lynch argue that the monitoring is not necessary. It was established and not refuted that turbidity is not a useful parameter for groundwater monitoring. The testimony presented also showed that the organic parameters are related to pesticides and therefore are not applicable to this particular mining project. Finally, based on evaluation of the vast body of geologic data and groundwater monitoring results for uranium already done at this site, baseline monitoring for the

radioactivity MCLs is not necessary. The requested exemption is justified and should be issued.

THE ENVIRONMENTAL IMPACT STATEMENT

1. Applicability of the EIS Law to this Case and The Extent of Analysis Required.

The Wisconsin Environmental Policy Act (WEPA), sec. 1.11, Stats., requires that state agencies prepare an environmental impact statement (EIS) for "major actions significantly affecting the quality of the human environment." Sec. NR 150.03, Wis. Adm. Code, further defines the analysis which must be undertaken to determine when an impact study must be prepared. Sec. NR 150.03(8)(e)1.a. directs that an EIS must be drafted (Type I action) in a metallic mining application if:

"The estimated weight of the ore deposit exceeds 5 million tons; the land area directly committed to mining operations, including waste disposal exceeds 160 acres; or the principal ore being mined will generate radioactive waste products."

The Flambeau mine will ship only about 1.9 million tons of ore and will not generate radioactive waste products. However, the land area committed to mining is 181 acres and therefore this application is a type I action requiring an EIS.

Having determined that an EIS was necessary the DNR, pursuant to sec. 23.11(5), Stats., required the submission by the company of an Environmental

Impact Report. The company conducted extensive testing and analysis and then submitted 6 volumes of materials plus engineering drawings. (Exhibits 8 through 14). These documents as well as the seven volume application provided the basis for the DNR to prepare a draft EIS (Exhibit 15). Following a public hearing and comment period, the DNR issued the final EIS (Exhibit 102) on March 9, 1990.

The purpose of an EIS is to collate, synthesize and analyze information and to present it in a relatively short and clearly written manner useful to the general public and decision-makers. An EIS will usually contain only a small percentage of the total information available on a project. Wisconsin regulations refer to federal regulations for general guidance on the requisite content and level of detail appropriate for an EIS. See Sec. 1.11(2)(c), Stats., and sec. NR 150.22(2), Wis. Adm. Code; secs. 40 CFR 1500-1508. Here the regulations clearly prescribe that the document be limited in size and in technical detail. A normal page limit for EIS's of 150 pages is established by sec. 40 CFR 1502.7. The EIS must be written in plain language. Section 40 CFR 1502.8. EIS's "shall be analytic rather than encyclopedic", shall be kept concise, and shall be no longer than necessary". Sections 40 CFR 1502.2(a) and (c).

The scoping process, sec. 40 CFR 1501.7, and the issue identification process, sec.NR 150.21, Wis. Adm. Code, are specifically designed to limit the breadth and technical detail of EIS's. It is obvious that, from both a legal

and a practical viewpoint, EIS's must concentrate on significant issues and avoid technical detail of interest only to specialists in a particular field.

In spite of this reality, numerous persons who testified in the public meeting portion of the hearing as well as the LCO experts called during the contested case portion of the master hearing, attacked the adequacy of the data base used to write the EIS. It was apparent that these individuals had not examined the massive body of information which was made public and constituted an integral part of the work product of those preparing the EIS.

The adequacy of an EIS must be evaluated in the context of its purpose. First, WEPA, like its federal counterpart, has been characterized as "an environmental full disclosure law." Wisconsin's Envtl. Decade, Inc. v. DNR, 94 Wis. 2d 263, 271, 288 N.W.2d 168 (Ct. App. 1979). An EIS is designed to provide reasonable information on potential environmental impacts of a proposed action to the public and state agencies. Id. The EIS is not intended or required to resolve such impacts. Rather, environmental issues are considered and, where possible, resolved in the context of the agencies' decision-making process.

Second, the duty to prepare an EIS does not require an agency "to engage in remote and speculative analysis." Wisconsin's Envtl. Decade, Inc. v. PSC, 98 Wis. 2d 682, 690, 298 N.W.2d 205 (Ct. App. 1980) citing Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council, Inc., 435 U.S. 519 (1978). Instead WEPA must be construed in the light of reason. Id.

Furthermore, disclosure of adverse impacts in an EIS does not dictate that the proposed action be denied. Section NR 150.22(1)2.(c), Wis. Adm. Code. Clearly, the argument that an EIS is inadequate because it describes potential adverse impacts is entirely contrary to the philosophy and mandates of WEPA and NEPA for a complete disclosure of impacts.

It is apparent to the Hearing Examiner that the 184 pages of information and documentation in the FEIS address all the significant issues which were raised in the contested hearing. Moreover, the extent of public comment and participation demonstrates that the FEIS served its intended purpose by alerting the public to potential impacts of the project. The DNR then addressed the issues raised in the FEIS by establishing various conditions and limitations in the proposed permits and approvals. Unfortunately, few of those who testified at the public input sessions had read or were aware of these conditions and limitations prior to their presentations.

2. Consideration of a Regional EIS.

WRPC, RCCAG, LCO and the Wisconsin Greens all argue that there is a de facto regional plan for the development of a mining district in Northern Wisconsin. They then argue that an EIS must be prepared for the entire "plan," not simply for this mine. I can find no statutory authority or case law to support this position.

The argument that there is a de facto regional mining plan is based on a series of exploratory drilling activities in northern Wisconsin over the past 25 years. This historical information was presented by Mr. Carl Fate a witness for the LCO. However, it is instructive to look at the actual facts which were presented on the record.

First exploratory drilling is not the same as mining. Under Wisconsin law, mining cannot take place without a series of precedent events including:

- Submittal of a Notice of Intent and public hearing.
- Submittal of a Scope of Study.
- A minimum of 12 months of environmental baseline study.
- Preparation and submittal of necessary permit applications.
- Preparation, in most cases, of an environmental impact report.
- Preparation of an EIS by the DNR.
- Approval of the permits following a master hearing.

As in this case, these events can take three years or more. While there have been recent news releases regarding interest of other companies in mining in Wisconsin, the evidence on the record is unequivocal that no other project in the state has even taken the first of these steps by filing a notice of intent.

Second, even WRPC data show that the most active exploration period occurred in the 1960's and 1970's. For all of this exploration over a 25-year period, this project is the only one with an active mine permit application

pending. The Hearing Examiner is not saying that no other corporations are interested in mining in Northern Wisconsin. Nor do I imply that other corporations are not watching the Flambeau applications with interest. But such speculative actions do not at this time provide a sufficient factual base upon which to describe a "plan" or a proposed action which would require a full EIS on the yet undefined mining activities.

Third, there is no planning document or planning process for northern Wisconsin prepared by the DNR, any other state agency, any local or regional agency or any companies or association. Given the lack of such a plan, it is hard to imagine what the appropriate guidelines would be to determine the scope of a so-called regional impact study. Considering how much controversy was generated by the EIS in this single, well defined project, it is unlikely that any attempt at a regional EIS (on a totally speculative series of mines) could meet the standard of adequacy under sec. 1.11, Stats.

WEPA, like its federal counterpart, only applies to "proposed" actions, not speculated activities. In Kleppe v. Sierra Club, 427 U.S. 390 (1976), the Sierra Club argued that the Department of Interior should prepare an EIS discussing the effects of the development of coal reserves in the region of the northern Great Plains. While there were individual projects in the region and three region-wide studies, the Court concluded that a regional EIS was not required because there was no proposal for regional action:

> **But there is no evidence in the record of an action or a proposal for an action of regional scope.** The District Court, in fact, expressly found that there was no existing or proposed plan or program on the part of the Federal Government for the regional development of the

> area described in respondents' complaint. It found also that the three studies initiated by the Department in areas either included within or inclusive of respondents' region--that is, the Montana-Wyoming Aqueducts Study, the North Central Power Study, and the NGPRP--were not parts of any plan or program to develop or encourage development of the Northern Great Plains. **That court found no evidence that the individual coal development projects undertaken or proposed by private industry and public utilities in that part of the country are integrated into a plan or otherwise interrelated.** These findings were not disturbed by the Court of Appeals, and they remain fully supported by the record in this Court. [Emphasis added] 427 U.S. at 400-401.

This same analysis was adopted in Wisconsin's Envtl. Decade, Inc. v. PSC, 105 Wis. 2d 457, 464-65, 313 N.W.2d 863 (Ct. App. 1981), where the Court cited Kleppe for the proposition that "the contemplation of a project and the accompanying study thereof do not necessarily result in a proposal for . . . action." 105 Wis. 2d at 464.

There is no basis for a regional EIS in this case because there is no proposed action which is regional in scope. Indeed, this case is even stronger that Kleppe. The court in Kleppe rejected the need for a regional EIS even though there were three regional development studies. Here, the development of a regional mining district has not even been studied, much less proposed.

Finally it should be emphasized that each mining project is subject to the detailed regulatory process which has been described previously in this decision. Each proposal proceeds independently and a decision to grant or deny permits is made on the facts of each case. The approval of this mine does not commit the DNR to approve any subsequent mining applications. Certainly any further applications will have to consider the cumulative impacts that another mining proposal would create, if in fact there were any.

Under similar circumstances, the court in Kleppe held that an agency could approve one proposal based on the EIS for that proposal and defer consideration of cumulative impacts until other proposals were presented.

> Nor is it necessary that petitioners always complete a comprehensive impact statement on all proposed actions in an appropriate region before approving any of the projects. As petitioners have emphasized, and respondents have not disputed, approval of one lease or mining plan does not commit the Secretary to approve of any others; nor, apparently, do single approvals by the other petitioners commit them to subsequent approvals. **Thus, an agency could approve one pending project that is fully covered by an impact statement, then take into consideration the environmental effects of that existing project when preparing the comprehensive statement on the cumulative impact of the remaining proposals.** [Emphasis added]
> 427 U. S. 414 n.26.

The same analysis applies here. Given the fact that most of the exploration to date has not resulted in mine permit applications, a projection of impacts from exploration sites would be speculative at best.

3. The EIS Did Not Discuss Off-Site Impacts or the "RTZ Track Record."

Flambeau's proposal does not include any on-site processing. The ore will be crushed and shipped by rail to a smelter. The smelter location has not yet been determined, but all of the facilities under consideration are out of state. RCCAG and the Greens allege that the FEIS is defective for failing to consider the off-site impacts of smelting.

Smelting impacts need not be considered because it is not part of the proposal before the DNR. The Court in Wisconsin Envtl. Decade v. PSC, 98 Wis. 2d 682, 298 N.W.2d 205 (Ct. App. 1980) held that an EIS need only address impacts related to the proposed action. Here, the proposed action is the Flambeau mine, not the subsequent off-site smelting. Any attempt to analyze smelting impacts would be speculative.

Any impacts from smelting would be considered in the context of the regulatory scheme applicable to the smelting facility which receives the ore. While the Greens argue that shipping the ore allows the activity to go unregulated, this simply is not true. Wherever the smelting occurs, the discharges will be subject to the air pollution controls of the federal government and the state agency which has jurisdiction at the location.

For similar reasons, the "RTZ track record" is not a necessary area of discussion for the EIS. The "proposal" before the DNR is the Flambeau Mine in Ladysmith. The applicant and mine operator will be Flambeau Mining Company. As discussed previously in the section relating to the mining permit, it would be of little value to attempt to make any valid conclusions from other mines, in other jurisdictions, with different laws, with different physical environments and during an undefined time period during which technology of discharge control has changed tremendously.

Wisconsin's regulatory scheme relies on thoroughly defined plans for mining and site reclamation. RTZ's track record is not a relevant standard under the state's mining law. All of the standards under sec. 144.85(5)(a)

refer to the "proposed mine," "proposed operation," or "proposed site." None refer to other mines, other operations or other sites. The failure to discuss such issues in the EIS does not make it defective.

4. The Socioeconomic Impacts.

The primary focus of an EIS is the evaluation of physical and biological environmental impacts. Economic impacts alone do not warrant the preparation of an EIS, although they must be discussed where environmental impacts are present. Wisconsin's Envtl. Decade, Inc. v. DNR, 115 Wis. 2d 381, 395, 340 N.W. 2d 722 (1983). Even when economic impacts are discussed, the "[d]etermination of economic benefits and costs that are tangential to environmental consequences are within this wide area of agency discretion." South Louisiana Environmental Council, Inc. v. Sand, 629 F. 2d 1005, 1011 (5th Cir. 1980). The economic analysis in the EIS must therefore be examined within the framework of a document which first and foremost evaluates the environmental impacts. The economic impacts do not need to receive the same depth of study, but there should be an evaluation of the major factors which interrelate economics with environment.

In this case, I believe the impact study adequately addressed the important economic issues and thereby disclosed to the public the variety of concerns needed to knowledgeably review the applications. The FEIS addresses the impact of the project on the following socioeconomic factors:

- Employment
- Population
- School Enrollment
- Emergency, Police, and Fire Service
- Transportation
- Housing
- Public Finance
- Economics
- Recreation and Tourism

The parties opposing the project have expended a tremendous amount of effort to point out shortcomings in the economic analyses done by Flambeau and the DNR. This close scrutiny did point out that the discussion of economics in the EIS was somewhat general and did not answer each and every question which was presented.

However, the issue of whether the EIS adequately addresses economic impacts is not determined by whether the study has spoken to each and every potential economic issue. It is whether the EIS reasonably informed the public of the broad socioeconomic impacts which could be expected from the proposed project. The large volume of economic testimony proffered at the public meeting as well as the extensive cross-examination of the economic experts, indicate that the EIS did do the job it was intended to do. Furthermore, a review of substance of the objectors' testimony reveals that the basic tenets of the economic analysis presented in the EIS are valid on a long

or short term basis. The EIS adequately presented these economic issues for further review in the contested case hearing.

CONCLUSION

The record in this proceeding is one of the most expansive ever produced by an administrative agency in the State of Wisconsin. Over 300 individuals filed appearances in the public input portions of the master hearing and almost 50 experts testified in the contested case phase. The company has conducted extensive studies on the wide variety of environmental and economic impacts expected to result from the operation of the proposed Rusk County mine. The State of Wisconsin has produced an EIS which examines the proposal. The parties have submitted detailed briefs on the issues of fact and law which have been in dispute.

The time has come to make a final decision on the applications of the Flambeau Mining Company to build and operate a surface mine in Rusk County. The legislature has created a procedure for applicants to obtain authority from the State to extract metallic minerals from the earth. The Department of Natural Resources has established standards to be met by potential applicants who desire to conduct a mining operation. The Flambeau Mining Company has met its burden of establishing by a preponderance of the

credible evidence submitted that it is entitled to be granted the permits necessary to construct and operate a mine.

The permits and approvals which are issued to Flambeau contain extensive conditions and terms to limit and control the manner in which the mine can be operated. The company is required to monitor the discharges from all potential sources of pollution and the DNR has a continuing obligation to verify the company's monitoring program as well as to enforce the permit terms if there should be a violation.

The waters of the Flambeau River and the ecology of northwest Wisconsin are valuable treasures to the people of this State. No one wants to be a party to the despoiling of these resources. While no one can issue guarantees that the project will operate with absolutely no problems, I am convinced that the permits contain adequate controls to ensure a safe and clean operation.

Many of the participants in the regulatory process have argued that no mining should ever be allowed in northern Wisconsin. These individuals are persons of good intention and hold steadfastly to the belief that mining cannot co-exist with a high quality environment. The legislature who has enacted the statutes and the majority of experts who analyzed the Flambeau proposal, disagree with this position. I am persuaded that if Flambeau complies with the conditions attached to each and every one of the approvals granted, an economically viable mining operation can be established without environmental degradation.

The Findings of Fact and Conclusions of Law which follow more fully address all of the statutory and administrative standards which were examined prior to the issuance of the attached permits and approvals. In order to fully understand the conclusions reached by the Hearing Examiner, one must review all the terms and conditions which have been attached to the various permits and approvals. Only with such a close review can the extent of the regulation of the Flambeau mining project be analyzed.

Dated at Madison, Wisconsin on January 14, 1991.

STATE OF WISCONSIN
DIVISION OF HEARINGS AND APPEALS
5005 University Avenue, Suite 201
Madison, Wisconsin 53705

By David H. Schwarz
David H. Schwarz, Hearing Examiner

BEFORE THE
STATE OF WISCONSIN
DIVISION OF HEARINGS AND APPEALS

Application of Flambeau Mining Company for Permits to Build and Operate a Surface Mine in Rusk County, Wisconsin	)))	Docket No. IH-89-14

GENERAL FINDINGS OF FACT

Procedural History

1. The applicant, Flambeau Mining Company ("Flambeau"), is a wholly owned subsidiary of the Kennecott Corporation whose principal address is 10 East South Temple, Salt Lake City, Utah 84112. Flambeau's local office is 105 West Lake Avenue, Ladysmith, Wisconsin 54848.

2. Flambeau proposes to construct and operate an open pit mine near Ladysmith, Wisconsin.

3. A Notice of Intent to Collect Data ("NOI") was submitted to the Wisconsin Department of Natural Resources ("DNR") for the project on July 17, 1987. A public hearing was held on the NOI in Ladysmith, Wisconsin on September 9, 1987. The Scope of Study for the project was submitted to the DNR on October 7, 1987 and subsequently approved by the DNR.

4. On or about April 3, 1989, Flambeau submitted an environmental impact report ("EIR"), a mine permit application, and other permit applications relating to the project including:

A. An Air Pollution Control Permit Application.

B. A Groundwater Withdrawal Permit Application.

C. An Application for Water Regulatory Permits and Approvals.

D. A Preliminary Engineering Report for approval of the wastewater treatment facilities.

E. A Wisconsin Pollution Discharge Elimination System (WPDES) permit application.

5. Revised permit applications for all of the above permits (except the air pollution control permit) and a final engineering report for wastewater treatment facilities were submitted in December, 1989. In addition, a permit application for a one-time demolition materials disposal facility under Ch. NR 500 Wis. Adm. Code, was also submitted as part of the revised mine permit application.

6. The DNR proposed the compliance boundaries and groundwater standards for the project on November 1, 1989.

7. Prehearing conferences were held on October 19, 1989 and July 2, 1990 in Ladysmith, Wisconsin, before hearing examiner David H. Schwarz. On October 24, 1989, a prehearing order was issued to govern the course of the hearing. The prehearing order was amended on March 21, 1990.

8. The following persons are hereby certified as the PARTIES to this proceeding:

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Rusk County, City of Ladysmith, Town of Grant, by:

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Flambeau Valley Peace Coalition, by:

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Ladysmith, Wisconsin 54848

9. Pursuant to due notice, a master hearing was held under sec. 144.836, Stats. on the above permit applications and FEIS commencing on July 16, 1990 at Ladysmith, Wisconsin, before Hearing Examiner David H. Schwarz. The hearing continued in either Ladysmith or Madison until its conclusion on August 7, 1990.

Project Description

10. The majority of the mining site is located in Section 9, T34N R6W, Rusk County, with a rail corridor running through Section 10, T34N R6W. The main part of the mining site is contained within the land bounded by the Flambeau River to the west, Blackberry Lane to the north, State Highway 27 to the east, and the section line dividing sections 9 and 16 to the south. The total area included in the mining site is 181 acres. All of the land contained in the mining site is owned by Flambeau.

11. Rusk County, the Town of Grant and the City of Ladysmith have jurisdiction over the property to be utilized by the mine.

12. No Native American community has tribal lands within the area to be utilized for the project. However, the project site is within the ceded territories under the Treaties of 1837, 1842 and 1854 between the United States and the Chippewa Nation.

13. The mining site is riparian to the Flambeau River, which is navigable in fact at this location.

14. Facilities included on the mining site will include an open pit mine and associated facilities. These include facilities such as two separate waste stockpiles, a topsoil stockpile, a hydric soil stockpile, an ore crushing, storage and shipping area, water treatment facilities, settling ponds, runoff ponds, an access road, a rail spur, water discharge structures, a potable water supply well, a one time demolition waste disposal facility, fuel and explosives

storage facilities, and various buildings, pipelines, parking areas and on-site haul roads.

15. Primary access to the site will be provided by a two-lane access road and a railroad corridor. The east-west trending access road extends from the southeast corner of the mining site to State Highway 27. Secondary access points to the site from Highway 27 will be near the visitor/observation parking area and an existing access point near the existing shop building, also known as the "H & H" building. The rail corridor enters the main part of the mining site about 400 feet north of the access road and runs through a portion of Section 10, T34N R6W connecting with the Wisconsin Central Limited Railroad line in the W½ NE¼, Section 10, T34N R6W.

16. The orebody has recoverable reserves of approximately 1.9 million tons containing valuable quantities of copper, gold and silver. Ore will be produced at an average rate of 1,300 tons per day (320,000 tons/year) over a six year period. In addition to the six year operating period, the project will also include a one year preproduction and construction phase and a one to two year reclamation period.

17. At its maximum extent, the open pit mine will have a surface area of approximately 32 acres and will be approximately 550 feet wide, 2,600 feet long and 225 feet deep. Topsoil in the area of the open pit will be removed during construction and either used immediately for revegetation or placed in the topsoil stockpile for use during reclamation. Other unconsolidated materials overlying the precambrian bedrock will also be

removed and transported to the appropriate waste stockpile. Ore and waste rock will either be ripped or drilled and blasted prior to being loaded into haul trucks. The haul trucks will be used to transport ore to the crusher and waste rock to the appropriate waste stockpile.

18. Prior to construction of project facilities, topsoil will be removed from the area to be disturbed. Salvaged topsoil will either be reused during construction or transported to the 8-acre topsoil stockpile situated near the northeast end of the open pit. Approximately 220,000 cubic yards of topsoil will be stored in the stockpile and subsequently used during reclamation. Additionally, a 1-acre stockpile area for storing hydric soils removed during construction will be created adjacent to the southwest end of the pit.

19. Ore removed from the open pit will be directed to the crushing facility, which consists of a crusher, a crushed ore stockpile capable of containing 6,000 tons, and a loading area. The crushing facility will be lined with a 60-mil high density polyethylene (HDPE) liner and will be graded so that runoff is directed to the runoff pond. The crusher, which will be operated only during daylight hours, has a design capacity of 250 tons per hour and will reduce the ore to minus 12 inches. Crushed ore will be transported by conveyor from the crusher to the stockpile where a front-end loader will be used to load ore onto railroad cars. A train of about 24 loaded rail cars will leave the site once every other day shipping the ore to an out-of-state facility for further processing.

20. Type I waste material, consisting of till, sandstone, saprolite and rock containing less than 1% sulfur will be stored in the unlined, 40-acre stockpile situated north of the open pit. The stockpile has a design capacity of approximately 2,800,000 cubic yards and will attain a maximum height of about 60 feet. Design features of the Type I stockpile include placement of a uniform blanket of till about nine feet thick over the base of the pile, segregated areas for disposal of the various waste materials, a perimeter berm and drainage swale to collect runoff and direct it to the settling ponds, construction of a collection basin lysimeter beneath the base of the facility, and vegetative stabilization of the exterior slopes of the stockpile which are at grade after three years.

21. The Type II waste stockpile will contain saprolite and waste rock which contain 1% or greater sulfur, till and sandstone used in construction and precipitate from the water treatment plant. The stockpile will be located to the southeast of the open pit, occupy about 27 acres, reach a maximum height of 70 feet and has a design capacity of 2,200,000 cubic yards. The Type II stockpile will be underlain by a 60-mil HDPE liner and a leachate collection system and will be surrounded by a lined perimeter berm and ditch to collect runoff.

22. Water entering the open pit will be collected in one of two collection systems. An upper sump will intercept water which has not come into contact with mineralized rock and the water will be directed to the settling ponds. A lower sump will collect all runoff and groundwater inflow which has

contacted ore and waste rock. Water from this sump will be pumped to the wastewater treatment plant, treated and discharged.

23. Runoff from the mining site will be collected and either be routed to natural drainageways or diverted to various project-related ponds for treatment and discharge to the Flambeau River. Runoff from the Type I stockpile will be directed to the settling ponds to allow settling of suspended sediments prior to discharge. Runoff from the Type II stockpile will be directed to the surge pond and ultimately to the water treatment plant for treatment and discharge. Runoff originating from the crushing facility, Type II stockpile access road, the yard and equipment parking areas outside the maintenance shops and the water treatment plant will be directed to the runoff pond and eventually be treated at the water treatment plant. In the case of extreme conditions, overflow from the runoff and surge ponds will be diverted to the open pit. Runoff which does not come into contact with potentially contaminating materials will be collected in drainage ditches, routed around the site and discharged to existing natural drainageways.

24. Several ponds will be constructed as part of the Flambeau project. The lined surge pond, capable of holding 1.8 million gallons, will receive water from both the mine and the Type II stockpile. This water will be collected in the surge pond and then pumped to the treatment plant at a constant rate. The two 1.4 acre settling ponds, operated in series with a total storage capacity of 7 million gallons, will provide a retention/detention period for runoff from the Type I stockpile and water from preproduction stripping.

The extended time period which the water spends in these ponds will allow settling of suspended sediments before discharge. The runoff pond will handle runoff from the crusher area, railroad load out area, Type II stockpile access road, the yard and equipment parking areas outside the maintenance shops and the water treatment plant, all of which are located south of the Type II stockpile and west of the administration building. This water will be treated at the treatment plant.

