

BEFORE THE STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

**FINDINGS OF FACT,
CONCLUSIONS OF LAW AND
REVISED MINING PERMIT - FLAMBEAU MINING COMPANY**

Findings of Fact

1. Flambeau Mining Company is a wholly owned subsidiary of Rio Tinto whose principal address is 4700 Daybreak Parkway, South Jordan, Utah 84095.
2. Flambeau Mining Company owns, and is responsible for, the 181-acre Flambeau Mine property, located on State Highway 27, Ladysmith Wisconsin 54848 (“mining site”).
3. On January 14, 1991, the Wisconsin Department of Natural Resources (“Department”) issued a Mining Permit (IH-89-14) to Flambeau Mining Company. As part of its mining permit application, Flambeau Mining Company submitted a reclamation plan. The Mining Permit (IH-89-14) included a Reclamation Plan Approval.
4. On January 8, 1998, Flambeau Mining Company requested a modification of the Mining Permit and Reclamation Plan. Under the requested modification, the final land use for a 32-acre portion of the mining site would be modified to allow for an alternate use of the on-site buildings and other facilities for use by the Ladysmith Community Industrial Development Corporation. The Department approved the modification on July 30, 1998, (“1998 Modification Approval”) and required that the parcel, termed the Industrial Outlot, be put to an acceptable use by the end of 2004. By correspondence dated February 18, 2005, and July 28, 2005, the Department determined that the Industrial Outlot portion of the mining site had been put to acceptable alternate uses and that no further reclamation activities were required.
5. On May 17, 2000, the Department established alternative concentration limits for specific groundwater quality parameters at certain groundwater monitoring points on the mining site.
6. On September 4, 2001, Flambeau Mining Company submitted a Notice of Completion of Reclamation to the Department for the Flambeau Mine site in accordance with s. 293.63(1) (2001), Wis. Stats., s. NR 132.13(1) (2001), Wis. Adm. Code, and Condition #17 of the Reclamation Plan Approval.

7. The Department concurred with the Notice of Completion of Reclamation on March 8, 2002, and set November 1, 2001, as the effective date of the notice.
8. On January 9, 2007, Flambeau Mining Company petitioned the Department for a Certificate of Completion of Reclamation for the entire mining site in accordance with s. 293.63, Wis. Stats., and s. NR 132.13, Wis. Adm. Code.
9. A contested case hearing was conducted pursuant to s. 293.43, Wis. Stats., on May 30 and 31, 2007. The parties to the hearing entered a stipulated agreement by which a partial Certificate of Completion of Reclamation would be granted to Flambeau Mining Company.
10. The Stipulation and Order entered in Case No. IH-07-05, issued on May 31, 2007, (“Stipulation and Order”) approved issuance of a Certificate of Completion of Reclamation for 149 acres of the 181-acre Flambeau Mine site. The Industrial Outlot was to be excluded from the Certificate of Completion of Reclamation.
11. Condition no. 6 of the Stipulation and Order required Flambeau Mining Company to conduct specific monitoring after issuance of the Certificate of Completion. Flambeau Mining Company conducted the required monitoring and has satisfied condition no. 6 of the Stipulation and Order.
12. The Department sent a letter dated August 10, 2007, to Flambeau Mining Company which confirmed that the May 31, 2007, Order (Case No. IH-07-05) had granted a Certificate of Completion to Flambeau Mining Company for 149 acres of the Flambeau Mine site and listed required follow up actions for Flambeau Mining Company related to maintenance of the reduced reclamation bond and long-term care activities.
13. Flambeau Mining Company has met all the requirements specified in the *Follow-up Actions* section of the August 10, 2007, letter from the Department summarizing issues related to the Certificate of Completion issued in 2007 for 149 acres of the mining site that excludes the Industrial Outlot.
14. In accordance with that letter, Flambeau Mining Company has submitted a reclamation bond currently in the amount of \$2,200,000 and a bond currently in the amount of \$956,823.00 to cover long-term costs.
15. The Stipulation and Order provides that Flambeau Mining Company would not request a Certificate of Completion of Reclamation for the Industrial Outlot for at least three years from the date of the Stipulation and Order. Further, the Stipulation and Order specifies that Flambeau Mining Company need not file a separate Notice of Completion of Reclamation for the Industrial Outlot, finding that the Notice of Completion of Reclamation submitted by Flambeau Mining Company in 2001 covered the Industrial Outlot.