25. The wastewater treatment plant is a facility designed to neutralize acid and to remove metals from the wastewater. It has a capacity of 800 gallons per minute. The proposed treatment method consists of pH adjustment, removal of dissolved metals by precipitation with lime, additional removal of metals by acidification and precipitation with sulfide, removal of the solid precipitate by settling and filtration, and discharge of the treated effluent to the Flambeau River. The solids will be stored in the Type II stockpile.

26. The project will have two discharges through outfalls to the Flambeau River or alternatively to a wetland and the hydric soil stockpile area adjacent to the Flambeau River. Outfall 001 will discharge treated water from the water treatment plant. Outfall 002 will discharge water from the settling ponds.

27. Outfall 001 will be located on the bank of the Flambeau River approximately 800 feet south of Outfall 002. This outfall is a small concrete headwall and apron structure at the outlet of the discharge pipe from the

wastewater treatment plant. Effluent from this outfall will flow from the concrete apron to the Flambeau River along a shallow riprapped channel, extending 10 feet along the shore by 20 feet waterward of the ordinary high water mark.

28. Outfall 002 will be located on the bank of the Flambeau River and will discharge to a riprapped channel carrying runoff from the settling ponds and water diverted from intermittent Stream B. The dimensions of this rirapped channel will be identical to that associated with outfall 001.

29. Upon completion of mining, the open pit will be backfilled with stockpiled waste materials. Type II waste material will be placed at the bottom of the pit along with a specified quantity of lime. This will be followed by the placement of Type I waste rock, saprolite, sandstone, till and topsoil in that sequence. The till layer will be placed and graded to achieve the desired contours over the pit and it will also be mounded to allow for settling of the backfill. Crushed rock and drainage blanket material used in construction of the Type II stockpile and associated facilities and cut up liner and piping material will also be placed in the pit along with the Type I and II waste rock.

30. All surface facilities except, the flood control dike, will be removed and the disturbed areas will be graded to approximate original contours, covered with topsoil and revegetated according to the approved Reclamation Plan. Some construction materials resulting from demolition of project facilities, such as wood, concrete foundations, piping, asphalt and

various building materials, will be disposed of in an on-site demolition waste disposal facility located in the area formerly occupied by the settling ponds.

31. The designated final land use of the mining site is proposed to be wildlife habitat and light recreation. The mining site will be revegetated to wooded, grassland, and wetland areas. Revegetation will take place through plantings of trees and shrubs and reseeding of the newly topsoiled land. Revegetation will occur immediately after placement of the topsoil.

32. Four Hundred (400) trees per acre will be planted in the areas designated to be woodland. Species were selected because of their viability under reclamation conditions and because they occur in the region. Understory species will be planted after trees are placed in order to provide groundcover.

33. Grassland areas will be seeded with a nurse crop as soon as topsoil is placed and weather conditions are appropriate. Three major plant community types will be planted: Savannah Copses, Grasslands, and Wetlands. These species were selected because they are known to be hardy in the climatic and soil conditions of the site, because they are indigenous to Wisconsin, because they will provide similar or improved habitats to those temporarily removed during mining, and because they have been effectively used for revegetation projects in Wisconsin.

34. The 8.3 acres of low to high quality wetlands taken by the project will be replaced by 8.5 acres of high quality wetlands. The new wetlands will include a one acre test plot which will become a permanent

wetland and a 7.5 acre site located over the west end of the pit and tied into Wetland 1. The new 7.5 acre wetland will provide about 3.5 acres of open water habitat and 4 acres total of wet soil vegetation units that will be resoiled and revegetated.

35. More edge habitat and better wildlife cover will result from the reclamation. Wetlands disturbed by the project will be replaced with equal or higher quality wetlands.

36. One of the objectives during the planning of the project was to minimize the amount of wetland acreage that will be taken or affected by the project. Flambeau has agreed to monitor peripheral wetlands that may be affected by any groundwater drawdown caused by the project. Flambeau will provide an augmented water supply to these wetlands if the mining activity affects their hydrology. Preserving existing peripheral wetlands is an important aspect of the proposal of Flambeau. Wetlands unavoidably taken by the project will be replaced by the wetland mitigation measures described in the reclamation plan.

37. During the mining operation and after reclamation, a monitoring plan will be implemented for groundwater, surface water and vegetative cover to provide reasonable assurance that environmental changes which might result from the mining operation will be detected and evaluated for significant detrimental impact on the environment.

38. The proposed project will not have an adverse impact on plant life and resources, the fishery resource of the Flambeau River or wildlife

including the eagles nesting approximately 1.15 miles south of the mine site. There are no threatened or endangered plant or animal species on the site.

Environmental Impact Statement Findings

39. The DNR issued a draft environmental impact statement (DEIS) on the project on September 6, 1989. A list of the federal, state, and local governmental units and agencies, elected officials and public libraries receiving a copy of the DEIS appears on page 113 of the DEIS (Exhibit No. 15).

40. A public hearing was held on the DEIS on October 6, 1989, in Ladysmith, Wisconsin. Written public and governmental comments on the DEIS were accepted through October 23, 1989.

41. On March 9, 1990, the DNR issued the final environmental impact statement (FEIS). The comments received on the DEIS were used by the DNR to develop the FEIS. A summary of the public comments, government agency comments and DNR responses was included in the FEIS. A list of the federal, state, and local governmental units and agencies, elected officials, and public libraries receiving a copy of the FEIS appears on page 160 of the FEIS (Exhibit No. 102).

42. The 184-page FEIS contained:

A. A narrative description of the proposed mining operation including maps and diagrams of the project location,

the type of facilities involved in the treatment and storage of effluent and waste as well as the actual mining operation, the reclaimation plan and final topography and vegetation, monitoring plans for construction, mitigation measures, operation and long-term care, the cost of the project and energy use.

B. Separate sections providing a narrative description, including maps and diagrams where relevant and appropriate, of the existing affected environment in terms of the geology, topography, soils, ground and surface waters, wetlands, vegetation, wildlife, threatened or endangered species, climate, air quality and noise.

C. A separate section describing the likely positive and negative impacts of the proposed mining project to the geology, groundwater, private wells, surface waters, wetlands, terrestrial resources, aquatic resources, threatened and endangered species, air quality, noise and vibration, aesthetics, historical and archaeological significance of the site, as well as the impact of the reclamation and monitoring plans.

D. A separate section describing the likely positive and negative impacts of the proposed mining project on the local economy, employment, population, school enrollment, emergency services, transportation, housing, public financing, tourism and recreation, and solid waste management.

E. Separate sections listing alternatives to the proposed mining project and their environmental impacts, including: not mining, expanding or reducing the size of the existing mining project, expanding or reducing mining production rates, alternative mining methods (underground, open pit, or a combination), alternative mine water inflow controls (perimeter dewatering wells, perimeter slurry wall, in-pit perimeter trench, in-pit sump system), alternative surface facility sites and screening methods, monitoring alternatives, mitigation alternatives, reclamation and final land use alternatives, the in-pit storage of waste rock, alternate sludge handling and disposal, and alternative wastewater treatment and discharge.

F. A description and evaluation of the state, federal and local approvals required by the project.

43. Those sections of the FEIS which described the probable positive and negative impacts to the physical, biological and socioecomonic environments emphasized the significant impacts and discussed the unavoidable adverse impacts, the irreversable and irretrievable commitment of resources, and the relationship between the short-term use of the environment and maintanance and enhancement of long-term productivity.

44. The notice of public hearing dated March 23, 1990, stated that written comments on the FEIS would be accepted from government agencies through May 29, 1990, and from the public through July 9, 1990.

45. Both before and after the contested case portion of the master hearing, public comment on the FEIS and proposed permit applications was placed on the record. Written comments were accepted as part of the public hearing record through the date of this decision.

46. The content of and procedures utilized to prepare and circulate the Draft and Final Environmental Impact Statements comply with the requirements of sec. 1.11, Stats., and Ch. NR 150, Wis. Adm. Code. The FEIS adequately apprised the public of the environmental and economic issues raised by the project.

BEFORE THE
STATE OF WISCONSIN
DIVISION OF HEARINGS AND APPEALS

Application of Flambeau Mining Company for Permits to Build and Operate a Surface Mine in Rusk County, Wisconsin	)))	Docket No. IH-89-14

FINDINGS OF FACT, CONCLUSIONS OF LAW AND MINE PERMIT

FINDINGS OF FACT

1-46. General Findings of Fact 1 through 46 are incorporated herein as if they were set out in full.

47. On April 3, 1989, Flambeau filed an application with the Department for a permit under s. 144.85, Stats., to develop and operate a metallic mineral mining operation near Ladysmith, Wisconsin. A revised mining permit application was submitted by Flambeau on December 29, 1989. The revised mining permit application also constitutes the Feasibility Report and Plan of Operation required under ss. NR 182.08 and 182.09, Wis. Adm. Code, respectively, and includes a Design and Operations Manual for a one time disposal facility under s. NR 502.12, Wis. Adm. Code.

48. Flambeau has requested that it be granted exemptions from some of the location criteria contained in sec. NR 132.18(1), Wis. Adm. Code. Specifically, the project as submitted will be 140 feet from the Flambeau

River. It will involve the placement of certain water control structures in the floodplain of the Flambeau River. Certain portions of the project will be less than 1000 feet from state trunk highway 27.

49. Flambeau has requested that it be exempted from obtaining baseline water quality information for primary organic compounds, turbidity, and radioactivity. Monitoring for these parameters would normally be required by sec. NR 182.075(1)(d)5, Wis. Adm. Code.

50. The mining permit application, Exhibit Nos. 1 and 2, contains adequate information to satisfy all of the provisions of ss. NR 182.08 and 182.09, Wis. Adm. Code, regarding the Feasibility Report and Plan of Operation required for a mining waste facility.

51. Flambeau has applied for all necessary approvals, permits, and licenses required by the DNR. The operation, if conducted as described in the mining plan and reclamation plan and other plans, will comply with all applicable air, groundwater, surface water and solid and hazardous waste managment laws and rules of the DNR. The attached permits and conditions establish compliance with all relevant regulations of the DNR.

52. The mine site has not been designated by DNR rule to be a type of land which is unique or unsuitable for surface mining. Neither has it been designated by DNR or federal rule to be a wilderness area, wild or scenic river, national or state park, wildlife refuge or area, an archaeological area, nor is it a listed property as defined in s. 44.31(4). No endangered species, as identified by DNR rule, exist on the mine site. The mining activity is not

reasonably expected to destroy or irreparably damage any habitat required for the survival of an endangered species. Eagles have been observed nesting within two miles of the mine site. While there is the potential that noise from blasting on the mine site may have some adverse impact on the eagles, the potential impact is mitigated by conditions to the mining permit. The operation of the mining facility will not destroy or irreparably damage the eagles' habitat.

53. Considering the proposal to mine submitted by Flambeau, the extensive environmental protection mechanisms incorporated into the proposal, the conditions and terms contained in all of the permits, the monitoring and reclamation plans, and the verification by the DNR, the proposed mine will not endanger public health, safety, or welfare.

54. The proposed mine will not result in a net substantial adverse economic impact and will result in a net positive economic impact in the area reasonably expected to be affected by the activity. This finding is made based upon the economic analyses done by the applicant and the DNR and assumes a guaranteed payment to the local municipalities of at least $2 million. The infrastructure of the local economy will not be stressed by the project. Schools, medical facilities, housing, police and fire protection all are adequate to handle the small temporary influx of persons to be employed in the mining operation.

55. A Local Agreement was entered pursuant to the provisions of sec. 144.839, Stats., between Kennecott Explorations (Australia) Ltd., Rusk

County, the Town of Grant, and the City of Ladysmith ("Local Agreement"). This agreement was executed on August 1, 1988.

56. A Conditional Land Use Permit was issued to Kennecott Explorations (Australia) Ltd. for the project by Rusk County on August 1, 1988.

57. Flambeau is the successor in interest to Kennecott Explorations (Australia) Ltd. for purposes involving the Conditional Land Use Permit and the Local Agreement.

58. Flambeau has applied for and received all necessary permits and approvals under applicable zoning ordinances of Rusk County, the Town of Grant, and the City of Ladysmith. The local units of government have certified that Flambeau has complied with all zoning regulations and actions by citizens groups to place a moratorium on mining in the Town of Grant do not void the action of the governing body of the town.

59. Neither Flambeau nor any of its parent companies currently conduct mining operations in the State of Wisconsin. Flambeau is not currently in violation of any mining related law of the State of Wisconsin nor has it violated the mining regulations of the DNR.

60. Neither Flambeau nor any officer or director of Flambeau has within the past 20 years, forfeited any bond posted in accordance with mining activities in this state.

61. Flambeau has submitted information that neither it, its officers or directors, its parent, principal shareholders, subsidiaries or affiliates in which

it owns more than 40% interest has forfeited any mining bonds in any other states within the past 20 years.

62. The erosion control measures specified in the approved plans ensure that the operation will not result in landslides or substantial sedimentation in streams, wetlands, or lakes.

63. The geology of the mining site, in combination with the mining methods to be employed, effectively preclude the occurrence of significant irreparable surface subsidence.

64. The operation as approved will not result in any foreseen irreparable damage to dwellings, public buildings, schools, churches, cemeteries, commercial or institutional buildings or public roads.

65. The approved plans ensure that no irreparable environmental damage to lake or stream bodies will occur as a result of the mining operation. Further, the mining operation will not cause destruction or filling of any lake bed.

66. All facilities on the mining site have been designed and will be operated and reclaimed in such a manner so as to protect groundwater quality and quantity in accordance with standards specified by the DNR. The groundwater contingency plan approved herein provides reasonable assurance that, if necessary, effective and timely remedial actions can be taken.

67. Maintaining a distance of 140 feet from the proposed pit to the Flambeau River does not pose a significant environmental threat. The rock in the area of the so-called "river pillar" can withstand a force of 5000 pounds

per square inch, the approximate strength of concrete. The structure will remain stable during the entire mining operation including the period when controlled blasting will occur. This phase of the mining operation is to be carefully monitored by the DNR. Based on an absolute worst case analysis with respect to fractures, rock saturation, rock strength and other factors, the river pillar will still remain stable. If, notwithstanding the premining analysis, signs of some failure appear during mining, they can be detected well before a failure could occur and can be addressed by remedial measures such as a grout curtain to prevent seepage, wells to relieve water pressure, rock bolts to increase rock strength, and leaving a wider pillar. Mining can be stopped by order of the DNR or the mine manager on site if there is a safety problem. Fifteen percent of the minable orebody is located in the last 160 feet of the west end of the proposed pit.

68. Structures including concrete spillways, riprap, a flood control dike and the underground slurry wall are proposed to be sited in the floodplain of the Flambeau River. These items have been included in the mining project to address specific environmental protection concerns and, by their very nature, can not be sited anywhere other than the floodplain. These structures will not create any environmental problems and they should help protect the environment.

69. As proposed, the location of the waste stockpiles and other mine components will present a greater visual impact than they would if placed further from STH 27. However, by placing these facilities as proposed, a

substantially smaller amount of wetland will be impacted by the project, and there will be less overall disturbance to the area.

70. To the extent practical, facilities have been sited to be consistent with the location criteria of sec. NR 132.18 Wis. Adm. Code. The granting of the necessary exemptions is consistent with the purposes of the mining regulation program and will not violate any applicable federal or state environmental law or rule.

71. Flambeau has sited and designed the facilities consistent with the requirements of sec. NR 132.06(4) Wis. Adm. Code, regarding minimization of disturbance to wetlands and selection of sites resulting in the least overall adverse environmental impact. Within the site boundaries there are 16.2 acres of wetland. Construction of the open pit, high sulfur waste rock pile, mine support facilities and the railroad spur would directly impact about 8.3 acres of wetland. As part of the reclamation plan, a 7.5-acre wetland will be created at the west end of the pit and a 1-acre wetland at the northeast corner of the site. Groundwater drawdown resulting from the mining operation may affect additional acreage. During the operation of the mine, water inflow to the wetland north of the west end of the pit will be monitored daily and supplemented as necessary through outfall 003 with water from the settling ponds. The water quality of the discharge from the settling ponds, as regulated, should be comparable to that of the current groundwater inflow. The drawdown is not expected to effect, or is expected to have a minor effect of limited duration, upon the remaining wetlands. The drawdown will not

significantly impact the function of those wetlands. (Also, see Water Regulatory Permit for additional Findings of Fact and Conclusions of Law regarding wetlands.)

72. In its October 1987 Scope of Study, Flambeau specified the baseline groundwater monitoring parameters that it would measure. Primary organic compounds (pesticides), turbidity and radioactivity were not included. This monitoring program was approved by the DNR after a public hearing in the City of Ladysmith. The DNR did not receive any adverse comments about the parameters included in the groundwater monitoring program. Groundwater monitoring took place in 1987 and 1988 according to the approved study.

73. In November 1988, after the monitoring was completed, the DNR indicated that Flambeau should request a variance for the parameters that were not monitored. As a result, Flambeau submitted a variance request as part of its mine permit application specifying that the baseline information not covered in its monitoring program had no relationship to mining operations at this site.

74. Turbidity is not a useful parameter for groundwater monitoring. The organic parameters are related to pesticides and therefore are not applicable to this particular mining project. The radioactivity was previously evaluated and was not detected at any level of concern. Primary organics and radioactivity are not produced by or impacted by the mining project. The granting of an exemption as requested by Flambeau will not violate any applicable federal or state law or regulation.

75. The monitoring requirements contained in the mining permit, as well as all the other permits contained herein, ensure that premining conditions have been recorded. They require extensive and frequent analysis of discharges to the air, land, and waters of the state. They obligate the company to test for a variety of substances which should alert the permittee and the DNR to any unforeseen release of pollutants to the environment. Bioassay analysis in accordance with established professional standards is a condition of the WPDES permit. Ambient air quality testing and water quality analysis is an on-going requirement throughout the life of the project. In addition, groundwater testing is required to continue for years after the project is completed. Considering all of the terms and conditions of the permits herein, the monitoring plan provides adequate assurance that environmental changes resulting from the mining project will be detected and evaluated.

76. The approved mining plan and approved reclamation plan, as conditioned by the DNR plan approvals, are complete and will result in construction, operation and reclamation of the mining site consistent with the Metallic Mining Reclamation Act and the mining regulatory program established by the DNR. The approved operation will be consistent with the minimum standards specified in sec. 144.83(2), Stats., and the approved Mining and Reclamation Plans are consistent with the minimum standards of ss. NR 132.07 and 132.08, Wis. Adm. Code. The mining operation will also be consistent with the minimum standards under s. NR 132.17 Wis. Adm. Code. The application of Flambeau addresses each of the requirements

necessary for an application to mine in Wisconsin and the DNR has certified that the application is complete and contains all necessary information to assess the project.

77. Consistent with social, economic, and other essential considerations, the Department has adopted all practical means to avoid or minimize environmental harm.

78. A prospecting permit under s.144.84, Wis. Stats., was not made part of the record in this matter: as such, no prospecting permit was considered nor was any prior issuance of any such prospecting permit given any weight in the decision to grant or deny the mining permit in this matter.

CONCLUSIONS OF LAW

1. Pursuant to the provisions of ss. 144.83 and 144.85, Stats., the Department has the authority to issue a Mining Permit to Flambeau for its mining operation near Ladysmith, Wisconsin.

2. Pursuant to ss. 144.85(5)(a)2., Stats., the Department has the authority to approve, approve with conditions or deny approval of the Mining Plan, Reclamation Plan and Monitoring Plan. As provided in sec. NR 132.19, Wis. Adm. Code, the Department has the authority to grant exemptions from the requirements of Ch. NR 132, Wis. Adm. Code.

3. Pursuant to sec. NR 182.04(54), Wis. Adm. Code, the backfilled open pit and the Type I and II stockpiles constitute a mining waste site and

pursuant to ss. NR 182.08(1) and 182.09(1) issuance of a mining permit constitutes approval of the Feasibility Report requirements and approval of the Plan of Operation, in accordance with the requirements of sec. 144.44, Stats. As provided in sec. NR 182.19, Wis. Adm. Code, the Department has the authority to grant exemptions from the requirements of Ch. NR 182, Wis. Adm. Code.

4. Pursuant to sec. 144.831(7), Stats., the Department has the authority to require Flambeau to perform monitoring of the environmental changes during the course of the permitted activity and for such additional time as is necessary to satisfactorily complete reclamation of the mining site.

5. Prior to commencement of mining, Flambeau must submit an acceptable bond or other security and a certificate of liability insurance in accordance with ss. 144.86(1) and (2), Stats., and must receive written authorization to commence mining from the Department.

6. Pursuant to the requirements of sec. NR 182.17(2), Wis. Adm. Code, Flambeau shall submit proof of financial responsibility for long-term-care as part of its application for an operating license. Application for an operating license shall be made following base grade preparation and liner installation for the Type I and II stockpile areas.

7. Pursuant to sec. 160.19(12), Stats., and sec. NR 132.17(9), Wis. Adm. Code, all facilities on the mining site shall be subject to the groundwater quality and quantity provisions of Chapter NR 182, Wis. Adm. Code.

8. Based upon the above set out Findings of Fact, there are no grounds for denial of the mining permit under sec. NR 132.10(1), Wis. Adm. Code, or sec. 144.85(5)(b), Stats.

9. The Department has complied with the provisions of ss. 1.11 and 144.836, Stats., regarding analysis of the environmental impacts of the project and evaluation of alternatives to the proposed project.

10. Pursuant to sec. 144.937, Stats., the authority of the Mining Permit issued by the Department is limited to the authority vested in the Department by ss. 144.80 to 144.94, Stats. and ss. 144.43 to 144.47, Stats., relative to mining waste disposal. If another state or federal rule specifically regulates an activity, also regulated under ss. 144.80 to 144.94, Stats., the other statute or rule shall be the controlling standard to the extent applicable.

MINE PERMIT CONDITIONS

Part 1 - General Conditions.

Flambeau is hereby issued a Mining Permit under sec. 144.85, Stats., for the construction, operation and reclamation of its proposed mining operation in Rusk County, near Ladysmith, Wisconsin, as described in the foregoing Findings of Fact subject to the following conditions:

1. The authority granted herein can be amended or rescinded in accordance with sec. 144.91, Stats., if, at any time, any of the provisions of ss. 144.80 to 144.94, Stats., or Chapter NR 132, Wis. Adm. Code, are violated by Flambeau.

2. Acceptance by Flambeau of the permit and plan approvals contained herein shall be deemed as acceptance of all conditions attached hereto. Deviations from the approved plan or the conditions of this

approval without the express authority of the Department shall be grounds for revocation of the mining permit.

3. Flambeau shall waive any objection to the inspection of the mining site, at any reasonable time and in accordance with all applicable federal and state safety regulations, by any authorized employee or agent of the Department for the purpose of investigating the construction, operation, reclamation and maintenance of the mining site.

4. All activities associated with this permit shall be carried out in an environmentally acceptable manner in compliance with the requirements of Chapter NR 132, Wis. Adm. Code, and ss. 144.80 to 144.94, Stats., and the approved Mining, Reclamation and Monitoring Plans. The approvals of such Plans, as set forth below, are hereby made part of this permit.

5. Permission granted herein is limited to the authority vested in the Department by ss. 144.80 to 144.94 and 144.43 to 144.47, Stats. Flambeau shall obtain any and all other permits, licenses and approvals necessary from federal, state and local authorities. Facilities and activities are regulated to the extent that they result in surface disturbance, affect surface drainage or have potential to result in environmental pollution as defined in sec. 144.01(3), Stats. No project-related activities, with the exception of certain monitoring activities and activities related to visual screening along the Flambeau River, shall occur on land not included in the mining site. Reclamation of all facilities on the mining site shall be in conformance with the Reclamation Plan as approved herein. The visual screening along the Flambeau River shall conform with the requirements of the permit under the authority of Ch. 30, Stats.

6. This permit and associated approvals shall remain in force until Flambeau is totally relieved of its bonding responsibility pursuant to ss. 144.86 and 144.90, Stats., unless the permit is cancelled or revoked by the Department.

   If Flambeau does not commence mining within 5 years of the date of the issuance of this permit, this permit and associated plan approvals shall be suspended until such time that Flambeau indicates with some certainty that it intends to commence mining. At such time, Flambeau shall resubmit the Mining Plan and Reclamation Plan indicating what changes, if any, have been made to the project and shall provide an updated analysis of the economic impact of the project. The Department shall review the new plans, the Mining Permit and associated approvals to determine their adequacy,

technological currency and compliance with existing statutes and administrative codes and shall determine the need for a statement under sec. 1.11, Stats., on the rescission of the suspension. The Department may require submission of additional environmental information and any other information necessary to reevaluate the project. If the Department determines that the permit, plans and plan approvals as written are adequate, the permit suspension shall be rescinded. If modifications to the permit, plans or plan approvals are deemed necessary, the procedures of sec. 144.87, Stats., shall be followed and the permit suspension shall be subsequently rescinded. For purposes of this permit, "commence mining" coincides with the initiation of any site preparation (clearing and rough grading) and facility construction activities on the mining site. Installation and operation of monitoring devices, exploration drilling and land management practices as currently followed by Flambeau do not constitute commencement of mining. Nothing in this condition affects the Department's ability to annually review the permit, plans and plan approvals to determine their adequacy in the period prior to and during permit suspension and if necessary, propose modifications pursuant to ss. 144.89(1m) and 144.84(4)(a), Stats.

7. Flambeau shall submit final engineering reports and supplemental information and reports required under Part 2, condition 20 and Part 3, conditions 4, 7 and 13 to the Department for review and approval. At a minimum, these reports and information shall be submitted at least 60 days prior to starting construction. The Department shall approve, approve with conditions or deny approval of the plans or reports within 45 days of receipt. Construction of project facilities shall not commence until these plans, reports or supplemental information are approved or approved with conditions by the department.

8. In accordance with sec. 144.89, Stats., Flambeau shall submit a report annually to the Department summarizing the activities which took place on the mining site during the year and shall include other additional information specified in this permit and associated plan approvals.

9. a) In accordance with the provisions of ss. NR 182.075 and 132.17(9), Wis. Adm. Code, a single compliance boundary, located 1200 feet from the outer perimeter of the pit/stockpiles, except for property boundary restrictions, shall serve as the compliance boundary for the entire mining site.

b) Pursuant to sec. NR 182.075, Wis. Adm. Code, the groundwater standards to be applied at the compliance boundary are as follows:

Inorganic **Primary MCLs**	**Standard (mg/l)**
Arsenic	0.05
Barium	1.0
Cadmium	0.01
Chromium	0.05
Fluoride	4.0
Lead	0.05
Mercury	0.002
Nitrate + Nitrite as N	10.0
Selenium	0.01
Silver	0.05

Secondary MCLs	**Standard (mg/1 unless noted otherwise)**
Chloride	250
Color	15 color units
Copper	1.0
Foaming Agents	0.5
Iron	0.30
Manganese	Baseline 0.09 (overburden) 0.36 (shallow Precambrian) 0.23 (deep Precambrian)
Odor	3 (threshold odor #)
Sulfate	250
Total Dissolved Solids (TDS)	500
Zinc	5

Organic Chemical Primary MCLs	Standard (mg/l)
Endrin	0.0002
Lindane	0.004
Methoxychlor	0.1
Toxaphene	0.005
2,4-Dichlorophenoxyacetic Acid	0.1
2,4,5-Trichlorophenoxypropionic Acid	0.01
Benzene	0.005
Vinyl Chloride	0.0002
Carbon Tetrachloride	0.005
1,2-Dichloroethane	0.005
Trichloroethylene	0.005
1,1-Dichloroethylene	0.007
1,1,1-Trichloroethane	0.20
para-Dichlorobenzene	0.075
Total trihalomethanes	0.10

Radioactivity MCLs	Standard (pCi/l)
$Radium^{226}$ + $Radium^{228}$	5
Gross Alpha Particle Activity	15
Beta particle and photon radioactivity	4 millirem/year

Turbidity MCL	Standard (NTU)
Monthly average	1
2 Consecutive days	5

Other Health Related Substances	Standard (ug/l)
Alachlor	0.5
Aldicarb	10
Atrazine	3.5
Bacteria, Total Coliform	**
Butylate	67
Carbofuran	50
Cyanazine	12.5
Cyanide	200
1,2-Dibromoethane	0.01
1,2-Dibromo-3-chloropropane (DBCP)	0.05
1,2-Dichlorobenzene	1250
1,3-Dichlorobenze	1250
1,1-Dichloroethane	850
1,2-Dichloroethylene	100
Dinoseb	13
EPTC (Eptam)	250
Ethylbenzene	1360
Fluorotrichloromethane	3490
Methylene Chloride	150
Metolachlor	15
Simazene	2150
Tetrachloroethylene	1.0
Tetrahydrofuran	50
Toluene	343
1,1,2-Trichloroethane	0.6
Xylene	620

** The standard for bacteria is dependent on the analytical method used. See sec. NR 140 for additional discussion.

c) Monitoring well nests, MW- 1000, 1002, 1004, 1005, and 1010 shall constitute the intervention boundary for the project. Should a measured or reasonably extrapolated exceedance of a groundwater standard occur at well nests MW- 1002, 1004 or 1005, or if concentrations of measured parameters at well nests MW-1000 and 1010 are statistically significantly greater than the projected water quality as described in Appendix L of the Mining Permit Application, Flambeau shall notify the Department and propose a method of evaluating the exceedance and the associated facility performance

implications. Should this evaluation indicate that a violation at the compliance boundary will occur without intervention, Flambeau must implement the appropriate portions of the approved contingency plan.

d) The contingency plan is hereby approved and made part of this permit subject to the following conditions:

1. Steps 1, 2 and 3 of the groundwater quality and surface water contingency plans (sections 8.1 and 8.3 of the Mining Permit Application) shall be implemented, as necessary, within ten working days of receiving the anomalous results. If resampling verifies the elevated concentration or condition Flambeau shall notify the Department within two working days of receiving the additional results. If the anomalous condition is found to be due to some external factor, the explanation for the high reading shall be submitted to the Department concurrently with submittal of the monitoring results.

2. Flambeau shall notify the Department at least 48 hours prior to resampling or remonitoring as part of contingency plan implementation.

3. Steps 1 and 2 of the wetland surface flow contingency plan (section 8.4) shall be implemented and the findings of this evaluation submitted to the Department within 20 working days of the date when the anomalous results were obtained.

4. Alteration of the monitoring plan, investigation of suspected groundwater contamination and surface water and wetland impacts, and evaluation and implementation of remedial measures shall be conducted as directed by the Department and in accordance with applicable laws.

10. Flambeau is hereby granted exemptions from certain provisions of Chapters NR 132 and 182, Wis. Adm. Code, as follows:

a) Section NR 132.18(1)(c), Wis. Adm. Code, regarding location of project facilities within 300 feet of a navigable river or stream. Such facilities include, but

are not limited to, the open pit, flood control berm, vegetative screening, slurry wall and the wastewater discharge structures.

b) Section NR 132.18(d), Wis. Adm. Code, regarding location of project facilities within a floodplain. Such facilities include, but are not limited to, the slurry wall, flood control dike, vegetative screening and the wastewater discharge structures.

c) Section NR 132.18(e), Wis. Adm. Code, regarding location of project facilities within 1,000 feet of a state trunk highway. Such facilities include, but are not limited to, the topsoil and waste stockpiles, access road, rail spur, test wetland plot, open pit, surge pond various buildings and appurtenances, and potable water supply well.

d) Section NR 182.075(1)(d)5, Wis. Adm. Code, relative to baseline monitoring for certain water quality parameters. These parameters include those with promulgated primary MCLs pertaining to radioactivity, turbidity and organic pollutants.

The exemptions granted in paragraphs a, b and c above apply only to facilities as described in the approved Mining Plan. Should Flambeau redesign the facilities such that additional exemptions are needed, such exemptions shall be requested pursuant to sec. NR 132.19, Wis. Adm. Code.

11. Flambeau shall contact the Rusk County Sheriff's Department and Rusk County Memorial Hospital and develop a notification procedure to advise them of rail shipments from the site across State Highway 27.

Part 2 - Mining Plan Approval.

Approval is hereby granted to Flambeau for its Mining Plan as submitted to the Department subject to the following conditions:

1. Approval granted herein is limited to the authority vested in the Department by ss. 144.80 to 144.94 and 144.43 to 144.47, Stats. Facilities and activities regulated under other permits, licenses and approvals shall comply with all provisions of those

permits, licenses and approvals and the associated statutes and administrative codes, except that reclamation of the entire mining site shall be in conformance with the approved Reclamation Plan.

2. All operations shall be accomplished in substantial conformance with the approved Mining Plan. Flambeau shall not construct or operate any facilities not described in the Mining Plan, increase the dimensions, design capacity or annual production rates by greater than 10% of any facilities or activities or change major facility design features for those facilities and activities not regulated under another authority without obtaining Department approval. Flambeau shall not change the location of any Project facility by more the 100 feet without obtaining Department approval, except that no facilities other than those related to the wastewater discharge structures and the flood control dike may be located less than 140 feet from the Flambeau River, no facilities other than the access roads, railroad spur and visitor parking area may be located less than 150 feet from State Highway 27 and no additional acreage of wetland areas may be disturbed.

3. All modification requests for facilities or activities regulated solely under ss. 144.80 to 144.94, Stats., and Chapters NR 132 and 182, Wis. Adm. Code, shall be submitted to the Mine Reclamation Unit, Department of Natural Resources, and shall be submitted and processed in accordance with the requirements of sec. 144.87, Stats. All other modification requests shall be submitted to the appropriate regulatory entity with a copy transmitted to the Mine Reclamation Unit, Department of Natural Resources.

4. The annual report required under sec. 144.89, Stats., shall include discussion of all modifications received during the previous year and shall include an inventory of all modifications received subsequent to permit issuance. The annual report shall also discuss deviations from the approved Mining Plan as a result of final engineering refinements or subsequent plan approvals if these deviations do not require modifications, under Part 2, conditions 2 and 3.

5. Flambeau shall implement the appropriate remedial actions specified in the risk assessment and contingency plan should any of the hypothesized occurrences take place. If practical, Flambeau shall notify the Department prior to implementing the action. If emergency conditions exist, Flambeau shall

immediately take steps to ensure protection of the health, safety and welfare of its employees and protection of nearby residences and as soon as possible, thereafter, notify the Department and other appropriate authorities. Implementation of any of the remedial actions shall be followed by a formal evaluation which assesses the effectiveness of the remedial measure and evaluates and revises the operation and design of the affected facility to prevent future similar occurrences to the extent reasonably possible. Flambeau shall submit the findings of this evaluation in a report to the Department.

6. Flambeau shall keep a log of all incidents, such as spills, pond overflows and embankment failure or leakage, reported to its environmental compliance staff. This log shall, at all reasonable times, be available for inspection by any duly authorized Department employee. A summary of incidents subject to various Department reporting requirements shall be included in the annual report required under sec. 144.89, Stats.

7. Any exploration drillholes constructed on the mining site shall be abandoned in conformance with the provisions of sec. NR 130.06(1), Wis. Adm. Code. Within 30 days after completion of temporary or permanent abandonment of a drillhole, Flambeau shall submit an exploration drillhole abandonment report to the Department on forms supplied by the Department. As part of final site reclamation, all drillholes must be abandoned. The annual report required under sec. 144.89, Stats., shall include a summary of all exploration drilling activities conducted on the mining site during the previous year.

8. All monitoring wells and other borings associated with the project which are not part of the approved monitoring program shall be permanently abandoned in accordance with Department specifications.

9. Flambeau shall conduct the pre-blasting survey in accordance with the pre-blasting plan contained in the Mining Plan. The survey shall be completed no more than two months prior to commencing blasting on the mining site. Blasting shall be restricted as follows:

   a) Blasting shall not occur if a temperature inversion or other adverse weather conditions exist at the mine site which would create excessive noise conditions beyond the site boundary.

b) Where blasting is scheduled in the orebody, stemming shall not use drill cuttings.

c) Blasting shall not occur if the winds exceed ten miles per hour from the south or fifteen miles per hour from any other direction.

d) Field testing for blasting shall be away from the river pillar in the center of the pit area.

e) Prior to blasting, the mine site should be visually scanned to determine that there are no eagles in the immediate vicinity of the blast.

10. The construction, operation and reclamation of the project shall be in compliance with the Erosion Control Plan described in the Mining Plan and applicable conditions of the Reclamation Plan approval related to minimization of erosion.

11. Waste materials stored in the Type II stockpile shall be limited to waste rock and saprolite from the Flambeau Mine, precipitate from the adjacent wastewater treatment plant, grit from the lime slaker and sludge from the cleaning of the surge and runoff pond and settling ponds, if necessary. Sanitary wastes, garbage, waste oils or fuels, or other non-mineral wastes shall not be stored in the stockpile.

12. The liner of the lysimeter placed beneath the Type I stockpile shall be a composite liner of geomembrane and well-graded till soil meeting the specifications for the Type II stockpile liner.

13. Treatment plant precipitate, grit from lime slaking, and sludge from cleaning the runoff, surge and, if necessary, settling ponds shall not be placed in the Type II stockpile except in areas where a minimum of 10 feet of material capable of retaining fines or a total thickness of 20 feet of heterogeneous waste material is in place between the drainage blanket and the precipitate, grit, or sludge.

14. Pipes in the Type II stockpile shall be inspected and serviced as follows:

a) Camera inspections shall be performed annually of the outfall pipes between the Type II stockpile and surge pond and the culverts under the access road and crusher ramps. Pipe and culvert condition shall be evaluated to determine

integrity and any necessity for repairs or additional protection from the effects of vehicles or pipe deterioration.

b) The leachate collection pipes in Phase 1 and Phase 2 shall be cleaned by the use of pressure jetting equipment after 10 feet of waste rock has been placed over the drain layer in each Phase. Cleaning of the leachate collection pipes shall be performed on as-needed basis as determined by an annual assessment of the performance of the collection system. The condition of the pipe shall be evaluated to determine pipe integrity and maintenance of leachate extraction. The evaluation of the collection system shall be included in the annual report required under this permit.

c) Records of the camera inspection and pipe cleaning shall be provided to the Department within 30 days of completing the inspection and cleaning.

15. The liners for the Type II stockpile, the runoff pond, the surge pond, the crusher/ore stockpile area, fuel storage area, and the Type I stockpile lysimeter shall be composite liners made of a minimum of 1 foot of well graded till soil overlain by a polyethylene geomembrane. The materials and construction of the composite liner shall comply with the following:

a) The thickness of the soil component of the liner and drain layers over the geomembrane component shall be measured by before-and-after surveys or other non-invasive method acceptable to the Department.

b) The surface of the soil component shall be inspected for coarse gravel or cobbles after rolling to achieve a smooth surface. All coarse gravel or cobbles shall be removed from the surface of the soil component prior to the installation of the geomembrane.

c) The polyethylene geomembrane shall be a minimum of 60 mils in thickness and shall be composed of resins specifically formulated for waste containment purposes.

d) The attachment detail on Figure 4-13 of geomembrane to the crusher wingwall shall be revised to eliminate any necessity for the geomembrane to bridge gaps or voids below the geomembrane.

e) The geomembrane component of the Type I stockpile lysimeter shall be covered by a nonwoven needle-punched geotextile with a minimum weight of 12 oz/yd^2 or an equivalent protective measure approved by the Department.

f) With respect to the reclamation of the liner underlying the Type II waste rock, care will also be taken not to mechanically bring along metal compounds in the form of Type II waste adhered to the used liner material. This will be accomplished by rinsing the liner prior to placement of the sheets under the wetland. The rinse water will be directed to the wastewater treatment plant.

16. The leachate collection trench design for the Type II stockpile shall be modified as follows:

a) The soil component of the liner shall be increased in thickness to provide an undercut below the collection trench. The undercut shall be a minimum of three feet for a zone of 8 or more feet wide below the geomembrane and centered along the alignment of the collection pipe and cleanout.

b) The composite liner shall be formed in a vee trench with shoulders no further apart than the width of the undercut. The invert of the trench shall be set at 1.5 feet below the plane of the liner.

c) The geomembrane surface shall be covered with a nonwoven needle-punched geotextile of minimum weight of 12 oz/yd^2 or an equivalent protective measure approved by the Department.

d) The pipe shall be placed in the invert of the trench with a minimum of three inches of gravel below the pipe. The crown of the pipe shall be at least six inches lower in elevation than the plane of the shoulders of the trench.

e) The gravel surrounding the pipe and the sand blanket of the drain layer shall be shown to be stable and self-filtering by use of soil filter analyses, or additional measures shall be taken to assure the maintenance of porosity of the gravel.

17. The design of the leachate collection system for the Type II stockpile shall meet the following:

a) All PVC pipe used for leachate collection shall be made of PVC compounds which meet or exceed Class 12454 as defined by ASTM D 1784-81.

b) The gravel drain material to be used for the bedding and cover of the leachate collection pipes shall the following:

i. P3/4 inch = 100%

ii. P200 of less than 5%

iii. Permeability of greater than $1x10^{-1}$ cm/sec

c) The transfer header pipe between Phase 1 and Phase 2 shall be double-lined. The annular space between the pipes shall be sealed at the junction with the Phase 2 liner.

18. Runoff from the Type II stockpile shall not be discharged directly to the runoff pond.

19. Construction and documentation of the slurry cutoff wall shall meet the following:

a) Bentonite used in slurry cutoff wall construction shall be a pulverized commercial product with 50% or more passing the P200 sieve.

b) Water used for slurry mixing and makeup shall be tested at a rate of one test per 150 feet of wall length for TDS, hardness, COD, Cl, field pH, and field conductivity.

c) Soils from the base of the trench shall be tested at 50 foot intervals for grain size analysis to the P200 sieve size, liquid limit, and plasticity index.

d) Bentonite and admixed soil shall be tested at a rate of one test per 150 feet of wall for grain size analysis.

e) Depth of the cutoff wall shall be recorded by physical soundings at 20 foot intervals.

20. A preconstruction report shall be submitted to the Department for review and approval no less than 60 days prior to the initiation of construction of the liners for lined facilities (Type I stockpile lysimeter, Phase 1 and Phase 2 of the Type II stockpile, runoff pond, surge pond, fuel storage area, and

crusher/ore stockpile area). The report shall include contractor and product identification, revised details, and changes incorporated to address Department requirements. The preconstruction report shall include the following with regard to the design and construction of the liners:

a) The report shall include the identification of fabricator of the geomembrane, technical specifications of the resin and polymer selected, measures to verify or certify thickness of the geomembrane, installation contractor, contractor qualifications and on-site supervisory staff, and proposed seaming methods and equipment.

b) The report shall include a proposed construction quality assurance plan and shall include the use of third party construction quality assurance for geomembrane and piping installation. The report shall include a summary of the qualifications and experience of the construction quality assurance contractor, the proposed equipment and test methods to be used for construction quality assurance, and the laboratory to be used to test geosynthetic samples.

c) The report shall include any proposed changes to details of the liner design or construction as shown in the Mining Permit Application.

d) The report shall list the frequency of testing of liner materials and the proposed test methods to be used, including the identification of destructive and non-destructive testing methods.

e) The report shall include a proposed method for testing the compatibility of geomembranes and welding methods to be used if the geomembranes used in Phase 1 and Phase 2 of the Type II stockpile are obtained from different manufacturers or are made from different resins.

f) The report shall include details to be incorporated to protect the edge of the Phase 1 geomembrane prior to its being attached to the Phase 2 geomembrane and to attach the geomembrane to the crusher wingwall.

g) The report shall include a cross-section of the perimeter dikes and the liner and drain system for the crusher/ore stockpile area.

h) The report shall include soil engineering properties of the material to be used for the soil component of the composite liner. Soil at the borrow source shall be documented by the following tests at the indicated frequencies for the volume of soil to be used for lining purposes:

i. One grain size analysis to the P200 sieve size per 5,000 yd^3.

ii. One Liquid Limit and Plasticity Index analysis per 5,000 yd^3.

iii. One compaction curve, including definition of optimum moisture and maximum density, per 5,000 yd^3.

iv. One permeability test per 10,000 yd^3.

i) The report shall include a proposed method of controlling the amount of coarse gravel and cobbles included in the soil component of the liner, a construction method to assure a smooth surface prior to geomembrane placement, and a documentation method to record the elimination of unacceptable material on the surface of the soil component.

j) The report shall describe the construction sequence of the leachate collection trenches in relation to the placement of the geomembrane and drain blanket over the base of each Phase.

21. The preconstruction report required by Part 2, condition 20 shall include the following elements for the leachate collection system for the Type II stockpile. The report shall include contractor and product identification, revised details, and changes incorporated to address Department requirements. The preconstruction report shall include the following with regard to the design and construction of the leachate collection system:

a) The report shall include the revised details and cross-sections of the vee trench and undercut for the collection trenches required by this approval.

b) The report shall identify the selected geotextile or acceptable alternatives to be used for the protection of the geomembrane in the leachate collection trenches and in the

padding for the bolt heads in the mechanical anchor systems.

c) The report shall include any proposed revisions to details of welding pipe or connecting the discharge structure to the liner. The report shall identify methods to test the integrity of seams and connections to penetrations of the geomembrane.

d) The report shall identify the source and processing of sand and gravel materials to be used as gravel surrounding the PVC pipe and as filter agent to limit loss of fines to the gravel and pipe. The report shall include the acceptable grain size ranges of the sand and gravel that meet the requirements of this approval.

e) The report shall describe any revised or additional controls and guidance to be exercised during the placement of the sand drainage blanket and the first lift of waste rock over the geomembrane component of the composite liner.

f) The report shall include the identification of fabricator of the HDPE specialty sections, including the discharge structure, discharge pipe, flanges, and plate collar. The report shall include technical specifications of the resin and polymer selected, fabricators and installation contractors (if different from the geomembrane fabricators and installers), contractor qualifications and on-site supervisory staff, and proposed seaming methods and equipment. The report shall include a proposed method for testing the compatibility of geomembranes, specialty sections, and welding methods to be used.

g) The report shall include details and cross-sections of the berm between the Type II stockpile and the crusher/ore stockpile area. The details shall indicate the termination and anchorage of the liners of each facility.

22. The preconstruction report required by Part 2, condition 20 shall include the following elements for the piping between the surge pond, the runoff pond, the fuel storage area, the crusher/ore stockpile area, and the Type II stockpile. The report shall include contractor and product identification, revised details, and changes incorporated to address Department requirements. The preconstruction report shall include the following with regard to the design and construction of the piping system:

a) The report shall include a plan sheet for the piping system and any revised details and cross-sections indicating the use of welded versus flanged joints between pipe sections and liner penetrations.

b) The report shall include specifications for the HDPE pipes to be used for the piping system, technical specifications, acceptable suppliers, and welding or joining methods. The report shall describe destructive and non-destructive testing methods and frequencies for weld or connection integrity.

c) The report shall include revised details of the pipe penetration details (such as those shown on Figures 4-23, 4-52, 4-55, 4-56, 4-57, and 4-60) and a narrative that describes the selected shop or field fabricated boot that seals the pipe penetration to the geomembrane component of the composite liners. The narrative shall include testing methods that demonstrate the integrity of welds or welding methods for all pipe penetrations.

23. The preconstruction report required by Part 2, condition 20 shall include the following elements for the slurry cutoff wall. The report shall include contractor and product identification, revised details, and changes incorporated to address Department requirements. The preconstruction report shall include the following with regard to the design and construction of the slurry cutoff wall:

a) The report shall include a description of the slurry wall contractor's construction methods and project organization. The report shall include a description of the slurry mix design, processing equipment, and bentonite sources and gradation.

b) The report shall include a monitoring and construction quality assurance plan for the construction of the slurry cutoff wall.

24. The preconstruction report required by Part 2, condition 20 shall include the following:

a) The report shall describe the process by which the pump barge will be placed in the surge pond, controlled, and serviced without causing damage to the composite liner.

b) The report shall propose a monitoring schedule and procedures for sampling the Type I stockpile lysimeter that assure accurate, regular measurements of liquid volumes intercepted by the lysimeter.

25. Daily inspector's reports shall be prepared for each day that significant liner or piping construction is either attempted or accomplished at the Type II stockpile, the runoff pond, the surge pond, the crusher/ore stockpile area, the fuel storage area, or the Type I stockpile lysimeter. The reports shall describe changes or adaptations to the approved construction practices, progress achieved, and nonconforming conditions of soil liner material, geomembrane, HDPE and PVC pipe, connections, and HDPE specialty sections and plates. The reports shall also contain the following:

a) Amount and location of soil liner and geomembrane liner placed, with modifications of the fabrication plan noted.

b) Identification of the panels placed, location of field seams and ends of panels, locations of repairs and destructive samples, and results of all destructive and non-destructive field tests of test seams and installed seams.

c) Amount and location of piping installed, results of tests of field welds and seams, results of pressure tests performed on non-perforated pipe, and any modifications of the fabrication plan noted.

d) Use of prefabricated and field-fabricated collars and seams for all pipe penetrations of the lined facilities.

26. Monthly status reports shall be provided to the Department on the initiation and progress of major construction of the Type I stockpile lysimeter, the Type II stockpile, the runoff pond, the surge pond, the fuel storage area, or the crusher/ore stockpile area. Preparation of the status reports may be suspended during the months of January to March.

27. Construction documentation developed as part of the certification plan for the Type I stockpile shall be submitted to the Department for review and approval within 90 days of the completion of the placement of the till "blanket". The documentation shall include the following:

a) A plan sheet and cross-sections shall depict the location and crest elevations of the perimeter dikes. Cross-sections shall be prepared at 500 foot intervals along the length of the dike. The plan sheet shall include the location of all drainage and monitoring facilities in the vicinity of the Type I stockpile.

b) Details and cross-sections shall depict the Type I stockpile lysimeter orientation, construction materials, geomembrane connection to the drain pipe, grade of lysimeter sideslope and drain pipe, and the sampling manhole.

c) The documentation shall include results of testing the integrity of the geomembrane seams and pipe penetration detail and the results of testing the lysimeter for water-tightness.

d) Plan sheets shall be prepared that record the soils encountered and categorized after removal of the topsoil. Cross-sections and plan sheets shall indicate the expected grade of the top of the till layer to be placed over the exposed in situ soil.