16. On or about November 13, 2018, the Flambeau Mining Company submitted a request to the Department for modifications to the Updated Monitoring Plan which includes an updated Quality Assurance Project Plan. The modification, as revised by the Department, was approved on October 4, 2019, and Flambeau Mining Company submitted a revised monitoring plan (“2020 Updated Monitoring Plan”) to reflect the revisions.

17. Monitoring and long-term care activities have continued on the reclaimed mining site in accordance with the Mining Permit and the 2020 Updated Monitoring Plan.

18. On November 4, 2021, Flambeau Mining Company submitted a petition seeking issuance of a Certificate of Completion of Reclamation for the Industrial Outlot.

19. The DNR issued a public notice on June 6, 2022, announcing that it would conduct a public informational hearing to consider the petition seeking issuance of a Certificate of Completion of Reclamation for the Industrial Outlot and a Revised Mining Permit and providing for a public comment period before and after the hearing. The public notice also included information describing the availability of the DNR’s draft decision document regarding the Certificate of Completion of Reclamation and a Revised Mining Permit.

20. The Department held an informational hearing on July 6, 2022. The hearing was conducted virtually and provisions were also made to accept in-person statements at the Ladysmith Service Center. The hearing began at 4:00 p.m. and the link to the virtual hearing remained open, with DNR staff available, until 6:00 p.m.

21. Thirteen people signed into the virtual meeting and three people were in attendance at the Ladysmith Service Center. Four individuals made oral statements during the hearing.

22. The Department kept the hearing record open until July 21, 2022, for receipt of written public comment. The Department received written comments from five individuals and joint comments on behalf of three environmental organizations.

23. The Department has reviewed the public comments, Flambeau Mining Company’s petition, and the information in the Department’s files on the reclaimed Flambeau Mine project as related to whether a Certificate of Completion of Reclamation should be issued for the Industrial Outlot.

24. The Department determined that Flambeau Mining Company has reclaimed and maintained the Industrial Outlot portion of the mining site as required under the approved Reclamation Plan, as amended by the 1998 Modification Approval, and as provided in the Stipulation and Order, related to issuance of the Certificate

of Completion of Reclamation for the Industrial Outlot. The Certificate of Completion of Reclamation for the Industrial Outlot portion of the mining site was issued on December 20, 2022.

25. The Certification of Completion of Reclamation issued in 2007 signified that Flambeau Mining Company had fulfilled the requirements of reclamation for the mining site, except for the Industrial Outlot. As a result, the Certification of Completion of Reclamation for the Industrial Outlot, considered together with the 2007 Certification of Completion of Reclamation, signifies that Flambeau Mining Company has fulfilled the requirements of reclamation for the entire mining site.

26. The Department has considered the public comments and the information in the Department's files on the reclaimed Flambeau Mine project as related to the conditions that are required in the Revised Mining Permit. The response to comments document summarizes the decisions made by the department on suggested additional permit conditions.

27. The Department has been engaged with Flambeau Mining Company on a study of Stream C to determine if Stream C is attaining its designated uses. The Department anticipates the Company will initiate assessment activities in 2023. The Department will determine what, if any, additional monitoring or other actions are needed once the study is completed.

Conclusions of Law

1. Pursuant to ch. 293, Wis. Stats., Flambeau Mining Company holds a valid nonferrous mining permit.

2. Pursuant to s.293.63(1), Wis. Stats., the Department conducted a public informational hearing concerning Flambeau Mining Company's petition for issuance of a Certificate of Completion of Reclamation for the Industrial Outlot and the Draft Revised Mining Permit. The hearing was conducted, and public notice was provided, in conformance with the requirements of s. 293.43, Wis. Stats.

3. Pursuant to s. 293.43(4m), Wis. Stats., the Department has prepared a summary of the comments received at the hearing and the Department's response to the comments.

4. Pursuant to s. NR 150.20(3), Wis. Adm. Code, a prior compliance action does not require additional environmental analysis under ch. NR 150, Wis. Adm. Code, because one or more environmental analysis documents exist for prior actions that are similar to the proposed action in kind, scale, and environmental setting.