28. Construction documentation developed as part of the certification plan for the Type II stockpile shall be submitted to the Department for review and approval within 90 days of completion of the construction of Phase 1 and within 90 days of the completion of the construction of Phase 2. The documentation shall include the following:

a) Plan sheets and details shall document the constructed grades and elevations of the subgrade soil, soil component of the composite liner, top of drain layer, leachate collection line alignments, culverts, discharge structure and pipeline, perimeter berms, and interconnection with the crusher area. North-south and east-west cross-sections shall be constructed at 200 foot intervals and shall indicate all documented layers. The depth of the soil component of the composite liner and the drain shall not be documented by the use of penetrations or other physical invasion. Documentation of the leachate collection trench undercuts and invert elevations shall be performed by spot elevation readings at no more than 50 foot intervals.

b) Plan sheets shall indicate the location of all soil and geomembrane test locations, geomembrane panel

placement, geomembrane patches and seam repairs, geomembrane destructive sample locations, and pipe penetrations.

c) Detailed drawings shall be constructed and photographs shall be taken that record the construction of the following:

   i. Leachate collection trench design, sequence of placement of construction materials, and bedding and assembly of the collection pipes.

   ii. Cleanout access and protection.

   iii. Discharge structure and pipe assembly, including pipe joining details, geomembrane welded and mechanical attachments, and pipe anchoring and penetration.

   iv. Construction and compaction methods used in placement of the soil component of the composite liner and the drain layer.

   v. Culverts for runoff conveyance and the crossover pipe between Phase 1 and Phase 2.

   vi. Liner attachment and connection to the crusher wingwalls, other mechanical attachments used for geomembrane installation, and construction sequence for the access ramp and dumping area.

d) Narrative shall be provided that describes the construction of the facility in chronological fashion. The description shall include the daily inspector's reports required by this approval. The following shall be included:

   i. The narrative shall explicitly describe any deviations from the approved plans and the rationale for utilizing the deviations.

   ii. The narrative may include, by reference, documentation included with construction documentation required by this approval of other facilities.

   iii. The narrative shall describe all actions taken to minimize coarse gravel and cobble content in the top lift of the soil component of the composite liner.

iv. The narrative shall describe controls and machinery used to place the drainage blanket in terms of machine weights, limits on machine maneuvers, lift thickness, haulway and dumping controls, and instructions for placing the first lift of waste rock.

v. The narrative shall describe the construction sequence of the geomembrane component of the composite liner, including the construction actions for the leachate collection trench and the integration of collection trench construction with other geomembrane and drainage blanket placement.

e) Narrative and tabulated data shall be included for all soil tests of the soil component of the composite liner, the drainage layer, the gravel surrounding the leachate collection pipes, and soil placed to achieve subgrade or perimeter dike elevations. Soils shall be tested at the following schedules:

i. Soil used for fill to bring the subbase or dikes to design elevation shall be compacted to a minimum of 90% modified Proctor density or 95% standard Proctor density. Subbase and dike fill shall be tested a 100 foot grid pattern at a rate of one density test per lift per grid location. Lift thickness shall be limited to a maximum of 1 foot.

ii. The soil component of the composite liner shall be compacted to a minimum of 90% modified Proctor density or 95% standard Proctor density. The soil component shall be tested for achieved density on a 100 foot grid pattern at a rate of one density test per lift per grid location. The grid pattern shall be offset with each lift. Lift thickness shall be limited to a maximum of 0.5 feet.

One moisture-density curve shall be developed for each 5,000 yd^3 of soil placed.

One grain size analysis curve shall be developed to the 5 micron particle size for each 1,000 yd^3 of soil placed.

Atterberg limits and laboratory hydraulic conductivity tests shall be performed on each 5,000 yd^3 of soil placed.

iii. The drainage blanket material shall be tested for grain size analysis to the 5 micron particle size at a rate of one test per 2,500 yd^3 of soil placed.

A laboratory hydraulic conductivity test shall be performed on each 10,000 yd^3 of soil placed.

iv. The gravel bedding material placed around the leachate collection pipes shall be tested for grain size analysis to the P200 sieve at a rate of one test per 1,000 yd^3 of gravel placed.

Any filter soil placed to limit loss of soil fines from the drainage blanket to the gravel shall be tested for grain size analysis to the P200 sieve at a rate of one test per 1,000 yd^3 of filter soil placed.

Soil filtration calculations shall be performed using the test results to verify the self-filtering nature of the drainage system.

f) Narrative and tabulated data shall be included for all geomembrane installation and tests. The narrative shall include identification of the geomembrane supplier and installer, material specifications of the installed geomembrane, attachment and welding methods used on the project, and samples of the geomembrane material and seams that are representative of the installed geomembrane liner. Geomembrane materials shall be tested at the following schedules:

i. Geomembrane thickness shall be certified in accordance with the measures specified in the approved preconstruction report.

ii. Geomembrane tensile and elongation properties (including copies of stress-strain diagrams) shall be tested at a minimum of one test per 50,000 ft^2 of geomembrane installed.

iii. Geomembrane density and melt index of the polymer shall be tested at a rate of one test per 200,000 ft^2 of geomembrane installed.

iv. Geomembrane environmental stress cracking resistance shall be tested once during each phase of construction.

v. Non-destructive field seam testing shall be performed on all seams of geomembrane attached by welding or mechanical attachments to other geomembrane sheet, pipe penetrations, and HDPE plate collar.

vi. Destructive field and laboratory seam test samples shall be taken at a rate of one sample per 500 feet of seam accomplished. Destructive seam test samples shall be tested under the same protocol as the welding machine test seams required by Subcondition g.

g) Welding machine performance shall be verified by a minimum of three test seams run per welding machine each day by each seaming technician performing geomembrane welding. Additional test seams shall be run during changes of weather and temperature. A portion of each test specimen shall be tested in the field for shear and peel and a portion of one test seam per machine per operator each day shall be tested in an independent testing laboratory for confirmation of shear and peel performance of the seam. Test results shall be collated for documentation along with notes on date, ambient temperature, technician and seaming machine used to make the seam, and results of both field and laboratory tests.

h) Field shear and peel tests of seams and membranes shall be performed using standardized specimen sizes in tensile testing machines with mechanically or electrically controlled rates of jaw separation.

i) Narrative and tabulated data shall be included for the installation and tests performed on all pipe and other geosynthetics used in construction, including the leachate collection pipe, geotextile padding for the leachate collection trenches, culvert pipe, the discharge structure, and the transfer pipes from Phase 1 to Phase 2 and from the Type II stockpile to the surge pond. The following information shall be included:

i. The narrative shall include the cell identification of the PVC pipe used in the leachate collection system and a description of the pipe welding compounds.

ii. The narrative shall include the results of integrity tests for geomembrane welded to plate collars and geomembranes used in Phase 1 and Phase 2.

iii. The narrative shall identify the specifications of the polymers used in the plate collars, discharge structure, and discharge pipe.

iv. The narrative shall include the results of destructive and nondestructive tests performed on HDPE pipe with welded or mechanical joints. HDPE pipe welding shall be tested at a rate of one test weld per 10 pipe welds. The HDPE pipe test welds shall be examined by cutting across the weld for evidence of discontinuities or visible interfaces across the weld. The narrative shall describe the results of the weld examinations.

29. Construction documentation developed as part of the certification plan for the surge pond, runoff pond, fuel storage area, and crusher/ore stockpile area shall be submitted to the Department for review and approval within 90 days of the completion of the construction of these facilities. The documentation shall include the following:

a) The documentation shall include items that are listed in Part 2, condition 28, subconditions a, b, d.i to d.iii., e.i to e.ii, f, g, and h.

b) Detailed drawings shall be prepared and photographs shall be taken that record the construction of the following:

i. Discharge pipe penetration design, sequence of placement of construction materials, concrete anchor blocks, and bedding and assembly of the collars and attachments for pipes.

ii. Placement and anchoring details for the pump barge in the surge pond, with attachment details for the suction line.

iii. Pipe assembly, including pipe joining details and geomembrane welded and mechanical attachments.

iv. Construction and compaction methods used in placement of the soil cover over the composite liner.

v. Liner attachment and connection to the crusher foundation, other mechanical attachments used for geomembrane installation, and construction sequence of the drain layer for the ore stockpile area.

c) Narrative and tabulated data shall be included for the installation and tests performed on all pipe and pipe connections used in construction, including the discharge and suction pipes, storm overflow pipes, and pond outlets. The following information shall be included.

i. The narrative shall include the results of integrity tests for geomembrane welded to plate collars.

ii. The narrative shall identify the specifications of the polymers used in the plate collars, sumps, and drain pipes.

iii. The narrative shall include the results of destructive and nondestructive tests performed on HDPE pipe with welded or mechanical joints. HDPE pipe welding shall be tested at a rate of one test weld per 10 pipe welds. The HDPE pipe test welds shall be examined by cutting across the weld for evidence of discontinuities or visible interfaces across the weld. The narrative shall describe the results of the weld examinations.

iv. The narrative shall describe the material properties of the flexible hose that connects the siphon barge to the surge pond outlet, the requirements for slack in the flexible hose to limit stress on the connection pipe, and provisions to prevent spillage of the contents of the pond should the flexible hose be damaged or disconnected.

30. Construction documentation developed as part of the certification plan for the slurry cutoff wall shall be submitted to the Department for review and approval within 90 days of the

completion of the construction of the cutoff wall. The documentation shall include the following:

a) The narrative shall include identification of the slurry wall subcontractor and a description of the construction process as utilized on the project. The documentation shall include a profile of the trench bottom and a description of the material encountered at the bottom of the trench. The narrative shall describe the source of water used in the slurry wall construction, the disposition of excess slurry, and the use and rate of addition of any admixtures.

b) The narrative shall include the data required by this approval for slurry cutoff wall construction, including mixing water quality, bentonite and soil properties, and any changes in materials encountered in the trench excavation.

c) The documentation shall include detail drawings and photographs that record the construction of the slurry cutoff wall.

31. Flambeau shall, at a minimum, take the following additional precautions to ensure the safety, stability, and integrity of the river pillar and slurry wall.

a) Flambeau shall mine/blast in increments, designed to meet with current industry practices, so as to ensure the viability of the river pillar.

b) Prior to mining the last 300 feet from a given bench toward the river pillar, Flambeau shall also engage in monitoring the water levels in wells drilled into the pillar, as well as in geotechnical and geological mapping, and in examination of the rock fact for seepage. Further, pins and prisms shall be installed and monitored to detect ground movement.

c) The last 200 feet of horizontal mining on a given bench toward the pillar shall be blasted incrementally, allowing sufficient time for the rock face to stand to make necessary observations to assure the stability of the river pillar.

d) In the event that instability is discovered, including but not limited to the existence of unconsolidated materials or faults which could result in seepage, wedge, or rotational sheer failures or other adverse impacts upon the pillar or

slurry wall integrity, the DNR shall be contacted immediately and Flambeau's plan to deal with the same shall be approved of by the DNR.

e) In the event that as the result of unforeseen problems, the stability or integrity of the river pillar is threatened, Flambeau shall take such emergency steps, if any, as may be required to prevent pillar or slurry wall failure and shall, subject to DNR approval, modify its mining plan.

Part 3 - Reclamation Plan Approval.

Approval is hereby granted to Flambeau Mining Company for its reclamation plan as submitted to the Department subject to the following conditions:

1. Approval granted herein is limited to the authority vested in the Department by ss. 144.80 to 144.94, Stats. Facilities and activities regulated under other permits, licenses and approvals shall comply with all provisions of those permits, licenses and approvals and the associated statutes and administrative codes, except that reclamation of the entire mine site shall be in conformance with the approved reclamation plan.

2. All operations shall be accomplished in substantial accordance with the approved reclamation plan. Flambeau shall not conduct reclamation activities which are not described in the approved reclamation plan nor shall Flambeau change reclamation activities which are described in the approved reclamation plan without obtaining a modification of the approved reclamation plan. Minor in-field changes to the approved annual reclamation proposal, as identified in Part 3, condition 26, will not require a modification under sec. 144.87, Stats., but shall have the written approval of the Department.

3. If Flambeau desires to modify a facility or activity regulated under another authority, the modification shall be processed pursuant to the provisions of the appropriate authority. If the modified activity or facility is not addressed in or is inconsistent with the approved reclamation plan, the reclamation plan must also be modified in accordance with the provisions of sec. 144.87, Stats. If a modification under another authority necessitates a modification to the reclamation plan, the modifications, to the extent possible, shall be concurrently processed using the provisions of sec. 144.87, Stats.

4. Flambeau shall submit to the Department for review and approval 60 days prior to the start of construction, as identified in Part 1, condition 7, a plan for the management and handling of topsoil and hydric soils stockpiles. The plan shall include a description of criteria for soil separation, and equipment, methods, sequences etc. for removal, storage, and redistribution of the stockpiled materials. When portions of stockpiles are at final grade for each major removal phase they shall be stabilized within a 20-day period using physical and/or vegetative stabilization methods. The storage area for each shall be constructed in such a manner as to contain all material stockpiled. The mineral topsoil stockpile shall be designed and constructed to prevent ponding and retain the integrity and viability of the topsoil to the maximum extent practicable. Mineral topsoil (A and Upper B Horizons) shall be salvaged from all disturbed areas prior to any disturbance to a minimum depth of 10" or greater consistent with the topsoil management plan. Material that is pedogenically unaltered shall not be included in the mineral topsoil stockpile. To the extent practicable, rock fragments (> 10'' dia) shall be removed from the topsoil. Salvaged topsoil shall not be separated according to mineral and organic content except for organic soils (hydric) of sufficient quantity for immediate use for landscaping and those for use in wetland reconstruction. Hydric soils will be stockpiled separately from other topsoil. Hydric soils stockpiled for purposes of wetland reconstruction shall be kept saturated. Removal of portions of stockpiles may occur at any reasonable time, but all stockpiles shall be maintained in an environmentally stable condition.

5. A and Upper B horizons of topsoil shall be salvaged to the maximum extent practicable based on visual observations made and recorded by a certified soil scientist or other individual acceptable to the Department.

6. Flambeau shall employ methods to prevent excessive compaction during the replacement of topsoil on finished grades. Topsoil will be prepared to minimize the presence of large clods greater than 10cm. The underlying subsoil shall be scarified to a depth of three feet prior to the replacement of topsoil. The bulk density of the scarified subsoil and topsoil shall not exceed 1.75 g/cm^3. Where the bulk density is greater than 1.75 g/cm^3, an ameliorative method shall be used to aerate the soil body and reduce the bulk density. The method and frequency of measuring bulk density shall be prescribed in the topsoil management plan submitted under Part 3, condition 4.

7. As a supplement to the erosion control plan, a surface water management plan shall be submitted to the Department for review and approval at least 60 days prior to the start of construction, as identified in Part 1, Condition 7, and shall detail the methods, materials, and sequencing for erosion protection and drainage control for all portions of the site during construction and at the time of reclamation. It shall show sources, flow paths, rates, storage volumes, and release points. Text shall detail appropriate assumptions, calculations, and other information necessary to verify accuracy. Vegetation established for the purpose of short-term erosion control shall consist only of species and amounts in the approved plans. The erosion control planting may function as a transitional plant community to a permanent planting in accordance with the approved Reclamation Plan, but the surface water management plan shall indicate specific methods and materials necessary to achieve the approved permanent plant community specifications.

8. Emergency stabilization measures may be substituted for planned vegetative stabilization when vegetative stabilization is determined to be impracticable or undesirable due to extenuating circumstances. No emergency stabilization measures shall extend for more than a 20-day period without the written authorization from the Department.

9. All planting of trees, shrubs, forbs, grasses, vines etc. shall be accomplished in such a way as to minimize the duration of exposed soils. Natural invasion of plant species shall augment the approved planting plan as appropriate, but shall not substitute for the planting plan. All plantings shall be arranged in an ecologically sound manner in order to maximize and maintain the postmining land use. Inoculation of leguminous and woody species with appropriate rhizobia or mycorrhizae shall occur prior to planting. Species shall be custom planted to appropriate site conditions based on moisture gradients, aspect or other environmental factors.

10. Flambeau shall conduct a program of in-field trials for reclamation methods and materials prior to final reclamation. A description of methods, materials, analyses and results shall be submitted to the Department on an annual basis.

11. Reclamation and erosion control materials such as seed, plant materials, fertilizer, mulch and other necessary materials shall be contracted for by Flambeau in sufficient time to guarantee

availability in accordance with the approved reclamation and erosion control plans.

12. Only those portions of Appendix M of the Mine Permit Application that are congruent with the approved reclamation plan shall apply. In the case where the approved Reclamation Plan does not offer specific guidance for reclamation practices, the current edition of the Wisconsin Department of Transportation's Standard Specifications, or equivalent, shall be used as a reference.

13. Flambeau shall submit for the Department's review and approval, as identified in Part 1, condition 7, vegetative aquascaping plans for the wetland restorations at least 60 days prior to the start of construction activities. The design of the test wetland shall be ovately shaped or have a more natural looking appearance and be designed so as to prevent sediment and other pollutants originating from the highway or other disturbed areas from entering the wetland.

14. Flambeau shall monitor surface subsidence and Flambeau shall repair any surface subsidence or other topographic anomalies which interfere with designated end uses of the mining site or departs from the approved Reclamation Plan. Prior to the commencement of mining, Flambeau shall submit a plan for monitoring surface subsidence for Department approval.

15. All site elements and portions of the site shall have reasonable vehicular access for routine inspections, monitoring, oversight and general surveillance.

16. Roads shall be surfaced and rights-of-way stabilized as soon as possible after the start of construction.

17. The 4-year period of extended responsibility shall begin when the Department approves the Notice of Completion of Reclamation which indicates the vegetative performance standards contained in the Mining Permit Application have been met. The Department shall approve, conditionally approve or reject the Notice of Completion of Reclamation within 90 days of receipt of a complete Notice of Completion of Reclamation. Augmentation during the period of extended responsibility shall only consist of routine maintenance practices such as the repair of gullies or minor remedial seedings. Significant augmentation activities shall extend the period of responsibility for a proportional period of time. Closure of the site is coincidental

with the issuance of the Certificate of Completion of Reclamation, at which time the long-term care period is activated.

18. The flood control dike on the side adjacent to the river shall be armored with riprap and the interstices of the riprap shall be filled with soil and appropriately vegetated.

19. Dust control measures shall include, in addition to water, other control measures as required by the air pollution control permit.

20. All discussion, text, or documentation of any kind that contains references to plant names shall include an appendix containing the appropriate scientific nomenclature.

21. Flambeau shall cooperate fully in the annual independent review of reclamation costs in order to help the Department, or its contractor, determine the adequacy of the performance bond relative to what it would cost the State of Wisconsin to fulfill the approved reclamation plan. The performance bond calculation shall include in addition to relevant factors enumerated in sec. 144.86(1), Stats., all potential monitoring, analyses, and evaluation costs necessary to determine whether the minimum standards for reclamation as set forth in sec. 144.83(2)(c), Stats., and the approved Reclamation Plan have been accomplished, to the fullest extent possible.

22. Advance notification of the starting dates of erosion control, construction and reclamation activities shall be given to the Department so that staff can adequately plan to observe on-site activities.

23. Final Reclamation shall commence no later than 180 days after cessation of mining but as soon as is practicable after cessation of mining.

24. Testing of the sand fill material in the fuel distribution area shall be performed using methods consistent with current regulations, if in effect, and if no regulations exist, appropriate guidelines. The liner material shall also be tested to determine if it is contaminated and if contamination is detected, the liner material shall be disposed of at an approved off-site facility. If the liner is uncontaminated, it shall be disposed of in the on-site demolition waste disposal facility.

25. Liner and piping material from the Type II stockpile area, the runoff and surge ponds and the crushing facilities which are not recycled or salvaged and crushed rock from the Type II stockpile shall be disposed of with Type II waste rock in the open pit.

26. Reclamation activities shall proceed in accordance with the approved Reclamation Plan and to the extent possible, Flambeau shall reclaim those areas of the mining site which can be appropriately reclaimed prior to cessation of mining activities. Flambeau shall apprise the Department of its reclamation activities in accordance with the following schedule:

a) A description of each year's proposed reclamation activities shall be submitted by January 31 of that year.

b) Notice of construction and reclamation activities shall be provided at least five working days prior to the actual initiation of said activities.

c) A progress report that details activities which have been completed shall be submitted around mid-summer.

d) An annual report shall be submitted by November 15th and shall contain a record of activities, monitoring, raw data and evaluations for the permitted mining site.

The reports shall be consistent with the intent of the reclamation plan and subject to review and approval by the Department. The Department shall provide any comments on such reports within 45 days of receipt of each report. The reports shall include tabular, graphic, and narrative portions both as hard copy and on diskette. The forms shall be compatible with the hardware and software capabilities of the Department.

Part 4 - Monitoring Plan Approval.

For purposes of this approval, the monitoring provisions of Section 10 of the Mining Permit Application shall be considered as part of the Monitoring Plan and as such the reporting requirements and procedures regarding modification of the plan shall apply to these provisions as well. Prior to

commencing construction, Flambeau shall submit an updated Monitoring Plan which incorporates all required project monitoring. Approval is hereby granted to Flambeau for its Monitoring Plan as submitted to the Department subject to the following conditions:

1. Monitoring wells MW-1013G and MW-1014G shall be constructed with screened intervals 10 feet in length and wells MW-1013P and MW-1014P shall have screened intervals 15 feet in length.

2. Water quality monitoring of wells MW-1013G, 1013P, 1014G and 1014P shall be conducted on a quarterly frequency at all of the wells until at least 8 samples have been obtained from each well. At that time, a reduction in monitoring frequency may be requested by Flambeau and, provided that the monitoring results confirm the predictive modeling of water quality within the backfilled material and verify that no adverse impacts to water quality within the Flambeau River will occur, the Department may approve such request. The parameter list for the sampling round occurring in June of each year shall be expanded as specified in section 10.1.3.2 of the Mining Permit Application. The provisions of NR 140, Wis. Adm. Code, shall be used to determine statistically significant changes in the groundwater quality.

3. Wells MW-1013G, 1013P, 1014G and 1014P shall be monitored for water level as part of the water level monitoring program described in Section 10.1.3.3 of the Mining Permit Application. The water level monitoring program shall continue on a quarterly frequency until the Department determines that the water levels have stabilized. Water levels shall be deemed as stable when no significant net annual changes occur in water levels over a two-year period. An acceptable range of annual fluctuations in groundwater levels shall be based on a statistical analysis of observed pre-mining annual fluctuation ranges of those wells with a pre-mining monitoring record which are to be included in the long-term monitoring program. To the extent technically feasible, the entire record of pre-mining water level measurements from the applicable wells shall be considered when determining the normal or acceptable annual fluctuation range.

The average annual range will be based on the combined average of the annual fluctuation ranges of all the wells presently on site that are to be included in the long-term monitoring program, plus or minus one standard deviation. During the post reclamation period as the water table recovers, the net annual fluctuation should be relatively large, showing an upward movement of the water table. As stability is approached, this net upward fluctuation will be reduced through time, eventually falling back into the average annual range that exists today. When the average annual fluctuation falls within this range for two consecutive years, the water table will then be deemed to have stabilized.

At the time water levels stabilize, should they stabilize at elevations which cause adverse environmental impacts, the DNR may require Flambeau to take appropriate remedial measures in accordance with applicable law.

4. Flambeau shall monitor the Total Suspended Particulate Matter (TSP) ambient air concentration during the preproduction, active mining and reclamation phases of the project in accordance with the following specifications.

   a) TSP monitors shall be operated at the following four locations: near the Rusk County Hospital, along Blackberry Lane, along Highway 27 southeast of the mining site and along Highway 27 northeast of the mining site. The monitor located along Blackberry Lane shall be located south of Blackberry Lane at a site which minimizes the fugitive dust impact from the gravel on Blackberry Lane. The specific locations shall be approved by the Department prior to installation of the monitors.

   b) During the preproduction phase, each monitor shall be operated once every 3 days (24 hours "on" commencing at midnight and 48 hours "off").

      During the mining phase, each monitor shall be operated once every other day (24 hours "on" and 24 hours "off" commencing at midnight). If after one year of monitoring there has been no exceedance of a TSP standard, the sampling schedule may be reduced to no less than once every 6 days.

      During the reclamation phase, each monitor shall be operated once every 3 days (24 hours "on" commencing at

midnight and 48 hours "off"). If after one year of monitoring there has been no exceedance of a TSP standard, the sampling schedule may be reduced to no less than once every 6 days.

The specific days of monitoring shall be in accordance with the Department's standard sampling schedule.

c) Flambeau shall retain each filter from the TSP monitors. Once every 3 months, a portion of each filter shall be analyzed for arsenic, chromium, nickel, beryllium, cadmium and mercury.

d) If the TSP 24-hour concentration at a monitoring site exceeds 500 micrograms per cubic meter Flambeau shall monitor for both TSP and PM_{10} at the site where the exceedance occurred. The PM_{10} monitor shall be operated for a minimum of one year on an every other day basis. If the 24-hour exceedance can be attributed to an exceptional event, PM_{10} monitoring will not be required.

e) Flambeau shall investigate any exceedance of a TSP or PM_{10} standard and shall report any such exceedance to the Department within two working days of having determined the sample concentration. Flambeau shall provide an exceedance investigation report to the Department which shall include the following information: an analysis of the monitoring filter; a wind rose for the exceedance period; and information about the operating conditions at the mining site during the exceedance period (i.e. number of trucks and mining vehicles in operation; amount of production occurring at the facility, etc)

5. Flambeau shall monitor for asbestiform fibers for one month during each 12 month period. The first month of monitoring shall begin when the mining phase begins or May 1, which ever is earlier. Monitoring shall be repeated annually between May 1 through September 30 on or about the anniversary date of the beginning of the mining phase. The monitoring plan for asbestiform fibers shall be approved by the Department's air monitoring section. If the monitoring during the first three years of active mining does not detect asbestiform fibers from the mining operations, Flambeau may discontinue monitoring for asbestiform fibers.

6. Monitoring and reporting of all air monitoring data shall be conducted in accordance with guidelines provided by the Air Monitoring Section of the Bureau of Air Management.

7. Leachate from the Type II stockpile area shall be monitored on a quarterly basis during operation. Parameters to be measured shall include pH(field), conductivity (field), TDS, dissolved iron, dissolved copper, dissolved manganese, sulfate, total alkalinity and total hardness. A proposed sampling point and methods for sampling shall be included in the preconstruction report required under Part 2, condition 20. The sampling point shall be located such that a representative leachate sample is obtained prior to mixing with other sources of water.

8. Quality assurance/quality control documents shall be submitted to the Department at least 90 days prior to implementing the corresponding section of the monitoring plan. These documents shall specify the methodology for sample collection, handling and analysis and monitoring data reporting and evaluation procedures. All sample collection and analyses shall be performed using accepted and standard procedures as approved by the Department. Laboratories conducting the analyses shall be certified or registered in accordance with Ch. NR 149, Wis. Adm. Code. The quality assurance/quality control documents shall specify provisions for regular maintenance of all monitoring devices, to ensure that such devices remain in proper working condition.

9. Monitoring data and results shall be submitted to the Department within 30 days after completion of the required analyses. The annual report required in this permit shall summarize the year's monitoring activities and any observed trends in the monitoring data.

10. The Department may modify provisions of the Monitoring Plan if results of the monitoring indicate that a revised frequency or intensity is necessary or that a different, additional method of monitoring is appropriate. Modifications to the Monitoring Plan shall be processed using the procedures specified in ss. NR 131.12(2) and (3)(a), Wis Adm. Code.

11. Surface water quality monitoring shall be conducted on a quarterly basis regardless of weather conditions.

12. Immediately following any unforeseen spill or release of gasoline, fuel oil, diesel fuel, or other organic compounds in the

course of construction, operation or closure of the mine, Flambeau shall inform the Wisconsin DNR in accordance with the provisions of sec. 144.76, Stats., and undertake monitoring of wells as the DNR may require pursuant to the provisions of sec. 144.786, Stats.

Dated at Madison, Wisconsin on January 14, 1991.

STATE OF WISCONSIN
DIVISION OF HEARINGS AND APPEALS
5005 University Avenue, Suite 201
Madison, Wisconsin 53705

By David H. Schwarz
David H. Schwarz, Hearing Examiner

BEFORE THE
STATE OF WISCONSIN
DIVISION OF HEARINGS AND APPEALS

Application of Flambeau Mining Company for A WPDES Permit relating to a proposed Surface Mine in Rusk County, Wisconsin	)))	Permit No. WI-0047376-1 Docket No. IH-89-14

**FINDINGS OF FACT,
CONCLUSIONS OF LAW AND
WPDES PERMIT**

FINDINGS OF FACT

1-46. Findings of Fact 1 through 46 are incorporated herein as if they were set out in full.

47. Flambeau submitted a Wisconsin Pollutant Discharge Elimination System (WPDES) permit application to the DNR on April 3, 1989. A revised WPDES permit application was submitted to the DNR on December 28, 1989.

48. The WPDES permit application has been submitted in accordance with all applicable regulatory requirements under Ch. 147, Stats., and Ch. NR 200 *et seq.*, Wis. Adm. Code.

49. The discharges to surface waters regulated by the WPDES permit will consist of stormwater runoff from most of the mining site, leachate from the Type II stockpile and groundwater seeping into the pit. Two types of wastewater are expected, depending on the composition of the rock with which the water has been in contact.

50. Type I waste rock, with less than 1% sulfur, would be expected to leach very little of its mineral content to rainwater. Runoff from the Type I stockpile will be treated by allowing any suspended particles to settle out in two settling ponds prior to discharge through Outfall 002. Small amounts of lime and polymer may be added to improve settling. Solids would be returned to the Type I storage area. As an alternative to discharging through Outfall 002, said wastewater may also be discharged through Outfall 003 to wetlands adjacent to the Flambeau River. Discharge to the wetlands is authorized to augment the water flow to this area if the natural deposition of water to these wetlands is inadequate.

51. Leachate and runoff from the Type II stockpile, runoff from the crushing facility, Type II stockpile access road, the yard and equipment parking areas outside the maintenance shops and the water treatment plant and water which is collected in the lower sump of the pit will be treated at the water treatment plant. Discharges from the treatment plant to the Flambeau River are through Outfall 001.

52. Laboratory tests were performed to simulate the leaching of minerals under worst-case conditions. Wastewater created this way was bench-test treated, then analyzed to verify that the proposed treatment technology is capable of providing adequate treatment to the wastewater prior to discharge.

53. Sanitary wastewater from Flambeau employees during the six years of ore removal will be treated by an on-site septic tank and drainage field.

54. The WPDES permit includes both categorical and water quality-based limits.

55. Biomonitoring provisions appear in the WPDES permit for both Outfalls 001 and 002. Consistent with statewide implementation of the WPDES permit program, any failure of a bioassay will trigger additional bioassays to determine whether the failure was due to toxicity in the discharge or to non-discharge related causes.

56. All wastewater will be adequately treated to meet applicable surface water and groundwater quality standards.

57. There exists the remote possibility that, as a result of a malfunction of the wastewater treatment plant, hydrogen sulfide may be present in the effluent. Normally, any hydrogen sulfide which might be produced would be controlled in the treatment plant by an adjustment of the pH of the effluent. Should any hydrogen sulfide leave the treatment plant, it would dissipate due to aeration caused when the effluent is passed over the riprap at the outfall.

58. The Flambeau River is classified as a warmwater sport fishery. It is not classified for use as a public water supply. For purposes of the antidegradation provisions of Chapter 207, Wis. Adm. Code, the Flambeau River is classified as a fish and aquatic life water.

59. In establishing the water quality based effluent limitations for the discharges from the Flambeau Mine, the following criteria were utilized: acute water quality standards for aquatic life, acute toxicity criteria for aquatic life, chronic toxicity criteria for aquatic life, wild and domestic animal

criteria, human threshold criteria, human cancer criteria, limitations for toxic and organoleptic substances, and water quality antidegradation standards.

60. Monitoring and verification requirements in this WPDES permit in conjunction with the conditions and terms of the mining permit and the Wastewater Treatment Plant engineering approval ensure that discharges during the mining operation will be detected and that postmining environmental changes will be monitored.

CONCLUSIONS OF LAW

1. The DNR has authority under Ch. 147, Stats. to issue effluent limitations on point source discharges to waters of the state.

2. Effluent proposed to be discharged from the wastewater treatment facility located at the Flambeau Mining Company mine in Ladysmith, Wisconsin into the Flambeau River constitutes pollution within the meaning of sec. 147.015(14), Stats.

3. The discharge of pollutants by the Flambeau Mining Company caused by the mining operation at Ladysmith, Wisconsin constitutes a new source within the meaning of sec. 147.015(8), Stats.

4. The Flambeau River is a "water of the state" pursuant to sec. 147.015(20), Stats. It is "warmwater sport fishery" pursuant to Ch. NR 102 and NR 104, Wis. Adm. Code. It is a "fish and aquatic life" water pursuant to the antidegradation standards of Ch. NR 107, Wis. Adm. Code.

5. Section NR 270.104, Wis. Adm. Code, establishes the new source performance standards for discharges from copper mines under the WPDES program. These standards are applicable to the copper mine proposed by the Flambeau Mining Company for Ladysmith, Wisconsin.

6. The water quality based effluent limitations included in this WPDES Permit are calculated in conformity with ss. NR 102.04(1), NR 105.05, NR 105.06, NR 105.07, NR 105.08, NR 105.09, and NR 106.06, Wis. Adm. Code.

7. The antidegradation standards of Ch. NR 107, Wis. Adm. Code, have been considered in establishing the conditions of the WPDES Permit.

8. The Department has complied with the requirements of secs. 1.11 and 144.836, Stats., regarding analysis of the environmental impacts of the project and evaluation of the alternatives to the proposal.

PERMIT

In compliance with Chapter 147, Wisconsin Statutes, WPDES Permit No. WI-0047376-1 is hereby issued to the Flambeau Mining Company permitting the Company to discharge from a facility located in the Town of Grant, south of Ladysmith, Wisconsin to the Flambeau River in Rusk County in accordance with the effluent limitations, monitoring requirements and other conditions as set forth below:

WPDES PERMIT SPECIAL CONDITIONS

Part I

A. Effluent Limitations and Monitoring Requirements for Outfall 002

(1) During the period beginning on the date of signature and lasting until September 30, 1995, the permittee is authorized to discharge: 1) water from the open pit mine before the exposure of Type II waste rock, 2) runoff from the Type I waste rock storage area (low sulfur), and 3) runoff from other areas that has not contacted either the high sulfur waste rock or the ore, through Outfall 002 (settling pond effluent).

(2) This discharge shall be limited and monitored by the permittee as specified below.

(a) There shall be no discharge of floating solids or visible foam in other than trace amounts.

(b) Samples taken in compliance with the monitoring requirements specified below shall be taken at the following location: Outfall 002 (settling pond effluent), prior to discharge to the Flambeau River.

	EFFLUENT LIMITATIONS				MONITORING REQUIREMENTS	
EFFLUENT CHARACTERISTIC	Daily Maximum	Monthly Average	Weekly Average(3)	Mass Limit	Sample Frequency	Sample Type
Flow - (MGD)		-	-	---	Daily	Continuous
Total Suspended Solids	30 mg/L	20 mg/L	-	-	Daily	Composite (4)
Aluminum[5]	1500 ug/L	-	-	-	(6)	Composite (4)
Arsenic[5]	730 ug/L	-	-	-	(6)	Composite (4)
Beryllium	-	0.67 lb/day[7]	-	-	(6)	Composite (4)
Cadmium[5,8]	95 ug/L	50 ug/L	7.1 ug/L	0.046 lb/day[7]	(9)	Composite (4)
Chromium, Total (or +3)[5,8]	5400 ug/L	-	980 ug/L	6.4 lb/day[7]	(6)(9)	Composite (4)
Chromium (+6)[5]	28 ug/L	-	-	-	(6)	Composite (4)
Copper[5,8]	50 ug/L	-	-	-	(9)	Composite (4)
Lead[5,8]	590 ug/L	-	140 ug/L	0.89 lb/day[7]	(9)	Composite (4)
Mercury[10]	-	0.002 ug/L	-	-	(9)	Composite (4)
Nickel[5,8]	3100 ug/L	-	1200 ug/L	7.6 lb/day[7]	(6)(9)	Composite (4)
Selenium[5]	120 ug/L	-	-	-	(6)	Composite (4)
Silver[5,8]	6.6 ug/L	-	-	-	(6)	Composite (4)
Zinc[5,8]	300 ug/L	-	-	-	(6)	Composite (4)
pH (standard units)	(11)	-	-	-	Daily	Grab
Hardness, mg/L as $CaCO_3$	-	-	-	-	Quarterly	Composite (4)
Effluent Toxicity	-	-	-	-	(12)	Grab Comp
Water Treatment Additives (lbs or gallons)	-	-	-	-	Monthly	Record of Addition (13)

(3) If the monitoring frequency is insufficient to allow calculation of a weekly average, this limitation shall be considered a daily maximum. If the permittee monitors this or any pollutant more frequently than required by this permit, the results shall be recorded and reported in accordance with Part II, 15 of this permit.

(4) A representative composite sample shall be collected during the hours of discharge. If the sample is not collected throughout the entire time of discharge, the sample type and the hours of discharge shall be recorded on the Discharge Monitoring Report (DMR).

(5) Measurement in the "total recoverable" form is acceptable where such a test is available.

(6) In the permit application, the effluent was not analyzed for the substances listed below. Under this permit, the first twelve analyses shall be collected on no less than a monthly basis over a minimum of nine months. The results will be used to determine the need for continuing monitoring and effluent limitations at this outfall. If the substance is consistently not detected using the analytical method specified below, or is consistently detected at a concentration at or below the level of concern listed below, no additional monitoring for the substance will be required under Part I, A. In addition, the effluent limitation for that substance contained in Part I, A, listed above will not be in effect. If the substance is consistently detected at a concentration exceeding the level of concern, the effluent limitation shown above will become effective. Monitoring shall continue on no less than a monthly

frequency. If the parameter is subject to mass limits, additional sampling may be required as described in (7) below.

Substance*	Level of Concern**	Analytical Method***
Aluminum	300 ug/L	202.2
Arsenic	146 ug/L	206.2, 206.3
Beryllium	20 ug/L	210.2
Chromium, Total (or +3)	1072 ug/L	218.1, 218.2, or 200.7
Chromium (+6)	7 ug/L	218.4
Nickel	624 ug/L	249.1, 249.2
Selenium	23 ug/L	270.2, 270.3
Silver	1.3 ug/L	272.2
Zinc	60 ug/L	289.1, 289.2

* Measurement in the "total recoverable" form is acceptable where such a test is available.
** As listed in the table or "None detected", if the value in the table is exceeded by the limit of detection of the analytical method.
*** Suggested EPA test method.

(7) The permittee shall report both the concentration and the mass of this substance at this outfall for this parameter calculated by the following formula:

Mass loading (lb/day) = concentration (ug/L) X flow (MGD) X 8340 (lb-L/ug-MG)

The mass limits shall be reported as a monthly average, and shall be applied to the sum of the loadings to the Flambeau River through Outfalls 001 and 002. This mass limitation is based on the weekly average concentration limit for this metal, except for beryllium, which is based on the monthly average concentration, at the design flow of the wastewater treatment plant of 780,000 gallons per day, or 0.78 MGD. Once discharge begins at Outfall 001, if a discharge occurs concurrently at both outfalls during the same 24-hour period, a sample shall be collected at both outfalls to determine the total mass for this metal in the combined discharge.

(8) The limitation is based on a proposed effluent hardness of 152 ppm (as $CaCO_3$). If the measured hardness is substantially different, the permit may be modified to reflect the changes in the effluent limitation for this metal.

(9) The sample frequency for this parameter shall be no less than monthly until the effluent sample is collected at Outfall 1 for completion of the 2C NPDES Application, after which the frequency shall be no less than twice a month and subject to sampling whenever both outfalls discharge during the same 24-hour period, as described in condition (7) above.

(10) Additional instructions for the determination of compliance with the limitations for this substance are contained in Part I, D.

(11) The range for pH shall be 6.0 to 9.0 standard units.

(12) Effluent toxicity and evaluation shall be conducted according to the requirements contained in Part I, E.

(13) The permittee shall report the total amount of each water treatment additive used for the month and furnish a record of daily addition.

(14) Additional treatment shall be provided for the effluent at this outfall if the limitations listed in Part I, A, cannot be met.

(15) If an analysis of effluent data indicates a trend of increasing effluent concentrations for copper, cadmium, lead, or chromium, the permittee shall conduct tests of the solubility of solids or other tests determined to be appropriate following discussions with the permittee and the Department.

(16) Runoff from the lined Type II (high sulfur) waste rock storage area shall not be discharged at Outfall 002.

(17) The permittee shall notify the Department when the storage of Type II waste rock begins and when ore shipping begins.

B. Effluent Limitations and Monitoring Requirements for Outfall 003

(1) During the period beginning on the date of signature and lasting until September 30, 1995, the permittee is authorized to discharge treated wastewaters from the following sources: 1) water from the open pit mine before the exposure of Type II waste rock, 2) runoff from the Type I waste rock storage area (low sulfur), and 3) runoff from other areas that has not contacted either the high sulfur waste rock or the ore, through Outfall 003 to wetlands for the purpose of flow augmentation.

(2) This discharge shall be limited and monitored by the permittee as specified below.

(a) There shall be no discharge of floating solids or visible foam in other than trace amounts.

(b) Samples taken in compliance with the monitoring requirements specified below shall be taken at the following location:

Outfall 003 prior to discharge to the wetlands and following the settling ponds.

	EFFLUENT LIMITATIONS				MONITORING REQUIREMENTS	
EFFLUENT CHARACTERISTIC	Daily Minimum	Daily Maximum	Monthly Average	Weekly Average(3)	Sample Frequency	Sample Type
Flow - (MGD)	-	-	-	-	Daily	Estimated (8)
pH (standard units)	6.0 s.u.	9.0 s.u.	-	-	Daily	Grab
Total Suspended Solids	-	30 mg/L	20 mg/L	-	Daily	Composite (4)
Aluminum[5]	-	1500 ug/L	-	-	Monthly	Composite (4)
Arsenic[5]	-	730 ug/L	-	-	Monthly	Composite (4)
Beryllium	-	-	100 ug/L	-	Monthly	Composite (4)
Cadmium[5,6]	-	95 ug/L	50 ug/L	7.1 ug/L	Monthly	Composite (4)
Chromium, Total (or +3)[5,6]	-	5400 ug/L	-	980 ug/L	Monthly	Composite (4)
Chromium (+6)[5]	-	28 ug/L	-	-	Monthly	Composite (4)
Copper[5,6]	-	50 ug/L	-	-	Monthly	Composite (4)
Lead[5,6]	-	590 ug/L	-	140 ug/L	Monthly	Composite (4)
Mercury[7]	-	-	0.002 ug/L	-	Monthly	Composite (4)
Nickel[5,6]	-	3100 ug/L	-	1200 ug/L	Monthly	Composite (4)
Selenium[5]	-	120 ug/L	-	-	Monthly	Composite (4)
Silver[5,6]	-	6.6 ug/L	-	-	Monthly	Composite (4)
Zinc[5,6]	-	300 ug/L	-	-	Monthly	Composite (4)
Hardness, mg/L as $CaCO_3$	-	-	-	-	Quarterly	Composite (4)

(3) If the monitoring frequency is insufficient to allow calculation of a weekly average, this limitation shall be considered a daily maximum. If the permittee monitors this or any pollutant more frequently than required by this permit, the results shall be recorded and reported in accordance with Part II, 15 of this permit.

(4) The same sample may be reported as for Outfall 002.

(5) Measurement in the "total recoverable" form is acceptable where such a test is available.

(6) The limitation is based on a proposed effluent hardness of 152 ppm (as $CaCO_3$). If the measured hardness is substantially different, the permit may be modified to reflect the changes in the effluent limitation for this metal.

(7) Additional instructions for the determination of compliance with the limitations for this substance are contained in Part I, D.

(8) According to NR 218 Method and Manner of Sampling, "estimated" sample flow measurement means "a reasonable approximation of the average daily flow based on water balance, an uncalibrated weir", or any of the more complex methods described in ss. NR 218.05 (1) and (3) (a) and (b).

(9) This discharge may be discontinued if the Department finds that the wetlands are being significantly deteriorated by the application of this discharge.

C. Effluent Limitations and Monitoring Requirements for Outfall 001

(1) During the period beginning on the date of signature and lasting until September 30, 1995, the permittee is authorized to discharge the following treated wastewaters: runoff from the ore crushing area, the Type II waste rock area, and the ore hauling roads; and water from the open pit that has contacted high sulfur waste rock through outfall serial number 001 (wastewater treatment plant effluent).

(2) This discharge shall be limited and monitored by the permittee as specified below.

(a) There shall be no discharge of floating solids or visible foam in other than trace amounts.

(b) Samples taken in compliance with the monitoring requirements specified below shall be taken at the following location: Outfall 001, prior to the discharge to the Flambeau River.

	EFFLUENT LIMITATIONS				MONITORING REQUIREMENTS	
EFFLUENT CHARACTERISTIC	Weekly Average(4)	Daily Maximum	Monthly Average	Mass Limit	Sample Frequency	Sample Type
Flow - (MGD)	-	-	-	-	Daily	Continuous
Total Suspended Solids	-	30 mg/L	20 mg/L	-	Daily	24-hr composite
Aluminum[5]	-	1500 ug/L	-	-	(7)	24-hr composite
Arsenic[5]	-	730 ug/L	-	-	(7)	24-hr composite
Beryllium	-	-	0.67 lb/day[8]	-	(7)	24-hr composite
Cadmium[5,6]	7.1 ug/L	95 ug/L	50 ug/L	0.046 lb/day[8]	3X Weekly	24-hr composite
Chromium, Total(or +3)[5,6]	980 ug/L	5400 ug/L	-	6.4 lb/day[8]	(7)	24-hr composite
Chromium (+6)[5]	-	28 ug/L	-	-	(7)	24-hr composite
Copper[5,6]	-	50 ug/L	-	-	3X Weekly	24-hr composite
Lead[5,6]	140 ug/L	590 ug/L	-	0.89 lb/day[8]	Weekly	24-hr composite
Mercury[9]	-	-	0.002 ug/L	-	Weekly	24-hr composite
Nickel[5,6]	1200 ug/L	3100 ug/L	-	7.6 lb/day[8]	(7)	24-hr composite
Selenium[5]	-	120 ug/L	-	-	(7)	24-hr composite
Silver[5,6]	-	6.6 ug/L	-	-	(7)	24-hr composite
Zinc[5,6]	-	300 ug/L	-	-	(7)	24-hr composite
pH (standard units)[11]	-	9.0 s.u.	-	-	Daily	Grab
Total Dissolved Solids (mg/L)	-	-	-	-	Monthly	24-hr composite
Dissolved Oxygen (mg/L)	5 mg/L	-	-	-	Daily	Grab
Hardness, mg/L as $CaCO_3$	-	-	-	-	Quarterly	24-hr composite
Effluent Toxicity	-	-	-	-	(12)	Grab Comp
Water Treatment Additives	-	-	-	-	(13)	(13)

(3) In the permit application, the effluent was not analyzed for the substances listed in Application Form 2C. The permittee shall analyze the first representative discharge of treated wastewater at this outfall for all of the parameters that are required in EPA Form 2C for ore mining industries. This data will be used to determine the need for modification of the permit to include revisions to the monitoring requirements and effluent limitations listed above.

(4) If the monitoring frequency is insufficient to allow calculation of a weekly average, this limitation shall be considered a daily maximum. If the permittee monitors this or any pollutant more frequently than required by this permit, the results shall be recorded and reported in accordance with Part II, 15 of this permit.

(5) Measurement in the "total recoverable" form is acceptable where such a test is available.

(6) The limitations are based on a proposed effluent hardness of 152 ppm (as $CaCO_3$). If the measured hardness is substantially different, the permit may be modified to reflect the changes in the effluent limitation for this metal.

(7) In the first twelve analyses of the effluent conducted on a weekly frequency, if this substance is not consistently detected using the analytical method specified below, or is consistently detected at a concentration at or below the level of concern, no additional monitoring for the substance will be required unless indicated by a demonstration of effluent toxicity. In addition, the effluent limitation for that substance contained in Part I, B, listed above, will not be effective. If the first twelve reported concentrations of the substance do not consistently meet the concentration criteria described above, the effluent limitation shown above shall be effective. Monitoring shall continue on no less than a monthly basis.

Substance*	Level of Concern**	Analytical Method***
Aluminum	300 ug/L	202.2
Arsenic	146 ug/L	206.2, 206.3
Beryllium	20 ug/L	210.2
Chromium, Total (or +3) or 200.7	1072 ug/L	218.1, 218.2,
Chromium (+6)	7 ug/L	218.4
Nickel	624 ug/L	249.1, 249.2
Selenium	23 ug/L	270.2, 270.3
Silver	1.3 ug/L	272.2
Zinc	60 ug/L	289.1, 289.2

* Measurement in the "total recoverable" form is acceptable where such a test is available.

** As listed in the table or "None detected", if the value in the table is exceeded by the limit of detection of the analytical method.

*** Suggested EPA test method.

(8) The maximum daily mass limit for this metal applies to the sum of the discharges at Outfalls 001 and 002 during the same 24-hour period. If a discharge occurs at both outfalls, samples shall be collected at both outfalls. To determine compliance, the concentration, flow, and mass loading at each outfall shall be calculated using the following formula:

Mass loading (lb/day) = concentration (ug/L) X flow (MGD) X 8340 (lb-L/ug-MG)

The mass limits shall be reported as a monthly average, and shall be applied to the sum of the loadings to the Flambeau River through Outfalls 001 and 002. This mass limitation is based on the weekly average concentration limit for this metal, except for beryllium, which is based on the monthly average concentration, at the design flow of the wastewater treatment plant of 780,000 gallons per day, or 0.78 MGD. Once discharge begins at Outfall 001, if a discharge occurs concurrently at both outfalls during the same 24-hour period, a sample shall be collected at both outfalls to determine the total mass for this metal in the combined discharge.

(9) Additional instructions for the determination of compliance with the limitations for this substance are contained in Part I, D.

(10) The daily minimum of the effluent at the point that it enters the receiving water shall be 5 mg/L of dissolved oxygen.