5. Pursuant to s. 1.11, Wis. Stats., and s. NR 150.03(8)(e)1. (1990), Wis. Adm. Code, an Environmental Impact Statement (EIS) was prepared prior to the issuance of the original Mining Permit (IH-89-14) to Flambeau Mining Company.
6. Pursuant to s. NR 150.20(3)(b), Wis. Adm. Code, the Department concludes that the revision of the Mining Permit is appropriately a prior compliance action as an EIS exists for the issuance of the original Mining Permit. As such, this action does not require additional environmental analysis review under s. 1.11, Wis. Stats.
7. Pursuant to s. 293.63, Wis. Stats., the Department has issued two Certificates of Completion of Reclamation for the Flambeau Mining Company mining site. With these two certifications, the Department has certified that the entire mining site has been reclaimed in accordance with the Reclamation Plan, as modified in 1998.
8. Pursuant to s. NR 132.122(7)(b), Wis. Adm. Code, the Department is required to issue a Revised Mining Permit upon issuance of the Certificate of Completion of Reclamation of the entire mining site.
9. Pursuant to s. NR 132.122(7)(b), Wis. Adm. Code, a Revised Mining Permit shall specify acceptable uses of the reclaimed mining site consistent with the Reclamation Plan, approved maintenance activities, monitoring and reporting requirements, and other conditions necessary to ensure compliance with the applicable minimum standards of s. 293.13(2)(c), Wis. Stats.
10. Pursuant to s. 293.49(7), Wis. Stats., the Department is authorized to require a person that holds a mining permit to conduct environmental monitoring until the full release of the reclamation bond submitted under s. 293.51(1), Wis. Stats.
11. Pursuant to s. 293.15(9), Wis. Stats., and ss. NR 132.112 and NR 182.119, Wis. Adm. Code, the Department is authorized to grant exemptions or variances from any requirement of ch. NR 132 or NR 182, Wis. Adm. Code, applicable to a mining permit.
12. Pursuant to s. 293.51(1), Wis. Stats., Flambeau Mining Company has submitted a reclamation bond in the amount specified by the Department and satisfying all other requirements of s. 293.51(1), Wis. Stats.
13. Pursuant to s. 293.63(3), Wis. Stats., the Department is authorized, upon issuance of a Certificate of Completion of Reclamation for the entire mining site, to require the permit holder to maintain a bond equal to at least 20 percent of the cost to the State for reclamation of the entire mining site.
14. Pursuant to s. NR 132.122(7)(a), Wis. Adm. Code, in the event Flambeau Mining Company fails to take appropriate and timely action as directed in an order issued by the Department, the Department is authorized to access the reclamation

bond posted under s. 293.63(3), Wis. Stats., to complete any necessary maintenance or stabilization activities that are needed to ensure stability of the mining site.

15. Pursuant to s. 293.63(4), Wis. Stats., the Department is authorized to release the remaining reclamation bond 20 years after issuance of the Certificate of Completion of Reclamation for the entire nonferrous mining site.

16. Pursuant to s. 289.41(1m)(g), Wis. Stats., Flambeau Mining Company is required to maintain proof of financial responsibility for long-term care of the backfilled pit, a mining waste facility, for a period of at least 40 years following closure of the facility which occurred on May 31, 2007.

Revised Mining Permit

1. Pursuant to s. NR 132.122(7)(b), Wis. Adm. Code, Flambeau Mining Company is hereby issued a Revised Mining Permit, replacing the Mining Permit issued on January 14, 1991 (Division of Hearings and Appeals Docket No. IH-89-14). The Revised Mining Permit is set forth below and contains the following remaining relevant conditions from the original Mining Permit and modifications to that Mining Permit, as well new additional conditions.

- a. The permit shall remain in effect until the full reclamation bond has been released by the Department pursuant to s. 293.63(4), Wis. Stats., unless the permit is revoked, cancelled or modified in accordance with the provisions of ch. 293, Wis. Stats.
- b. Flambeau Mining Company shall maintain the reclamation bond required under s. 293.51(1), Wis. Stats.
- c. The reclamation bond shall remain in force until released by the Department which may not occur until at least 20 years after the date of this decision.
- d. Flambeau Mining Company shall maintain the bond posted under s. 293.51(1g), Wis. Stats., covering long-term care activities related to the mining waste facility portion of the mining site as required under s. 289.41(1m)(g), Wis. Stats.
- e. Flambeau Mining Company shall continue licensure of the mining waste facility portion of the mining site in accordance with s. NR 182.111(3), Wis. Adm. Code.
- f. Flambeau Mining Company shall continue to conduct environmental monitoring and long-term care activities as described in the 2020 Updated Monitoring Plan. If Flambeau Mining Company proposes additional

changes to the monitoring plan, such changes shall be reviewed by the Department as a modification under s. NR 132.120, Wis. Adm. Code, and s. 293.55, Wis. Stats.