(11) Pursuant to ss. NR 205.06 and 102.03(4)(h), Wis. Adm. Code, the permittee shall maintain the pH of this wastewater at or within the limits of 6.0 to 9.0 standard units, except excursions from the limits are permitted subject to the following conditions:

(a) The total time during which the pH values are outside the required range shall not exceed 446 minutes in any calendar month.

(b) No individual excursion from the range shall exceed 60 minutes.

(c) No individual excursions shall be outside the range of 4.0 to 11.0 standard units (s.u.), inclusive.

(d) On a daily basis, the permittee is required to report the total time the pH limits are exceeded and the number of times any individual excursion exceeds 60 minutes in duration or is outside the range of 4.0 to 11.0 s.u., inclusive.

(12) Effluent toxicity and evaluation shall be conducted according to the requirements contained in Part I, E.

(13) Records of treatment additives shall be kept and made available for inspection by Department staff upon request.

(14) Detection of hydrogen sulfide from the wastewater treatment plant shall be reported to the DNR.

D. Determining Compliance with Water Quality Based Effluent Limitations for Toxic or Organoleptic Substances

(1) When a water quality based effluent limitation for a toxic or organoleptic substance is imposed as an average concentration, compliance with the limitation shall be determined as follows:

(a) The average effluent concentration is calculated after setting effluent concentrations which are less than the limit of detection, as defined in par. (2)(b), equal to either one-half of the limit of detection or one-half of the effluent limitation, whichever is less; and

(b) The average effluent concentration is compared directly to the average concentration limitation to determine compliance.

(2) Within 9 months of the date of permit issuance, the permittee shall determine and report to the Department the limits of detection and limits of quantitation as specified below. The Department may require the determination of the limits of detection and quantitation be repeated or improved if the reported values fall outside of the range of values normally reported by laboratories certified under ch. NR 149, Wis. Adm. Code, for wastewaters with similar characteristics.

Limits of detection and limits of quantitation determined as described below, unless required by the Department to be repeated or improved, will be considered by the Department to represent acceptable performance of the analytical technique by the permittee for the purpose of self-monitoring data when such self-monitoring data are used to assess compliance with limitations as specified in subsection (1) above. The foregoing in no way restricts the ability of any party, including the permittee, to achieve lower limits of detection and quantitation through proper application of analytical techniques identified below or approved by the Department and to assess compliance with limitations as specified in subsection (1) above.

(a) Limits of detection and quantitation shall be determined for the following substances using the specified analytical test methods or any other test method which provides a method detection limit equal to or less than that specified below and is approved by the Department prior to use.

Mercury using U.S. EPA Method 245.1 or 245.2 (MDL of 0.2 ug/L)

(b) Limits of detection and limits of quantitation shall be determined as follows:

1. The limit of detection shall be derived by the procedure specified for method detection limits in the Code of Federal Regulation, Title 40, Part 136, Appendix B, and the limit of quantitation shall be set equal to 3.33 times the limit of detection. Other methods may be used if first approved by the Department.

2. The sample matrix used shall consist of samples of effluent collected at Outfall 001, in accordance with Part I, B, and at Outfall 002, in accordance with Part I, A.

(c) When reporting the limits of detection and quantitation to the Department, the permittee shall indicate which analytical test method was used, provide the results of the replicate analyses, and include pertinent calculations.

(d) Following the initial determination of the limits of detection and quantitation under this section, the permittee shall report to the Department any consistent deviation from the values initially reported.

(e) At least 90 days prior to changing analytical test methods or certified laboratories for any substance for which a limit of detection has been derived under this section, the permittee shall repeat the determination of the limits of detection and quantitation for that substance using the newer method or laboratory and report the results of the determination to the Department. Within 60 days of receipt of such a report the Department may require the determination of the limits of detection and quantitation be repeated or improved if the reported values fall outside of the range of values normally reported by laboratories certified under ch. NR 149, Wis.

Adm. Code, for wastewaters with similar characteristics. If such a request is made by the Department, the permittee must receive written approval from the Department before making the change.

(3) When monitoring is required for a toxic or organoleptic substance, the following information shall be reported on the Discharge Monitoring form (Form 3200-28);

(a) Effluent concentrations less than the limit of detection shall be reported as < (less than) the value of the limit of detection. For example, if a substance is not detected at a concentration of 0.1 μg/L, report the value as <0.1 μg/L.

(b) Effluent concentrations equal to or greater than the limit of detection shall be reported as measured. In addition, the limit of quantitation shall be reported with all effluent concentrations equal to or greater than the limit of detection, but less than the limit of quantitation.

(c) The permittee shall note on the Discharge Monitoring Report when compliance with a limitation is demonstrated in accordance with par. (1)(b).

(d) When calculating an average effluent concentration or a mass discharge value the permittee shall also report the observed effluent concentrations.

E. Effluent Toxicity Testing Requirements, Procedures, Schedules, and Limitations

(1) Effluent Toxicity Testing Requirements: The permittee is required to perform effluent toxicity test batteries to determine the potential impact of the effluent discharge on aquatic organisms.

(a) The permittee shall conduct an acute toxicity test battery using the procedure specified in subsection (2) twice each year following commencement of discharging effluent from outfall 001. The permittee shall conduct such tests between the months of May-September and November-April during the term of this permit.

(b) The permittee shall conduct an acute toxicity test battery using the procedure specified in subsection (2) once during the first year of permit issuance and twice each year thereafter for effluent discharged from outfall 002. The permittee shall

conduct such tests between the months of May-September and November-April during the term of this permit.

(c) The permittee shall conduct a chronic toxicity test battery using the procedure specified in subsection (3) once each year between the months of June-September upon commencement of discharging effluent from outfall 001.

(2) Acute Toxicity Test Battery Procedure: Each acute toxicity test battery shall be performed on at least three freshwater test species following the procedures given in Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms (Third Edition) (EPA/600/4-85/013), and any revisions and successor documents thereto which are published by USEPA after the date of issuance of this permit, all of which are hereafter referred to as the acute manual, with the following exceptions, clarifications, and additions:

(a) Control Water: an acute toxicity test battery shall be performed with the following control water treatments which have been collected within 72 hours of test initiation.

1. Primary control water shall be a receiving water grab sample collected from the Flambeau River at a point that is not in contact with any portion of the mixing zone of the permittee's or any other permittees' discharge.

2. Secondary control water shall be the laboratory control water which is appropriate for the species tested.

3. If at any time test organism population mortality exceeds 50% in undiluted effluent **and** both the primary and secondary controls exhibit toxicity, as indicated by control test organism population mortality exceeding 10%, the toxicity test procedure for that test species shall be repeated.

(b) Dilution Water: effluent treatments shall be diluted under the following conditions:

1. Dilution water shall be the primary control water unless primary control test organism population mortality exceeded 10% in the preceding test.

2. Dilution water shall be the secondary control water if primary control test organism mortality exceeded 10% in the preceding test.

(c) Effluent Collection: effluent samples shall be collected and used under the following conditions:

1. Two separate composite samples of final effluent shall be collected during two separate, normal 24-hour operating periods as specified in Ch. NR 218.04(11) (Wis. Adm. Code).

2. Revisions to the requirements of subparagraph (2)(c)1. may be approved in writing by the Department, provided the permittee demonstrates to the Department, that an alternative sample collection protocol proposed by the permittee is equivalent based upon the results from at least three consecutive test batteries.

3. Seventy-two (72) hours after completion of the sample collection shall be the maximum holding time prior to initial use of any effluent sample.

(d) Effluent Treatments: an acute toxicity test battery shall be performed with the following effluent treatments:

1. Primary and secondary control water as specified in paragraph (2)(a).

2. A treatment equal to 100% (v:v) unmodified effluent.

3. Any additional treatments selected by the permittee of which all results shall be reported in accordance with subsection (7).

(e) Test Duration and Renewal Frequency: an acute toxicity test battery shall be performed for 48 and 96 hours for invertebrate and vertebrate test species, respectively, and all test vessel solutions shall be renewed daily as specified below:

1. Invertebrate Test Organisms: a renewal shall be made after 24 hours of exposure with the first of the two effluent samples collected as specified in paragraph (2)(c)1.

2. Vertebrate Test Organisms: a renewal shall be made after 24 hours of exposure with the first of the two effluent

samples collected as specified in paragraph (2)(c)1. Two additional renewals shall be made after 48 and 72 hours with the second of the two effluent samples collected as specified in paragraph (2)(c)1.

(f) Test Species: an acute toxicity test battery shall be performed with two of the following freshwater species and a third test species that shall be selected from the freshwater species listed in the acute manual:

1. One of the following cladocerans which is less than 24 hours old: *Ceriodaphnia dubia*, *Daphnia magna*, or *Daphnia pulex*.

2. Fathead minnows (*Pimephales promelas*) between 20 and 60 days old, post-hatch (all organisms shall have hatched within 6 days of each other).

3. If one species is consistently and clearly the most sensitive of the two tested, based upon the results of at least three consecutive test batteries conducted in accordance with subsection (2), all remaining test batteries may be limited to that species, at the request of the permittee and following written approval by the Department.

(g) Miscellaneous: other needs or circumstances may justify modification of or substitution to the toxicity test battery procedures described in the acute manual. Deviation from standard procedures, if necessary for the successful completion of the test battery, may be allowed if first approved by the Department.

(3) Chronic Toxicity Test Battery Procedure: Each chronic toxicity test battery shall be performed on at least two freshwater test species following the procedures given in Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms (Second Edition) (EPA/600/4-89/001) and any revisions and successor documents thereto which are published by USEPA after the date of issuance of this permit, all of which are hereafter referred to as the chronic manual, with the following exceptions, clarifications, and additions:

(a) Control Water: a chronic toxicity test battery shall be performed with the following control water treatments which have been collected within 72 hours of test initiation.

1. Primary control water shall be a receiving water grab sample collected from the Flambeau River at a point that is not in contact with any portion of the mixing zone of the permittee's or any other permittees' discharge.

2. Secondary control water shall be the laboratory control water which is appropriate for the species tested.

3. If at any time both the primary and secondary controls exhibit toxicity, as indicated by control test organism population mortality exceeding 20%, the toxicity test procedure for that species shall be repeated.

(b) Dilution Water: effluent treatments shall be diluted under the following conditions:

1. Dilution water shall be the primary control water unless primary control test organism population mortality exceeded 20% in the preceding test.

2. Dilution water shall be the secondary control water if primary control test organism mortality exceeded 20% in the preceding test.

(c) Effluent Collection: effluent samples shall be collected and used under the following conditions:

1. Three separate composite samples of final effluent shall be collected during three separate, normal 24-hour operating periods as specified in Ch. NR 218.04(11) (Wis. Adm. Code).

2. Revisions to the requirements of subparagraph (3)(c)1. may be approved in writing by the Department, provided the permittee demonstrates to the Department, that an alternative sample collection protocol proposed by the permittee is equivalent based upon the results from at least three consecutive test batteries.

3. Seventy-two (72) hours after completion of the sample collection shall be the maximum holding time prior to initial use of any effluent sample.

(d) Effluent Treatments: a chronic toxicity test battery shall be performed with the following effluent treatments:

1. Primary and secondary control water as specified in paragraph (3)(a).

2. Effluent treatments equal to the Instream Waste Concentration (IWC) = 1.0%, and 100% (v:v) unmodified effluent.

3. Any additional treatments selected by the permittee of which all results shall be reported in accordance with subsection (7).

(e) Test Duration and Renewal Frequency: a chronic toxicity test battery shall be performed for 7 days unless otherwise specified in the chronic manual. All test vessels shall be renewed daily so that all test organisms are exposed to each of the effluent samples collected as specified in paragraph (3)(c)1. for a minimum of 48 consecutive hours.

(f) Test Species: all tests shall be performed with the following freshwater species.

1. Fathead minnows (*Pimephales promelas*) less than 24 hours old, and *Ceriodaphnia dubia* less than 24 hours old (all neonates used shall be released within the same 8-hour period).

2. If one species is consistently and clearly the most sensitive of the two tested, based upon the results of at least three consecutive test batteries conducted in accordance with subsection (3), all remaining test batteries may be limited to that species, at the request of the permittee and following written approval by the Department.

(g) Miscellaneous: other needs or circumstances may justify modification of or substitution to the toxicity test battery procedures described in the chronic manual. Deviation from standard procedures, if necessary for the successful completion of the test battery, may be allowed if first approved by the Department.

(4) Quality Assurance/Quality Control Plan Submittal: the permittee shall submit a quality assurance/quality control plan to the Department according to the following schedule:

(a) No less than 45 days prior to conducting the first toxicity test required under subsection (1), the permittee shall submit a

quality assurance/quality control plan for Department approval.

(b) The quality assurance/quality control plan submitted under paragraph (4)(a). shall be approved by the Department within 30 days of its receipt unless, within 30 days of its receipt, the Department finds that the plan is inadequate and specifies the bases for the inadequacy in writing.

(c) If the Department finds the plan is inadequate, the permittee shall, within 15 days of receiving written notification of the plan's inadequacy, submit to the Department a plan that has been revised to correct the inadequacies.

(d) All toxicity tests required by this permit shall be conducted according to the quality assurance/quality control plan approved by the Department.

(5) Determination of Positive Test Results: if a toxicity test battery performed as required by subsections (2) or (3) meets all conditions of the quality assurance/quality control plan approved in subsection (4), it shall be considered positive under any of the following circumstances:

(a) Acute Toxicity Test: the results of an acute toxicity test performed as required by subsection (2) shall be considered positive if:

1. Invertebrate test organism population mortality exceeds 50% after 48 hours of exposure to 100% (v:v) effluent; or

2. Vertebrate test organism population mortality exceeds 50% after 96 hours of exposure to 100% (v:v) effluent.

(b) Chronic Toxicity Test: the results of a chronic toxicity test performed as required by subsection (3) shall be considered positive if:

1. A positive chronic toxicity test result is identified by a statistically significant ($P \leq 0.05$) adverse effect observed within the test organism population exposed to an effluent concentration equal to the instream waste concentration as compared to a control test organism population; or

2. In the judgment of the Department, the statistical interpretation methods used to test for significance are not

deemed appropriate for a specific data set, empirical interpretation methods may be used.

(c) Notification of a Positive Result: if a test result is positive as defined by paragraph (5)(a) or (5)(b), the permittee shall notify the Department in writing within 15 days of becoming aware of the positive result.

(6) Additional Testing Subsequent to a Positive Result:

(a) No later than 90 days after the date of notification required under paragraph (5)(c), the permittee shall conduct and submit the results of at least 2 additional batteries of tests that are conducted in accordance with the subsection that gave a positive test result and any other information the permittee believes relevant.

(b) These additional test battery results shall include the information required under subsection (7).

(7) Reporting of Toxicity Test Battery Results: Within 45 days of the conclusion of each toxicity test battery conducted under subsections (2) or (3), unless the Department approves at the request of the permittee with good cause shown an extension of this deadline for a period not to exceed 30 days, the permittee shall submit to the Department of Natural Resources, Bureau of Wastewater Management, Attn: Percy Mather, 101 S. Webster Street, P.O. Box 7921, Madison, WI, 53707 a report which documents the following information:

(a) Effluent Samples: sampling point, collection dates and times, sample collection methods, and all pertinent biological, chemical, and physical data.

(b) Dilution Water: source, collection dates and times, sample collection methods, pretreatment information (if any), and all pertinent biological, chemical, and physical data.

(c) Test Methods: all specific conditions not described in the quality assurance/quality control plan approved under subsection (4).

(d) Results: raw biological, chemical, and physical data (i.e., copies of bench sheets of affected organisms in each effluent treatment and control), and summary tables of biological,

chemical, and physical data generated in paragraphs (7)(a), (7)(b), and (7)(c).

(e) Process or Treatment Modifications: information concerning any changes in the manufacturing processes or operating procedures at the production facilities or the treatment facilities that may have affected the test results.

(8) Toxicity Test Data Evaluation: upon receipt of toxicity test data submitted under subsection (7), the Department will review all submitted information and may take any of the following steps:

(a) Negative Test Data: upon the receipt of a negative toxicity test result which has met all conditions of quality assurance/quality control described in the plan approved under subsection (4), the Department will notify the permittee within 45 days of its acceptance of the toxicity test results.

(b) Positive Test Data: upon the receipt of one or more positive toxicity test results which have met all conditions of quality assurance/quality control described in the plan approved under subsection (4), and following public notice and opportunity for hearing, the Department may modify this permit to include:

1. revisions to the monitoring frequency established under subsection (1),

2. a schedule of compliance for actions needed to evaluate and reduce effluent toxicity, and/or

3. an effluent toxicity limitation.

F. Other Special Conditions

(1) Reporting

(a) Monitoring reports and reports required by Sections 8, 17, 20, 21 and 23 of Part II of this permit shall be signed;

1. for a corporation by a principal executive officer of at least the level of Vice President or his duly authorized representative having overall responsibility for the operation of the facility for which this permit is issued,

2. for a partnership by a general partner, and

3. for a sole proprietorship by the proprietor, except that

4. in the case of reports required by Sections 17, 21 and 23, the individual required to sign in accordance with this subsection may authorize another individual to sign such reports in his absence.

(b) Monitoring results obtained during the previous month shall be summarized and reported on Discharge Monitoring Report Forms postmarked no later than the 15th day of the month following the completed reporting period. Duplicate signed copies of these reports and of all other reports required herein shall be submitted to the:

Wisconsin Department of Natural Resources
Division for Environmental Quality (Permits)
Northwest District Headquarters
P.O. Box 309
Spooner, WI 54801

GENERAL CONDITIONS

PART II

1. Duty to comply

The permittee shall comply with all conditions of the permit. Any permit noncompliance is a violation of the permit and is grounds for enforcement action, permit revocation or modification, or denial of a permit reissuance application.

2. Permit actions

As provided in sec. 147.03, Stats., after notice and opportunity for a hearing the permit may be modified or revoked and reissued for cause. If the permittee files a request for a permit modification, revocation or reissuance, or a notification of planned changes or anticipated noncompliance, this action by itself does not relieve the permittee of any permit condition.

3. Property rights

The permit does not convey any property rights of any sort, or any exclusive privilege. The permit does not authorize any injury or

damage to private property or any invasion of personal rights, or any infringement of federal, state or local laws or regulations.

4. Inspection and entry

The permittee shall allow an authorized representative of the Department, upon the presentation of credentials, to:

a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records are required under the conditions of the permit;

b. Have access to and copy, at reasonable times, any records that are required under the conditions of the permit;

c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices or operations regulated or required under the permit; and

d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance, any substances or parameters at any location.

5. Recording of results

For each effluent measurement or sample taken, the permittee shall record the following information.

a. The date, exact place, method and time of sampling or measurements;
b. The individual who performed the sampling or measurements;
c. The date the analysis was performed;
d. The individual who performed the analysis;
e. The analytical techniques or methods used; and
f. The results of the analysis.

6. Records of results

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by the permit, and records of all data used to complete the application for the permit for a period of at least 3 years from the date of the sample, measurement, report, or application. The

Department may request that this period be extended by issuing a public notice to modify the permit to extend this period.

7. Signatory requirement

All applications, reports or information submitted to the Department shall be signed for a corporation by a responsible corporate officer including a president, secretary, treasurer, vice president, or manager; and for a municipality by a ranking elected official; or other person authorized by one of the above and who has responsibility for the overall operation of the facility or activity regulated by the permit. The representative shall certify that the information was gathered and prepared under his or her supervision and based on inquiry of the people directly under his or her supervision that, to the best of his or her knowledge, the information is true, accurate, and complete.

8. Compliance schedules

Reports of compliance or noncompliance with interim and final requirements contained in any compliance schedule of the permit shall be submitted in writing within 14 days after the schedule date, except that progress reports shall be submitted in writing on or before each schedule date for each report. Any reports of noncompliance shall include the cause of noncompliance, a description of remedial actions taken and an estimate of the effect of the noncompliance on the permittee's ability to meet the remaining schedule dates.

9. Transfers

A permit is not transferable to any pers[illegible] except after notice to the Department. In the event of a transfer of control of a permitted facility, the perspective owner or operator shall file a new permit application and shall file a stipulation of permit acceptance with the Department WPDES permit section. The Department may require modification or revocation and reissuance of the permit to change the name of the permittee and to reflect the requirements of ch. 147, Stats.

10. Proper operation and maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control which are installed or used by the permittee to achieve compliance with the conditions of the permit. The wastewater treatment facility shall be under the direct supervision of a state certified operator as required in sec. NR 108.06(2). Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training

as required in ch. NR 114, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

11. Duty to mitigate

The permittee shall take all reasonable steps to minimize or prevent any adverse impact on the waters of the state resulting from noncompliance with the permit.

12. Duty to provide information

The permittee shall furnish the Department, within a reasonable time, any information which the Department may request to determine whether cause exists for modifying, revoking or reissuing the permit or to determine compliance with the permit. The permittee shall also furnish the Department, upon request, copies of records required to be kept by the permittee.

13. Sampling procedures

Samples and measurements taken for the purpose of monitoring shall be representative of the volume and nature of the monitored discharge and shall be taken at points specified in the permit using sample types specified in the permit and the following procedures:

a. For effluent flow measurement and sample collection - ch. NR 218.

b. For groundwater sample collection and analysis - ch. NR 214.

14. Test procedures

Monitoring shall be conducted according to test procedures listed in ch. NR 219, or any other test procedures specified in the permit.

15. Additional monitoring

If a permittee monitors any pollutant more frequently than required by the permit, using test procedures specified in ch. NR 219, the results of that monitoring shall be recorded and reported in accordance with this chapter. Results of this additional monitoring shall be included in the calculation and reporting of the date submitted in the DNR.

16. Monitoring reports

The monitoring results shall be reported at the intervals specified in the permit. Monitoring results shall be summarized on forms designated by the Department.

17. Noncompliance notification

a. The permittee shall report the following types of noncompliance by a telephone call to the Department's district office within 24 hours after becoming aware of the noncompliance.

(i) Any noncompliance which may endanger health or the environment.
(ii) Any violation of an effluent limitation resulting from an unanticipated bypass.
(iii) Any violation of an effluent limitation resulting from an upset.
(iv) Any violation of a maximum daily discharge limitation for those pollutants specifically designated in the permit to be reported within 24 hours.

b. A written report describing the noncompliance reported in condition 17, part a. shall be submitted to the Department's district office within 5 days after the permittee becoming aware of the noncompliance. The Department may waive the written report on a case-by-case basis based on the oral report received within 24 hours. The written report shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times; the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance; and if the noncompliance has not been corrected, the length of time it is expected to continue.

c. Reports of all noncompliance not required to be reported under condition 8 or condition 17, parts a. and b. shall be submitted with the monitoring reports required under condition 16. The reports shall contain all the information listed in condition 17, part b.

18. Removed substances

Solids, sludges, filter backwash, or other pollutants removed from or resulting from treatment or control of wastewater or intake waters shall be stored and disposed of in a manner to prevent any pollutant from the materials from entering the waters of the state. Land

disposal of treatment plant solids and sludges shall be at a site or operation licensed by the Department under the provisions of the mining permit.

19. Spill reporting

The permittee shall notify the Department in accordance with ch. NR 158, in the event that a spill or accidental release of any material or substance results in the discharge of pollutants to the waters of the state at a rate or concentration greater than the effluent limitations established in the permit, or the spill or accidental release of the material is unregulated in the permit, unless the spill or release of pollutants has been reported to the Department under condition 17.

20. Planned changes

In accordance with ss. 147.02(4)(b) and 147.14(1), Stats., the permittee shall report to the Department any facility expansion, production increase or process modifications which will result in new, different or increased discharges of pollutants. The report shall either be a new permit application or if the new discharge will not violate the effluent limitations of the permit, a written notice of the new, different or increased discharge. The notice shall contain a description of the new activities, an estimate of the new, different or increased discharge of pollutants and a description of the effect of the new or increased discharge on existing waste treatment facilities. Following receipt of this report, the Department may modify the permit to specify and limit any pollutants not previously regulated in the permit.

Note: The notification should be directed to the Industrial Wastewater Section.

21. Increased discharge of toxic pollutants

a. 'Routing or frequent Increase'. The permittee shall notify the Department in writing as soon as it knows or has reason to believe that any activity has occurred or will occur which would result, on a routing or frequent basis, in the discharge of any toxic pollutant which is not limited to the permit, if that discharge exceeds the highest of the following levels:

(i) One hundred micrograms per liter (100 ug/1);
(ii) Two hundred micrograms per liter (200 ug/1) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/1) for 2,4-dinitrophenol and for 2-methyl-

4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;

(iii) Five times the maximum concentration value reported for that pollutant in the permit application; or

(iv) A notification level greater than the level in sections (i), (ii), or (iii), above which the Department has included as a special condition to the permit.

b. 'Nonroutine or infrequent Increase'. The permittee shall notify the Department in writing as soon as it knows or has reason to believe that any activity has occurred or will occur which would result, on a nonroutine or infrequent basis, in any discharge of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following levels:

(i) Five hundred micrograms per liter (500 ug/l);

(ii) One milligram per liter (l mg/l) for antimony;

(iii) Ten times the maximum concentration value reported for that pollutant in the permit application; or

(iv) A notification level greater than the level in sections (i), (ii), or (iii), above which the Department has included as a special condition to the permit.

22. Duty to halt or reduce activity

Upon failure or impairment of treatment facility operation, the permittee shall, to the extent necessary to maintain compliance with its permit, curtail production or wastewater discharges or both until the treatment facility operations are restored or an alternative method of treatment is provided.

23. Bypass

The permittee may bypass waste treatment facilities if this is necessary for the essential maintenance of the facilities and if the bypass does not exceed permit effluent limitations. The permittee may also bypass if the bypass is due to runoff in excess of the 10 year, 24 hours rainfall event and the bypass is designated as a specific discharge point in the WPDES permit. All other bypasses of waste treatment facilities, including diversion of wastewater from land disposal systems to surface waters, are prohibited unless the following conditions are met:

a. The bypass is necessary to prevent loss of life, personal injury or severe property damage;

b. There are no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes or maintenance during normal periods of equipment downtime; and

c. The permittee submitted written notice 10 days before the date of the bypass and the Department's district office wastewater supervisor had approved the bypass in writing prior to its occurrence; or

d. In the event of any unanticipated bypass, the permittee notified the Department verbally within 24 hours and in writing within 5 days of each unanticipated bypass.

Dated at Madison, Wisconsin on January 14, 1991.

STATE OF WISCONSIN
DIVISION OF HEARINGS AND APPEALS
5005 University Avenue, Suite 201
Madison, Wisconsin 53705

By David H. Schwarz
David H. Schwarz, Hearing Examiner

BEFORE THE
STATE OF WISCONSIN
DIVISION OF HEARINGS AND APPEALS

Application of Flambeau Mining Company	)	3-NW-89-03012
for Permits to Build and Operate a Surface	)	3-NW-89-43001
Mine in Rusk County, Wisconsin	)	3-NW-89-53010
	)	3-NW-89-63014
	)	3-NW-89-73039

FINDINGS OF FACT, CONCLUSIONS OF LAW AND WATER REGULATORY PERMITS

FINDINGS OF FACT

1-46. General Findings of Fact 1 through 46 are incorporated herein as if they were set out in full.

47. Flambeau filed applications with the Department in accordance with ss. 30.12, 30.123, 30.19, 30.195, and 30.20, Stats. for permits to remove materials from the bed of a tributary to the Flambeau River (herein referred to as stream B), to change the course of and place culverts on the bed of a tributary to the Flambeau River (hereinafter referred to as stream C), to grade in excess of 10,000 square feet on the bank of the Flambeau River and stream C, to place riprap on the bed of the Flambeau River, and to construct a pond within 500 feet of the Flambeau River all in the Town of Grant, Rusk County.

48. The Department and the applicant have complied with all procedural requirements of ss. 30.12, 30.123, 30.19, 30.195, and 30.20, Stats., regarding notice and publication of the notice of hearing.

49. The applicant owns the project site which abuts the Flambeau River, stream B, and stream C. The Flambeau River is navigable in fact at the project site and, based on flow records and physical evidence at the site, stream C has also been determined to be navigable. Stream B is not a navigable stream.

50. Intermittent stream A also flows across the project site into the Flambeau River. Stream A will be relocated as part of the mining project, but since it is not a navigable stream, no permit is required for the proposed action.

51. Meadowbrook Creek is a navigable stream which flows east to west entering the Flambeau River approximately 1/2 mile south of the project site.

52. Stream A drains the northern portion of the project area and some of the wetlands located east of highway 27. Stream C originates on the east side of highway 27, drains the southeast corner of the project site and enters the Flambeau River immediately north of the mouth of Meadowbrook Creek.

53. The Flambeau River originates in the Turtle-Flambeau Flowage in Iron County. The river has a drainage area of approximately 1,840 square miles. It flows southwesterly through the counties of Ashland, Price, Sawyer, and Rusk before entering the Chippewa River above Lake Holcombe in the southern part of Rusk County. The proposed mine site is located approximately 15 miles above the confluence of the Flambeau River with the Chippewa River. The river is a meandering, low-gradient (3 feet/mile) stream

whose course near the proposed mine site has changed little during post-glacial time.

54. The watershed above the mine site is relatively undisturbed except for scattered agricultural areas and the Ladysmith urban area. The upper region of the Flambeau River lies within the Flambeau River State Forest.

55. Construction of the mine and related facilities will involve the following activities which require permits under Chapter 30, Stats.:

A. A permit is requested under sec. 30.20, Stats., to remove materials from the bed of Stream B. Materials will be removed from the bed of the stream incidental to excavation of the mine pit. The pit will be refilled and the stream bed will be restored after completion of mine operations. Drainage from above the portion of the stream to be removed will be routed via a drainage swale to the south and into Stream C.

B. A permit is requested under sec. 30.195, Stats., to change the course of Stream C. Approximately 190 feet of Stream C will be relocated 30 feet to the north to facilitate construction of a railroad spur to the mine site.

C. A permit is requested under sec. 30.123, Stats., to install culverts and associated fill on the bed of Stream C. Two 57-inch by 38-inch by 50 foot long arch culverts and associated fill will be placed approximately 200 feet downstream from highway 27 to facilitate the railroad spur crossing. A 48-inch by 50 foot long culvert and associated fill will be placed approximately 525 feet downstream from the proposed railroad spur culverts to facilitate construction of an access road to the mine support facilities. Both of the crossings will be removed as part of site reclamation after completion of mining operations.

D. A permit is requested to grade or otherwise remove topsoil in excess of 10,000 square feet on the bank of the Flambeau River and Stream C and to construct a pond within 500 feet of the Flambeau River under sec. 30.19, Stats. A total of 181 acres will be graded as part of site preparation for the project. Much of the site will be regraded to restore the

natural land contours after mine operations are complete. The pond will be constructed over the west end of the mine pit as part of the final site reclamation. The pond will be approximately 3.5 acres in size with a maximum depth of 6 feet and will be located 225 feet from the Flambeau River at its closest point. Reclamation will consist of back filling the open pit, removal of surface facilities, grading the site, topsoiling, seeding, and the planting of trees and shrubs.

E. A permit is requested under sec. 30.12, Stats., to place rock riprap on the bed of the Flambeau River. Riprap is proposed to prevent soil erosion at two points of proposed wastewater discharge. Riprap will extend 10 feet along the shore at each location by 20 feet waterward of the ordinary high water mark.

56. These constitute all the permits necessary for the project under Chapter 30, Stats. No other Chapter 30 permits are required for the project.

57. As part of the site grading process, a flood control dike and slurry wall will be constructed adjacent to the Flambeau River approximately 130 feet east of the river's edge. The purpose of the flood control dike is to keep the 100-year storm flood waters of the Flambeau River from entering the open pit. The dike is to be constructed of compacted overburden materials excavated from the site. The slurry wall will be built to reduce inflow of groundwater into the pit.

58. All site grading activities will be done in a manner to prevent erosion and protect the Flambeau River from sedimentation. These measures are described in Section Nos. 4.8 and 5.0 of the Revised Mining Permit Application, Exhibit No. 5, which is incorporated herein by reference.

59. The hydrologic/hydraulic analysis conducted for the culvert placement on the Flambeau Mine Site establishes that the 100-year storm

backwater would not be increased to affect upstream lands and that the existing 25-year flooding potential would not be increased at STH 27.

60. The relocation of Stream C is being proposed for the following reasons:

A. The alternative of a culvert under the railroad spur following the existing stream channel would require a culvert of approximately 150 feet in length. Given the limited culvert size and the gradient of Stream C, a culvert of approximately 150 feet could be subject to frequent blockage. Relocation of stream C would reduce the culvert length to approximately 80 feet and minimize this problem.

B. The relocation of Stream C and the culvert will allow a drainageway running along but outside the Type II stockpile to drain into Stream C without the necessity of a separate culvert under the railroad spur.

C. Moving the channel will not adversely affect the flood capacity of the stream or be detrimental to public rights on the stream. Moreover, the applicant is the only riparian owner for the entire reach of Stream C.

D. Changing the course of Stream C will improve the economic value of the applicant's land by providing the most efficient use of the land with the minimum project size.

61. The proposed project conforms to the requirements of the laws for the plotting of land and for sanitation.

62. A 50-foot-wide buffer strip of woody vegetation will be planted on the west edge of the project site. It will parallel the Flambeau River for 450 feet and provide a natural barrier to the view of the project from the river.

63. The Flambeau River is used extensively for recreational boating, swimming, fishing, and other incidents of navigation. Stream C, while navigable under the law, has not been used for navigation because of its

intermittent flow and its limited size. The project as proposed will not impede or materially obstruct existing navigation in these bodies of water.

64. None of the individual component portions of this project, nor the project taken as a whole, will reduce the effective flood flow capacity of any stream.

65. The proposed project will not be detrimental to the public interest in the navigable waters of the state nor will it be detrimental to rights of other riparian owners of land upon compliance with the conditions which are attached to these permits.

66. The applicant has established by a preponderance of the credible evidence submitted that granting these water regulatory permits will not render unclean or impure the air, land or waters of the state, or make the same injurious to public health, harmful for commercial use, or deleterious to fish, bird, animal or plant life.

67. The project as conditioned in the permits will not be injurious to fish or game habitat. The reclamation of the mine site with its wetlands rehabilitation component should improve wildlife habitat in the impacted areas. See Findings Nos. 34 and 35.

68. The Department has reviewed this project and the potential alternatives available to the applicant in the FEIS. As proposed the project minimizes any adverse impact upon wetlands. The applicant has convincingly established that it needs to locate the project as proposed because of the size

and location of the ore body and the requirement for siting other portions of the project in the most environmentally sound manner.

69. The project is technically, economically and environmentally feasible as evidenced by Findings contained in each and every permit herein. An economic study conducted pursuant to sec. 144.85, Stats., has concluded that the project will not produce a net adverse economic impact to the area.

70. The Department has evaluated the impact of this project upon the known values of wetlands. It has considered the reversibility of the wetland impacts and the potential impacts on other wetlands in the region. It has considered potential impacts on scarce natural resources. It has weighed the effects of all aspects of the mining project on the wetlands in the area and other waters of the state. The Department has evaluated the cumulative impacts on wetlands within the framework of this proposal and the restoration of 8.5 acres of newly created high quality wetland. Having evaluated the entirety of the activity, the permits will not violate existing policy on wetland preservation.

CONCLUSIONS OF LAW

1. The applicant is a riparian owner within the meaning of sec. 30.12, Stats.

2. 8.3 acres of wetland within the definition of sec. 23.32(1), Stats., will be impacted by the approval of this mining project. The project meets the

standards of NR 1.95(5) and (6), Wis. Adm. Code, for approval of regulatory permits which have an impact upon wetlands.

3. The Department has the authority under ss. 30.12, 30.123, 30.19, 30.195, and 30.20, Stats., and the foregoing Findings of Fact, to issue permits for the construction and maintenance of said project subject to the conditions in the permit which follows.

4. The Department has complied with the procedural provisions of ss. 1.11 and 144.836, Stats., regarding analysis of the environmental impacts of the project and evaluation of alternatives to the proposed project.

PERMIT

AND HEREBY THERE DOES ISSUE AND IS GRANTED to the applicant under ss. 30.12, 30.123, 30.19, 30.195 and 30.20, Wis. Stats., a permit to remove materials from the bed of a tributary to the Flambeau River, to change the course of and place culverts on the bed of a tributary to the Flambeau River, to grade in excess of 10,000 square feet on the bank of the Flambeau River and a tributary thereto, to place riprap on the bed of the Flambeau River, and to construct a pond within 500 feet of the Flambeau River all in section 09, township 34 north, range 06 west in the Town of Grant, Rusk County, subject to the following conditions:

1. The permittee shall notify the Park Falls Area Water Management Specialist, P. O. Box 220, Park Falls, Wisconsin, 54552, not less than 5 working days before starting construction. Notification shall

include a tentative schedule for site clearing, installation of the slurry wall and construction of the flood control dike.

2. The authority herein granted does not authorize any work other than what is specifically described in the application and plans, and as limited by conditions contained in this permit. No changes in the project or plans may be made without prior written approval of the Department.

3. The authority herein granted can be amended or rescinded in accordance with applicable law if the work authorized herein becomes a material obstruction to navigation or becomes detrimental to the public interest.

4. The permittee shall waive any objection to the inspection of the premises, site, or facility at any reasonable times by any authorized employee of the Department for the purpose of investigating the construction, operation, and maintenance of the project.

5. A copy of this permit shall be kept at the site at all times during the construction of the project and until final site restoration is complete.

6. The permittee shall comply with the erosion control plan, and any attendant conditions set forth in the Mining Permit. The removal of vegetative cover and exposure of bare ground shall be restricted to the minimum amount necessary for construction. Areas where soil is exposed must be protected from erosion by seeding and mulching, sodding, diversion of surface runoff, installation of straw bales or silt screens, construction of settling basins, or other acceptable methods immediately after removal of the original ground cover.

7. A buffer strip of woody vegetation shall be planted along the waterward side of the existing tree line on the west edge of the project site. The buffer strip shall be 50 feet wide and shall begin in the area of the northern riprapped outfall and extend southerly, paralleling the Flambeau River for a length of 450 feet. The buffer strip shall consist of about 40% fast growing species such as aspen and birch at least 1-inch in diameter. The remaining 60% of the buffer strip shall consist of white pine, white spruce, tamarack, hemlock and black spruce 3 years or older, in descending order of frequency. Seedlings must be protected from competition until satisfactorily established but not less than 3 years after planting. Trees shall be planted at approximately 10 foot spacing with actual

placement consisting of aggregated copses of mixed species in order to create a more natural appearance.

8. The permittee shall comply with all provisions of the approved reclamation plan.

9. The wetland pond constructed under authority of this permit and created as part of the mining reclamation plan shall not be dredged, filled or altered without Department approval. A copy of this condition shall be recorded in the Register of Deeds office for Rusk County, Wisconsin.

10. The permit granted herein shall expire ten years after the date of issuance, if the project including site reclamation is not completed before then. Prior to expiration of the permit, the applicant may request an extension which may be granted, for good cause, by the Department.

11. The permittee shall obtain any necessary authority needed under local zoning ordinances and from the U.S. Army Corps of Engineers.

12. No heavy equipment shall be operated in the Flambeau River at any time unless written approval is obtained from the Water Management Specialist, Park Falls Area, at least 5 days in advance.

13. The permittee, its agents and such other contractors as may be employed shall be liable as provided under sec. 30.292, Wis. Stats., for violation of Chapter 30 or this permit.

14. Acceptance of the permit shall be deemed as acceptance of all conditions contained herein.

Dated at Madison, Wisconsin on January 14, 1991.

STATE OF WISCONSIN
DIVISION OF HEARINGS AND APPEALS
5005 University Avenue, Suite 201
Madison, Wisconsin 53705

By David H. Schwarz
David H. Schwarz, Hearing Examiner

BEFORE THE
STATE OF WISCONSIN
DIVISION OF HEARINGS AND APPEALS

Application of Flambeau Mining Company for Permits to Build and Operate a Surface Mine in Rusk County, Wisconsin	)))	EI Facility No. 8550 34 730 Permit No. 89-DLJ-033

**FINDINGS OF FACT,
CONCLUSIONS OF LAW
AND AIR POLLUTION CONTROL PERMIT**

FINDINGS OF FACT

1-46. General Findings of Fact 1 through 46 are incorporated herein as if they were set out in full.

47. Flambeau submitted the necessary air pollution control permit application and plans and specifications for the project describing the air pollution source on April 3, 1989.

48. The DNR has reviewed Flambeau's air permit application and the plans and specifications submitted to DNR and issued a preliminary determination on June 30, 1989.

49. As proposed, the mine will have emissions of particulate matter and other criteria pollutants that are less than 250 tons per year.

50. Water sprays, dust suppressants, enclosure, paving or other means will be used to control dust from nonactive and active mining operations to meet established opacity limits.

51. The emissions from this source will consist almost entirely of fugitive particulate matter. Air emissions from combustion sources will be very low.

52. The conditions of this permit require covering or securing of materials likely to become airborne while being moved on public roads, railroads, or navigable waters, and the paving or maintenance of roadways or parking lots so as not to create air pollution.

53. If operated according to the Air Pollution Control Permit, as conditioned under sec. 144.394, Stats., mining operations will produce no visible emissions at the facility property line and no visible emissions at highway 27, at the Flambeau River, or at any other public thoroughfare which is on the facility property.

54. The emissions of all trace elements in the soil or ore body are expected to be below the levels listed in Ch. NR 445, Wis. Adm. Code and, therefore, controls are not required. However, the permittee is required to monitor for asbestiform fibers as well as arsenic, chromium, nickel, beryllium, cadmium, and mercury.

55. The proposed project will meet all applicable emission limitations.

56. The proposed project will neither cause nor exacerbate a violation of an air quality standard or ambient air increment.

57. The proposed project will not preclude the construction or operation of another air pollution source for which an application has been received.

58. The DNR has complied with the public notice and comment requirements procedures set forth in sec. 144.392, Stats.

59. The proposed air pollution source meets all of the applicable criteria in sec. 144.393, Stats.

CONCLUSIONS OF LAW

1. The DNR has authority under sec. 144.31(1)(a), Stats. to promulgate rules contained in Chs. NR 400-499, Wis. Adm. Code including but not limited to rules containing emission limits, compliance schedules and compliance determination methods.

2. The DNR has authority under ss. 144.31, 144.375, and 144.394, Stats., and Chs. NR 400-499, Wis. Adm. Code to establish emission limits for sources of air pollution.

3. The DNR has the authority to issue air pollution control permits and to include conditions in such permits under ss. 144.391, 144.392, 144.393 and 144.394, Stats.

4. The mine proposed by the Flambeau Mining Corporation for Ladysmith, Wisconsin will emit air contaminants as defined by sec. 144.30(1), Stats.

5. The mine proposed by the Flambeau Mining Corporation for Ladysmith, Wisconsin constitutes a new stationary minor air contaminant source as defined by ss. 144.30(2) and (23), 144.391(3)(ae), Stats., and NR 400.02(53e) and (53s), Wis. Adm. Code.

6. The emission limits included in this permit are authorized by sec. 144.394, Stats., and Chs. NR 400-499, Wis. Adm. Code.

PERMIT

There is hereby issued a permit which authorizes the Flambeau Mining Company to construct and operate a copper mine in accordance with the requirements and conditions set forth in this permit. A release for permanent operation (construction release) will be issued after verification that the source was constructed and initially operated according to the plans and specifications as approved by the Department.

This permit may be revised as a result of rulemaking by the Department or the adoption of standardized permit forms and procedures which may differ from this document. At the time of such revision, permits reflecting these changes will automatically be issued.

A copy of this permit should be available at the source for inspection by any authorized representative of the Department. Questions about this permit should be directed to the Bureau of Air Management, P.O. Box 7921, Madison, Wisconsin 53707, (608) 266-7718.

Permission to commence construction ends eighteen (18) months from the day this permit is issued unless extended by the Department for cause. Once a release for permanent operation has been issued, this operating permit is permanent unless amended, revoked, or suspended.

A. Specific Emission Limitations.

This source is subject to NSPS.

Pollutant	Applicable Wis. Adm. Code or Wis. Statute	Limitation/Requirement
Particulate Matter	Sec. NR 440.60(3)(b), Wis. Adm. Code	process fugitive[1] emissions may not exceed 10% opacity
Particulate Matter	Sec. NR 415.04, Wis. Adm. Code	General Limitation[2] Visible Emissions[3]
Visible Emissions	Sec. NR 431.05(1), Wis. Adm. Code	See note below.

[1]The observer shall read opacity only when emissions are clearly identified as emanating solely from the affected facility being observed.

[2]**Fugitive Dust:**

No person shall cause, allow or permit any materials to be handled, transported, or stored without taking precautions to prevent particulate matter from becoming airborne. Nor shall a person allow a structure, a parking lot, or a road to be used, constructed, altered, repaired, sandblasted or demolished without taking such precaution.

Such precautions shall include but not be limited to:

1. Use, where possible, of water, or chemicals for control of dust in construction operations.

(FOOTNOTE CONTINUED)

2. Application of asphalt, oil, water, suitable chemicals, or plastic covering on dirt roads, material stockpiles, and other surfaces which can create airborne dust, provided such application does not create a hydrocarbon odor, or water pollution problem.

3. Covering or securing of materials likely to become airborne while being moved on public roads, railroads, or navigable waters.

4. The paving or maintenance of roadways or parking lots so as not to create air pollution.

Application of asphalt, oil, water, suitable chemicals, or plastic covering on dirt roads, material stockpiles, and other surfaces which can create airborne dust, provided such application does not create a hydrocarbon odor, or water pollution problem.

[3]All mining operations shall produce no visible emissions at the facility property line and no visible emissions at highway 27, at the Flambeau River, or at any other public thoroughfare which is on the facility property as measured by U.S. EPA method 22. The no visible emission limitation may not be exceeded more than 5% of the time in any 60 minute period. For determining compliance with the no visible emission limit the visible emission readings shall be taken for no less than 30 minutes. The visible emissions shall be measured by standing at or as close as possible to the property line, highway 27, Flambeau River, or any public thoroughfare on the facility property and by looking along or parallel to the property line, highway 27, Flambeau River, or any other public thoroughfare.

Note: All fugitive particulate matter sources associated with open pit mining operations, except for process fugitive emissions, shall meet 20% opacity as measured by U.S. EPA method 9. Process fugitive emissions are emissions from crushing and conveying. Non process fugitive emissions include, but are not limited to drilling, truck and rail car loading, stock piles, exposed mine surfaces, and bulldozer operation. Fugitive emissions from all mining vehicle traffic (not to include vehicle exhaust emissions) shall meet 20% opacity on an instantaneous basis.

B. Other Specific Conditions.

The Bureau of Air Management, Wisconsin Department of Natural Resources has reviewed the materials submitted by Kennecott Minerals Co. and Flambeau Mining Co. for an open pit mine and has made a determination that this project is approvable subject to the following conditions:

1. Initial Operation Notification.

The permittee shall inform the Wisconsin Department of Natural Resources, Northwest District Air Program, Highway 70 & First Street, P.O. Box 309, Spooner, WI 54801, phone (715)635-4068, thirty (30) days prior to initial operation of the source covered by this permit. Furthermore, the permittee shall send the District construction progress reports every 30 days until a release for permanent operation is granted.

In addition to the above notifications the permittee shall furnish the Department written notification as follows:

(a) A notification of the date construction or reconstruction as defined under sec. NR 440.15, of an affected facility is commenced, postmarked no later than 30 days after such date.

(b) A notification of the anticipated date of initial startup of an affected facility, postmarked not more than 60 days nor less than 30 days prior to such date.

(c) A notification of the actual date of initial startup of an affected facility, postmarked within 15 days after such date.

2. Release for Permanent Operation.

This permit does authorize an *initial operation* period of 120 days for equipment shake-down, testing and Department evaluation of operation to assure conformity with the permit conditions. If 120 days is an insufficient time period for equipment shakedown, testing and Department evaluation of operation, the permit holder may request and the Department may approve in writing an extension of the initial operation period for an additional period not

to exceed 180 days. Permanent operation of the source(s) covered by this permit after the initial operation period is prohibited until a release has been issued by the Department.

3. Compliance Demonstration.

Source performance tests shall be conducted within 30 days after the start of initial operation to prove compliance with the visible emission limitations, while operating at full capacity. If the source performance tests cannot be conducted within 30 days after the start of initial operation, the permit holder may request and the Department may approve in writing an extension of time to conduct source performance tests for an additional period not to exceed 180 days. The Department shall be informed at least 20 working days prior to the tests so a Department representative can witness the testing. At the time of notification, a stack test plan following the provisions set forth in sec. NR 439.07, Wis. Adm. Code, shall also be submitted for approval.

Two copies of the report on the tests shall be submitted to the Department for evaluation within 60 days after the tests. Release for permanent operation will be issued only upon proof of compliance.

4. Water sprays, dust suppressants, enclosure, paving or other means shall be used to control dust from nonactive and active mining operations including dust from crushing and conveying operations to the visible emission opacity levels specified under the Specific Emission Limitations section of the permit. Use of water or other dust suppressant

which is subject to freezing shall not be required when the ambient temperature is at or near freezing conditions.

5. Reasonable efforts shall be taken to conduct blasting using practices which minimize noise, vibration, air shock, and off-site dust dispersion, and blasting shall be conducted only during periods of low wind. Periods of low wind shall be defined to be periods where hourly average wind speed is less than 10 miles per hour from the south or less than 15 miles per hour from other directions.

6. The crusher may process no more than 250 tons per hour of ore. This 250 tons per hour does not include the material going through the scalping screen.

7. Trucks transporting material from the mine shall not be overfilled, shall be sprayed with water, covered, or otherwise equipped to avoid fugitive dust. Use of water or other dust suppressant which is subject to freezing shall not be required when the ambient tempera . re is at or near freezing conditions.

8. Records shall be maintained of the occurrence and duration of any startup or shutdown or malfunction in the operation of this facility and any malfunction of the air pollution control equipment. A file of all opacity measurements shall be recorded and maintained in a permanent form suitable for inspection. The file shall be retained for at least two years following the date of the measurements. Records of the hourly average wind speed during blasting shall be kept and maintained. All records and files shall be made

available for inspection by Department personnel any time during normal working hours.

9. The fugitive particulate matter emissions from the transportation of the ore off the Flambeau Mining Company property may not exceed 10% opacity.