- g. Flambeau Mining Company shall maintain all necessary monitoring devices, including wells and piezometers, in good working condition and shall replace or repair any damaged or inoperable devices, as needed.
- h. Flambeau Mining Company shall maintain the mining site to manage surface water runoff and minimize, to the extent practicable, erosion and sedimentation, and shall repair any areas of excessive erosion, perform routine maintenance, and augment, as necessary, any components of the surface water management system to ensure effective and controlled drainage from the site. Any construction activities affecting the surface water drainage system shall be conducted in compliance with applicable regulatory authorities.
- i. If in the course of conducting routine monitoring, maintenance or other construction activities on the site, materials or conditions that could result in significant environmental pollution are encountered, Flambeau Mining Company shall notify the Department within five business days and formulate a plan to investigate and report to the Department on any necessary actions to address the issue in accordance with applicable law and regulatory requirements.
- j. The approved land uses for the site are: wildlife habitat; light recreation including, but not limited to, hiking and equestrian trails; an equestrian trailhead; limited-use access roads and parking areas; and occupancy and use of the existing buildings. Any proposed changes in land use shall be reviewed by the Department as a modification under s. NR 132.120, Wis. Adm. Code, and s. 293.55, Wis. Stats.
- k. Flambeau Mining Company may conduct reclamation-related maintenance activities such as periodic controlled burning, mowing and vegetation augmentation, should they be necessary to maintain the overall condition of the vegetative communities established during final site reclamation. Any controlled burns shall be conducted in compliance with all applicable fire control requirements of the Department and local authorities.
- l. By January 31 of each year, Flambeau Mining Company shall submit an annual report to the Department covering the period of January 1 through December 31 of the preceding year. The annual report shall summarize and document all monitoring activities including assessments of any trends detected and any exceedances of groundwater quality standards at

the intervention boundary, assess the backfilled pit water quality and potential impacts to the Flambeau River, summarize any routine maintenance activities conducted on the mining site, qualitatively discuss and document overall site conditions, identify any deviations or unanticipated conditions experienced during the year, summarize any remedial measures implemented to prevent or mitigate significant environmental pollution, and document continued coverage of the reclamation bond and long-term care bond required under s. 293.51, Wis. Stats.

- m. As established in the Mining Permit (IH-89-14), 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.
- n. As established in the Mining Permit (IH-89-14) (Table 1) and as modified by the Department’s May 17, 2000, decision (Table 2), the groundwater standards to be applied at the compliance boundary are as follows:

Table 1. Groundwater Standards from Mining Permit (IH-89-14)

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/L unless otherwise noted)
Chloride	250
Color	15 color units
Copper	1.0
Foaming Agents	0.5
Iron*	0.3
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 (µg/L)
Alachlor	0.5
Aldicarb	10
Atrazine	3.5
Bacteria, Total Coliform	The standard for bacteria is dependent on the analytical method used. See Wis. Admin. Code § NR 140 for additional discussion.
Butylate	67
Carbofuran	50
Cyanazine	12.5

Cyanide	200
1,2-Dibromoethane	0.01
1,2-Dibromo-3-chloropropane	0.05
(DBCP) 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

*Alternative Concentration Limits for Iron, Manganese, and Total Dissolved Solids were established by the Department for specific wells. See Table 2.

Table 2. Alternative Concentration Limits (established May 17, 2000)

Alternative Concentration Limits for Groundwater Monitoring (mg/L)			
Monitoring Well	Iron	Manganese	Total Dissolved Solids
MW-1002		0.21	
MW-1004		0.28	1,234
MW-1004P	0.60		
MW-1005	27.6	1.31	1,000
MW-1005S	4.88	0.32	
MW-1005P	1.4		

- o. As established in the Mining Permit (IH-89-14), 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 by predictive modeling originally presented in Appendix L of the Mining Permit Application and updated in 1997, 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. If such an evaluation has been initiated and is ongoing or if an action under the Contingency Plan has previously been taken, and if subsequent monitoring results are consistent with updated predictive modeling projections and indicate that the groundwater standards will not be exceeded at the compliance boundary and that surface water quality standards will not be exceeded in the Flambeau River, the Department may determine that no additional response is necessary.

- p. Flambeau Mining Company shall intervene as provided in the approved Contingency Plan if analyses of groundwater quality sampling shows a reasonable probability that, without intervention, there may be a violation of the established groundwater quality standards at the compliance boundary or a violation of surface water quality standards as a result of groundwater flow through the backfilled pit into the Flambeau River. Criteria against which “reasonable probability” shall be measured are the results of the most recent predictive modeling submitted by Flambeau Mining Company.

- q. The Contingency Plan remains approved and subject to conditions as established in the Mining Permit (IH-89-14) and is part of this Revised Mining Permit. The portion of the Contingency Plan related to groundwater quality (section 8.1 of the plan) and pertinent conditions are restated below:

Contingency Plan (From Mining Permit Application (IH-89-14), Section 8.1, Groundwater)

Various parameters will be analyzed as part of the groundwater monitoring program. The results of the analyses will be subjected to statistical analysis (multiple analysis of variance) to test for significant changes in the measured levels. If a statistically significant increase is detected, the contingency measures listed below will be implemented. It should be noted that if groundwater quality is determined to be statistically significantly different from background, Flambeau will notify the WDNR within 45 days of making the determination. Any alteration of the approved monitoring program, investigation of the suspected contamination or selection and implementation of remedial actions will be conducted in consultation with the WDNR.

Step No. 1: Review all sampling, sample handling, and analytical procedures used during the monitoring period to determine if the proper procedures were used when the samples were taken.

Step No. 2: Determine what the elevated parameters represent by:

- Determining what the regional variations in groundwater quality are for individual parameters based on published information.
- Determining what the historical site-specific variations in groundwater quality are based on monitoring data.
- Determining if all monitoring wells are showing elevated levels or if the occurrence is localized.

Step No. 3: Resample to verify the analytical results that are in question.

Step No. 4: If similar results occur from the resampling, then determine the significance of the elevated parameter(s) and its potential impact on the environment.

Step No. 5: Based on the relative significance of the elevated parameter(s), determine if immediate action is required or if continued monitoring is sufficient.

Step No. 6: Determine, if possible, what the source of the occurrence is.

During the initial evaluation period, groundwater monitoring will continue according to the normal schedule. Once the evaluation is complete and if it has been concluded that a problem may exist, the next level of investigation will be to determine the extent of the problem. This could require the installation of additional groundwater monitoring wells in the affected area to determine the vertical and horizontal extent of the concern. This exercise could also consist of the use of a contaminant transport computer model analysis to determine the impact of the elevated parameters, and to assist in determining what can be done to correct the situation. The information gathered during this period of investigation will be submitted to the WDNR.

The results of the investigation will determine the remedial action needed to correct the problem. Remedial actions could consist of:

- Additional groundwater monitoring of all aquifer systems located downgradient from the problem area. This would include monitoring on a more frequent basis, but with a limited number of key indicator parameters. It might also include the use of specialized groundwater monitoring wells.
- Repair of the source of the problem.
- Construction of slurry cutoff walls.
- Installation of a series of flow barrier-type groundwater pumping wells.

Contingency Plan Conditions from Mining Permit (IH-89-14)

- i. 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.

- ii. Flambeau shall notify the Department at least 48 hours prior to resampling or remonitoring as part of contingency plan implementation Steps and 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.
- iii. 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.

Greg Pils

Gregory Pils, Director
Bureau of Environmental Analysis & Sustainability

12/20/2022

Date

NOTICE OF APPEAL RIGHTS

If you believe that you have a right to challenge this decision, you should know that the Wisconsin statutes and administrative rules establish time periods within which requests to review Department decisions must be filed. For judicial review of a decision pursuant to sections 227.52 and 227.53, Wis. Stats., you have 30 days after the decision is mailed, or otherwise served by the Department, to file your petition with the appropriate circuit court and serve the petition on the Department. Such a petition for judicial review must name the Department of Natural Resources as the respondent.

To request a contested case hearing pursuant to section 227.42, Wis. Stats., you have 30 days after the decision is mailed, or otherwise served by the Department, to serve a petition

for hearing on the Secretary of the Department of Natural Resources. All requests for contested case hearings must be made in accordance with section NR 2.05(5), Wis. Adm. Code, and served on the Secretary in accordance with section NR 2.03, Wis. Adm. Code. The filing of a request for a contested case hearing does not extend the 30 day period for filing a petition for judicial review.