10. Flambeau Mining Company shall operate a meteorological monitoring station at the mine site in a location approved by the DNR. The station shall continuously monitor and record wind speed and wind direction. The station shall also monitor and record the precipitation at the site. These records shall be kept and maintained by the source and made available to the Department staff during normal working hours.

Dated at Madison, Wisconsin on January 14, 1991.

STATE OF WISCONSIN
DIVISION OF HEARINGS AND APPEALS
5005 University Avenue, Suite 201
Madison, Wisconsin 53705

By David H Schwarz
David H. Schwarz, Hearing Examiner

BEFORE THE
STATE OF WISCONSIN
DIVISION OF HEARINGS AND APPEALS

Application of Flambeau Mining Company for Permits to Build and Operate a Surface Mine in Rusk County, Wisconsin	)))	Docket No. IH-89-14

FINDINGS OF FACT, CONCLUSIONS OF LAW AND GROUNDWATER WITHDRAWAL PERMIT

FINDINGS OF FACT

1-46. General Findings of Fact 1 through 46 are incorporated herein as if they were set out in full.

47. Flambeau has applied for a permit for this project under sec. 144.855(3), Stats. for groundwater withdrawal associated with the Flambeau project.

48. The groundwater withdrawal permit application is complete and contains all the basic information necessary to locate and evaluate existing wells in the project area and includes a well proposed to be constructed by Flambeau.

49. Twenty-five active and five inactive private residential wells that are located in the vicinity of the proposed mineral mining facility are owned by Flambeau. Figure 11 in Exhibit No. 4, the Groundwater Withdrawal Permit Application for the Flambeau Project, shows the location of these wells. In

addition there are also twenty-nine active and five inactive privately owned domestic wells located in the vicinity of the proposed mineral mining facility. These wells are also shown on Figure 11 of the Application and are owned by persons other than Flambeau. Four of the Flambeau-owned inactive wells are located on property that is currently vacant and the structures on at least four of the properties have been razed.

50. The estimated total current water use from the Flambeau owned residential wells, assuming a 30 gallon per day, per occupant usage rate is 60 to 120 gallons per day per well. The proposed low capacity water supply well that would serve the potable water needs of the mining facility would function at an average rate of about 5 gallons per minute. This well will be constructed in accordance with the requirements of Ch. NR 112, Wis. Adm. Code., and will be fitted with a submersible pump having a capacity of 10 gallons per minute.

51. Excavation of the mine pit is expected to be conducted over a seven year period. Water will be continuously pumped from specially excavated sumps within the pit to maintain a dry working area during the entire time the pit excavation is open.

52. The mine pit groundwater inflow rate will average about 120 gallons per minute (172,800 gallons per day) over most of the life of the facility. This inflow rate will range between an initial rate of 50 to 100 gallons per minute when mine pit excavation starts, to a final rate of 100 to 140 gallons per minute when mine pit excavation reaches its deepest grades.

53. Because of the gradual deepening of the mine pit, and also because of the limited rate at which groundwater will infiltrate the pit, the maximum extent of groundwater drawdown effects will not occur until after ore mining has been completed. A computer model estimate of groundwater influence indicates that this will occur 2-3 years after ore production ceases. After the pit is backfilled and pumping creases, groundwater will continue to slowly infiltrate the pit until the original groundwater levels are re-established throughout the entire area of dewatering influence.

54. The extent of the groundwater drawdown shown by the cone of depression was the basis for the Department's assessment of the magnitude of drawdown impacts to area private wells. The extent of a cone of depression defines the area within which groundwater drawdowns may be significant enough to impact private wells. This expected drawdown impact area can be defined as the area inside the 2 foot drawdown contour shown in Figure 11 of Exhibit 4.

55. Based upon the predicted amounts of drawdowns due to mine pit dewatering, the known well depths and estimated pumping water levels, it is possible that several private wells could be either completely dewatered or the well water level during pumping plus the mine pit drawdown would place the well in noncompliance with the depth of protective well casing requirements of sec. NR 112.08, Table 1, Wis. Adm. Code. If either of these conditions occur, then the well(s) can no longer be used for potable purposes. The existing well casing depth must then either be extended to a complying depth

or a new well must be constructed. As an alternative, the well could be temporarily abandoned and not used for potable purposes until groundwater levels recover. Each similar affected well would have to be disconnected from the plumbing of the building that it served.

56. Beyond the projected 2 foot drawdown contour, seasonal groundwater fluctuations are likely to exceed the projected drawdown value. The expected minimal additional drawdown due to mine dewatering should not cause any measurable impact to the wells outside the projected 2 foot contour. If actual drawdowns exceed projected drawdowns and other area private wells are affected, they would also be replaced or reconstructed as appropriate in accordance with the procedure established in sec. 144.855, Wis. Stats.

57. Section 14 of Exhibit 28, the agreement executed between Flambeau and the local municipalities, provides additional remedies for private off-site well owners to ensure that Flambeau bears all the costs of well damages which might occur.

58. The nearest well serving a public utility is located in the City of Ladysmith approximately 1.25 miles east-northeast of the mine site and will not be impacted by the proposed project.

59. During mining operations, Flambeau will monitor both the precipitation and pumping rates. This monitoring will be used to compute the rate of groundwater inflow into the pit. This will be done by subtracting the calculated volume of precipitation from the measured pumping volume. By comparing the computed rate of inflow that occurs during mining operations

to the predicted inflow rate, the accuracy of the original pumping influence estimate will be regularly checked and, if necessary, adjusted to account for any irregularities. As a result, if significant changes in the predicted influence appear to be occurring, Flambeau should be able to foresee the change and minimize any previously unpredicted adverse groundwater impacts.

60. In addition to the flow rate monitoring, water levels will be recorded quarterly in the numerous groundwater monitoring wells located both within the minerals mining facility and in the vicinity of the project area. The measured water level information will be used to assess the lateral extent of the actual groundwater drawdown for comparison with the model predictions. If the actual drawdown measurements in one or more wells indicate that a greater drawdown is occurring than predicted by the groundwater performance model, it may be necessary to increase the frequency of water level measurements. If significant changes from the predicted levels occur, as with the potential for pumping rate changes, Flambeau should be able to foresee the changes and minimize the potential effects.

61. For all the reasons set out above and if all of the conditions of the permit herein are complied with, the withdrawal of groundwater associated with the Flambeau project will not result in the unreasonable detriment of public or private water supplies or the unreasonable detriment of public rights in the waters of the state.

CONCLUSIONS OF LAW

1. The DNR has authority under ss. 144.025(2)(e) and 144.855(3), Stats., to issue a permit for groundwater withdrawal activities associated with the Flambeau project.

2. The proposed groundwater withdrawal activities comply with sec. 144.855, Stats., subject to the conditions set out below.

3. The proposed well and pump construction and installation plans submitted by Flambeau are in conformance with the requirements of Ch. NR 112, Wis. Adm. Code.

4. The Department has complied with the procedural provisions of ss. 1.11 and 144.836, Stats., regarding analysis of the environmental impacts of the project and evaluation of alternatives to the proposed project.

PERMIT

Because the operation of the high capacity mine dewatering system is not expected to cause any significant reduction in groundwater availability to the nearest City of Ladysmith public utility well, the proposed operation of both the high capacity groundwater control system and the proposed low capacity, potable, facility supply well is hereby approved, as described in this document, subject to the conditions noted below. These conditions are intended to apply while mine development and reclamation are occurring.

1. Wells numbered 21, 18, 6, 65, 71 and 72 (Figure 11 and Table 2-2, Groundwater Withdrawal Permit Application for the Flambeau Project) shall be abandoned according to the requirements of Chapter NR 112.21, Wis. Adm. Code, at the time the low capacity, potable facility supply well is constructed. Any well that either becomes inactive or is replaced by Flambeau for any reason shall be abandoned in accordance with these same requirements. A well abandonment form shall be completed and submitted to the Department within 30 days of each well abandonment.

2. Prior Departmental approval shall be obtained for any future well construction, reconstruction, or increase in pumpage capacity of any wells that are located on any Flambeau owned lands that are contiguous with the mine-pit development.

3. Flambeau shall monitor the daily volume of all precipitation, and monitor the other pit inflows plus the volume of water removal from the pit in accordance with the permit application proposal and as outlined in this approval document.

4. At the end of each year of pit excavation and ore extraction, Flambeau shall submit to the Department of Natural Resources, Bureau of Water Supply a written tabulation of the monthly totals for: precipitation volume, surface water run-on, groundwater inflow and dewatering pumping. This report shall include a description of the approximate status of pit development (area and depth of each "bench" of excavation) for each month of operation. The report shall compare the actual water handling balance. If a significant increase in pit inflow is encountered a new evaluation of the probable groundwater impacts shall be included in the report.

5. The Department reserves the right to require additional mitigation measures to reduce impacts to private wells, should the Department determine that actual adverse impacts to the water levels in any of the replaced or reconstructed wells has occurred as a result of pit dewatering.

6. The provisions of sec. 144.855(4), Wis. Stats., shall apply if private well water levels are adversely impacted during the project life. These provisions shall also include any wells not discussed in this approval.

7. In the event actual mine pit dewatering drawdowns cause any Flambeau-owned private wells to be dewatered or placed in noncompliance with the depth of well casing requirements of sec. NR 112.08, Table 1, Wis. Adm. Code, the wells shall no longer be

used for potable purposes, unless the well casing is extended to a complying depth or a new well is constructed to a complying depth. That as an alternative, the well(s) may be temporarily abandoned and not used for potable purposes until water levels recover, provided the wells are disconnected from the interior plumbing of the structures they serve.

8. Any private supply wells that remain in service on Flambeau-owned lands that are contiguous with the mining facility shall comply with all the provisions of Ch. NR 112, Wis. Adm. Code.

9. Flambeau shall allow Department staff access to the private wells they own for monitoring water levels to ensure compliance with the conditions of this approval.

10. Flambeau shall submit water level and well construction information for the 6 private wells not owned by Flambeau that are inside the 2 foot drawdown contour or, if a property owner does not grant permission to release or obtain the information, Flambeau shall provide written documentation of the denial of permission from the property owner to the Department.

11. If the Department determines that any of the private wells included under condition #10 could be adversely impacted due to mine pit dewatering, the Department reserves the authority to establish a maximum allowable drawdown (based upon actual development of the mine pit dewatering cone of depression as indicated by measuring water levels in monitoring wells PZ-1012, PZ-1007s and PZ-1011) for requiring mitigative measures to be used to reduce water level impacts in the private wells.

12. Upon removal of the maintenance office and administration buildings during the reclamation phase of the project the potable low capacity well shall be abandoned in a manner conforming to sec. NR 112.21, Wis. Adm. Code, unless a written request is submitted to the Department for continued use of the well following mine reclamation.

13. The Department may require additional private well water quality sampling if, in the Department's opinion, conditions indicate that such additional sampling is necessary.

Dated at Madison, Wisconsin on January 14, 1991.

STATE OF WISCONSIN
DIVISION OF HEARINGS AND APPEALS
5005 University Avenue, Suite 201
Madison, Wisconsin 53705

By David H. Schwarz
David H. Schwarz, Hearing Examiner

BEFORE THE
STATE OF WISCONSIN
DIVISION OF HEARINGS AND APPEALS

Application of Flambeau Mining Company for Permits to Build and Operate a Surface Mine in Rusk County, Wisconsin	)))	Docket No. IH-89-14

**FINDINGS OF FACT,
CONCLUSIONS OF LAW
AND PERMIT FOR A ONE TIME DISPOSAL FACILITY**

FINDINGS OF FACT

1-46. General Findings of Fact 1 through 46 are incorporated herein as if they were set out in full.

47. Flambeau Mining Company proposes to establish a facility for the one-time disposal of demolition wastes on their property located in the SE 1/4 of Section 9, T34N, R6W, Town of Grant, Rusk County. The site is located on lands within the project area of the proposed Flambeau Mine.

48. In support of the proposal, Flambeau Mining Company has submitted an application contained in Appendix K of the Revised Mine Permit Application, entitled "Design/Operations Manual for a One-Time Demolition Waste Disposal Facility for the Flambeau Project." The above-referenced submittal includes a narrative which details general facility and site geotechnical information, engineering design and other relevant materials.

Included in the report are figures 3-1, 4-1 and 4-2 which respectively detail site location and surrounding topographic features and structures, base/final grades of the proposed demolition site and engineering cross-sections of said site.

49. The proposed disposal site will be a modification of the existing northeastern settling pond used during mining operations and will encompass 0.9 acre. The existing settling pond berms will be used and the pit bottom will be backfilled seven feet and compacted to provide a seventeen foot separation between the proposed site base and the groundwater surface. Interior side slopes will be 3:1 and final cover will be sloped 3.6% toward the west to follow natural surface drainage at the site.

50. The one-time disposal site will receive only demolition and construction waste generated by removal of existing facilities and structures during reclamation of the mining site. The site is not authorized to receive any other type of waste. Waste material such as asbestos, waste paints, solvents, sealers, adhesives or similar items may not be disposed of at the facility.

51. The nearest landfill to the project site which is capable of accepting up to 7,500 cubic yards of demolition and construction wastes is located in Washburn County. Another site located just southeast of Ladysmith is expected to be closed by the time the mining operation has been completed and the demolition is to take place. The landfill in Washburn County is 55 miles

from the Flambeau property and would require an unreasonable hauling distance if it were to be used.

52. The application is in conformance with all applicable locational requirements under the regulations for the siting of a one-time disposal facility:

A. The site is more than 1,000 feet from any navigable lake, pond or flowage.

B. The site is more than 300 feet from any navigable river or stream.

C. The site is not in a floodplain.

D. The site is more than 1,000 feet from the nearest edge of the right-of-way of any state trunk highway, interstate or federal aid primary highway or the boundary of any public park.

E. No putrescible waste will be disposed of at the site.

F. The site is more than 1,200 feet from any public or private water supply well.

53. The disposal site will not adversely impact upon wetlands. (See discussion of wetlands in Chapter 30 permits as well as in General Findings of Fact.)

54. There are no critical habitat areas within the boundaries of the Flambeau Mining project.

55. Because of the distance from the facility to surface and ground water, the inert nature of the waste, the type of soils and their permeability, and the approved disposal techniques to be used, the facility will not have a

detrimental effect on any surface water, on ground water quality nor will it cause an exceedance of any preventive action limit.

56. Because of the inert nature of demolition and construction waste, the facility is not expected to generate any hazardous air emissions nor will it produce explosive gases.

57. The facility is designed to have an operational life that will not exceed six (6) months. The design capacity of the facility is less than 10,000 cubic yards. The facility is designed to be operated and maintained and closed in a nuisance free manner. The facility is located on the mine site in such a way that it will be screened from all residences within 1/4 mile. The facility is designed to have a separation distance to groundwater that is in excess of ten (10) feet. Access to the facility during its operation will be restricted through the use of fencing.

58. The applicant will be required to monitor the site after its closure to verify the impacts of the facility upon the environment.

CONCLUSIONS OF LAW

1. The Department has promulgated ss. NR 502.12 and NR 502.13, Wis. Adm. Code, establishing minimum standards for one-time disposal facilities and small demolition waste landfills, under the authority of sec. 144.435(1), Stats.

2. The disposal facility proposed by Flambeau is a "one-time disposal" operation within the meaning of sec. NR 500.03(90), Wis. Adm. Code.

3. The waste to be disposed of at the Flambeau facility is "demolition and construction material" within the meaning of sec. NR 500.03(31), Wis. Adm. Code. Such material consists of concrete, bricks, bituminous concrete, wood, glass, masonry, roofing, siding and plaster, alone or in combinations.

4. The Department has authority to approve plans with special conditions to ensure compliance with Ch. NR 502, Wis. Adm. Code.

5. In accordance with the foregoing, the Department has authority under sec. 144.44, Stats., and ss. NR 502.12 and NR 502.13, Wis. Adm. Code, to issue the following plan approval and conditions.

6. The Department has complied with the procedural provisions of ss. 1.11 and 144.836, Stats., regarding analysis of the environmental impacts of the project and evaluation of alternatives to the proposed project.

PERMIT

The Department hereby approves the plans submitted by Flambeau Mining Company for the demolition materials landfill, subject to compliance with the provisions of ss. NR 502.12 and NR 502.13, Wis. Adm. Code, and the following conditions:

1. Flambeau Mining Company shall construct the demolition facility in accordance with the elevations and slopes specified in the plan submittal. In addition, operation and final closure of the site shall

be accomplished as specified in the proposal submitted as Appendix K to the Revised Mine Permit Application.

2. The types of waste to be disposed of shall be limited to concrete, brick, stone, asphalt, wood, small amounts of metals, the liner material (only if it is uncontaminated and not recyclable) in accordance with the mine permit conditions, and general materials resulting from the demolition of mining project buildings and facilities. Asbestos and all other solid and/or hazardous waste types are strictly prohibited from disposal at this site.

3. Reasonable efforts shall be made by Flambeau Mining Company to salvage materials for sale, re-use or recycling in lieu of disposal in the demolition facility. Specific reference is made to larger volumes of metal materials such as railroad rails, culverts and steel tanks which are easily salvageable for scrap metal processing.

4. Flambeau Mining Company shall submit a construction documentation report to the Department within 90 days of completion of closure of the facility. The report shall contain the following information:

    A. Plan sheets and cross-sections that record the precise location of the facility and elevation of base grades and final cover.
    B. Description of the nature of the final cover material and provisions for facilitation surface water drainage and documentation of final cover thickness.
    C. Description of the types and volumes of waste disposed in the facility.

5. The capacity of the site shall not exceed the volume of waste proposed to be generated from the mine reclamation project or 10,000 cubic yards. The active site life shall not exceed 6 months. Proper site closure and abandonment must be completed in accordance with the approved sec. NR 132.08, Wis. Adm. Code, Reclamation Plan and plan submittal approved herein.

6. The Park Falls Area Solid Waste Investigator shall be notified so an inspection of the site can be made after construction of the base grade and prior to disposition of any waste material. A final inspection of the site will be required following final closure and abandonment. Unannounced inspections may be made by Department employees at any time during the operation of this facility.

7. The Department may withdraw its approval for disposal at this site in accordance with applicable law if unauthorized waste types are allowed to be disposed of or if the site is found to be operated in a way inconsistent with this approval. Use of the site is limited to demolition materials generated within the mining site identified in the approved sec. NR 132.07, Wis. Adm. Code, Mining Plan.

8. The Department retains jurisdiction to modify this approval at any time if conditions warrant further modification.

Dated at Madison, Wisconsin on January 14, 1991.

STATE OF WISCONSIN
DIVISION OF HEARINGS AND APPEALS
5005 University Avenue, Suite 201
Madison, Wisconsin 53705

By David H. Schwarz
David H. Schwarz, Hearing Examiner

BEFORE THE
STATE OF WISCONSIN
DIVISION OF HEARINGS AND APPEALS

Application of Flambeau Mining Company for Permits to Build and Operate a Surface Mine in Rusk County, Wisconsin	)))	Docket No. IH-89-14

FINDINGS OF FACT, CONCLUSIONS OF LAW AND APPROVAL FOR A WASTEWATER TREATMENT FACILITY

FINDINGS OF FACT

1-46. General Findings of Fact 1 through 46 are incorporated herein as if they were set out in full.

47. Design plans and a final engineering report concerning the proposed wastewater treatment facility to be located on the mining site were submitted to the DNR on December 15, 1989.

48. The design plans and engineering report incorporated accepted engineering practices, and the engineering report was signed by Gerald Sevick, a professional engineer registered in the state of Wisconsin. (Exhibit 6).

49. On April 11, 1990, the DNR approved the design plans and engineering report with conditions. (Exhibit 188).

CONCLUSIONS OF LAW

1. The wastewater treatment facility proposed for the Flambeau Mining Corporation mining site in Ladysmith, Wisconsin is an industrial wastewater facility within the meaning of NR 108.02(7), Wis. Adm. Code, and is therefore subject to the plan approval requirements of sec. 144.04, Stats.

2. The Flambeau Mining Corporation and the DNR have complied with sec. 144.04, Stats., requiring the submission and approval of waste water treatment facility plans.

3. The Department has complied with the requirements of ss. 1.11 and 144.836, Stats., regarding analysis of the environmental impacts of the project and evaluation of the alternatives to the proposal.

APPROVAL

The Final Engineering Report for the Flambeau Mining Corporation mining project for Ladysmith, Wisconsin is hereby conditionally approved in accordance with sec. 144.04, Wis. Stats., subject to following conditions.

Conditions to the Approval for the Wastewater Treatment Facility

1. Detailed construction plans and specifications for the wastewater collection, storage, and treatment system, which will discharge through Outfall 002, shall be submitted to the Department for review a minimum of 90 days prior to initiating construction. This system includes two seepage/settling ponds and the addition of polymer/lime. The level of detail of such plans shall be sufficient for actual field construction in accordance with the design basis

approved as presented in the Final Engineering Report and additional communications by Foth & Van Dyke.

2. Detailed construction plans and specifications for the wastewater collection, storage, and treatment facilities which will discharge through Outfall 001 shall be submitted to the Department for review a minimum of 90 days prior to initiating construction. These facilities include two ponds with synthetic liners, described as the surge and the runoff ponds, and the wastewater treatment facility providing lime and sulfide precipitation treatment. The level of detail of such plans shall be sufficient for actual field construction of these units in accordance with the design basis approved as presented in the Final Engineering Report by Foth & Van Dyke. Additional items to be included in the construction plans and specifications required by Chapter NR 213, Wis. Adm. Code, are summarized in the "Report on the Examination of Plans and Specifications" issued to the permittee on April 12, 1990.

3. Construction shall not commence until the Department has determined in writing that the submittals required by conditions 1 and 2 are acceptable.

4. A construction documentation report shall be submitted by a registered professional engineer documenting construction in accordance with the design basis of the treatment systems presented in the Final Engineering Report and subsequently submitted construction plans and specifications referenced in 1 and 2 above.

5. Additional treatment to satisfy the effluent limits at both Outfall 001 and 002 shall be provided following approval by the Department, in the event that the wastewater treatment systems constructed in accordance with the design basis presented in the Final Engineering Report cannot reliably and consistently comply with the effluent limits (reference WPDES permit No. WI-0047376-1). An assessment of the need for additional and alternative treatment to satisfy effluent limits will be required following the determination by the Department that performance of the treatment systems has caused violations of the effluent limits.

6. All existing treatment facilities be operated as effectively as possible during the course of the construction period and that the proposed system be operated effectively when it is placed in operation.

7. The Department be notified when construction has commenced, completed, and again when the facilities are placed in operation.

8. A certified operator be retained to operate the treatment facilities when they are placed in operation.

9. An operation and maintenance manual for operation of the settling ponds and the lime/sulfide precipitation plant be prepared and submitted to the Department for review within 60 days of start-up of the respective treatment systems.

10. All solids and sludges resulting from the treatment of these wastewaters be disposed of in accordance with the conditions of the mining permit issued for the facility.

11. A competent resident inspector be provided during the course of the construction and installation of the synthetic liners, as well as the wastewater treatment units.

12. The wastewater treatment systems be installed in accordance with the design basis as presented in the Final Engineering Report, and the above conditions, or subsequent essential and approved modifications.

Dated at Madison, Wisconsin on January 14, 1991.

STATE OF WISCONSIN
DIVISION OF HEARINGS AND APPEALS
5005 University Avenue, Suite 201
Madison, Wisconsin 53705

By David H Schwarz
David H. Schwarz, Hearing Examiner

NOTICE

Set out below is a list of alternative methods available to persons who may desire to obtain review of the attached decision of the Hearing Examiner. This notice is provided to insure compliance with sec. 227.48, Stats., and sets out the rights of any party to this proceeding to petition for rehearing and administrative or judicial review of an adverse decision.

1. Any party to this proceeding adversely affected by the decision attached hereto has the right within twenty (20) days after entry of the decision, to petition the Secretary of the Department of Natural Resources for review of the decision as provided by Wisconsin Administrative Code NR 2.20. A petition for review under this section is not a prerequisite for judicial review under ss. 227.52 and 227.53, Stats.

2. Any person aggrieved by the attached order may within twenty (20) days after service of such order or decision file with the Department of Natural Resources a written petition for rehearing pursuant to sec. 227.49, Stats. Rehearing may only be granted for those reasons set out in sec. 227.49(3), Stats. A petition under this section is not a prerequisite for judicial review under ss. 227.52 and 227.53, Stats.

3. Any person aggrieved by the attached decision which adversely affects the substantial interests of such person by action or inaction, affirmative or negative in form is entitled to judicial review by filing a petition therefore in accordance with the provisions of ss. 227.52 and 227.53, Stats. Said petition must be filed within thirty (30) days after service of the agency decision sought to be reviewed. If a rehearing is requested as noted in paragraph (2) above, any party seeking judicial review shall serve and file a petition for review within thirty (30) days after service of the order disposing of the rehearing application or within thirty (30) days after final disposition by operation of law. Since the decision of the Hearing Examiner in the attached order is by law a decision of the Department of Natural Resources, any petition for judicial review shall name the Department of Natural Resources as the respondent. Persons desiring to file for judicial review are advised to closely examine all provisions of ss. 227.52 and 227.53, Stats., to insure strict compliance with all of its requirements.

The Secretary of the Department of Natural Resources is located at 101 South Webster Street, Madison, Wisconsin. The mailing address is:

Secretary, Department of Natural Resources
P. O. Box 7921
Madison, Wisconsin 53707