



The Flambeau Mine: A Case Study

The operators of the Flambeau Mine worked to make it an example of '[promises made, promises kept](#).'¹ As highlighted in the details of this case study, the Flambeau Mine abided by its agreements with the local communities to employ local residents, protect the Flambeau River, and make important contributions to the local economy. The below analysis of the Flambeau Mine demonstrates that through rigorous environmental studies and engineering design, we can responsibly develop our resources, while still protecting our environment.

From Discovery to Permit Approval

The location of the Flambeau ore deposit is in the Township of Grant in Rusk County, which is adjacent to the City of Ladysmith. This deposit was first detected in 1968 and an exploration process soon followed *“based on favorable indications from an airborne geophysical survey.”*¹

It should be noted that on January 1, 1970, the National Environmental Protection Act was signed into law, which *“requires the federal government to use all practicable means to create and maintain conditions under which man and nature can exist in productive harmony.”*² The exploration process at the Flambeau deposit spanned several years and consisted of drilling over 100 holes following the discovery of the deposit in 1968.¹

The project, as it was proposed at the beginning of the permitting process in 1974, would have taken place over the course of two phases with each spanning 11 years.¹ In 1986, the project was reevaluated by Kennecott and it was determined that this mine would be a small open pit mining operation.¹ With this revised plan, the company restarted the permitting process with the DNR in 1987.¹

In 1988, the Local Agreement was signed between Kennecott Minerals and Rusk County, the City of Ladysmith, and the Town of Grant.³ A change in Wisconsin’s mining law in 1988 gave municipalities the ability to establish a local agreement with a mine operator.

*“The local agreement could specify the conditions, terms, restrictions, safeguards and other requirements for the proposed mine which the municipality believed necessary for protecting the public health, safety or welfare of its residents.”*³

¹ <http://dnr.wi.gov/topic/mines/flambeau.html>

² <https://www.epa.gov/nepa/what-national-environmental-policy-act>

³ <http://dnr.wi.gov/topic/Mines/documents/loc-dec.pdf>



There are approximately 100 pages relating to the local agreement regarding the Flambeau Mine, which included information on the conditional use permit and specific provisions contained within the local agreement. In the case of the Flambeau Mine, the local agreement's provisions included:⁴

- Hours of operation
- Acceptable waste types
- Hiring of employees
- Groundwater monitoring wells
- Testing/guarantee of private off-site wells
- Operator responsibility during operation and after closure of the mine
- Local mining impact committee that held public forums and received information from the Flambeau Mine to "maintain familiarity with the ongoing status of the mining operation"

Three years after the permitting process first begun, the DNR issued the project its Final Environmental Impact Statement following a process that included "baseline data gathering" along with working through aspects of "project design and review."¹ Following the Final Environmental Impact Statement, a permit hearing was held and all permits were issued by 1991.¹

According to information provided by Kennecott Minerals to the Regional Planning Commission:

"Kennecott Minerals Company made an initial investment of \$60 million during mine development and initial startup, which included building the water treatment plant."⁴

Construction and Operation of the Flambeau Mine

The Flambeau Mine site covered 181 acres and held a 32-acre open pit where mining operations of the shallow Flambeau deposit occurred.⁵ In 1991, construction of the project began, but it was not until 1993 when the ore was transported by rail to other facilities.⁶ Flambeau's mining operations would take place from 1993 to 1997. During this time period, 3.3 million ounces of silver, 334,000 ounces of gold, and 181,000 tons of commercial copper were extracted from the Flambeau Mine.⁷

According to the Department of Natural Resources (DNR),

"...[the] deposit contained more than 50 percent sulfide minerals, primarily pyrite (iron sulfide), with concentrations of the copper-bearing minerals chalcocite, bornite and chalcopyrite. In addition, the weathered upper portion of the deposit contained higher grades of copper and significant concentrations of gold..."¹

⁴ http://flambeaumine.com/images/fact_sheets/flambeau_mine_socioeconomic_study.pdf

⁵ <https://uwdc.library.wisc.edu/collections/EcoNatRes/Kennecott/>

⁶ http://www.weismuseum.org/uploads/3/4/9/3/34934999/flambeau_revised_final_20140719.pdf

⁷ http://flambeaumine.com/images/fact_sheets/flambeau_overview.pdf



A manager at New Mines Development, a subsidiary of Kennecott Minerals, had the following characterization of this deposit,

“As copper deposits go, the Flambeau ore body is considered on the small to medium size. It’s defined as about 2,400 feet long, 50 feet wide, and extends to a depth of about 800 feet.”⁴

In the end, the mine operated a little more than four years before the pit was backfilled, and reclamation activities began in 1998. The beginning of construction in 1991, marked approximately twenty-three years from when the deposit was first discovered and construction began or twenty-nine years between discovery and the conclusion of mining operations.

Reclamation of the Flambeau Mine

In 1998, reclamation of the pit was completed with “revegetation activities” that took place according to the Reclamation Plan’s vision of this area being used for “light recreation and wildlife habitat.”¹ The following activities were all components of this phase of the Flambeau Mine:¹

- Planting “more than 7,000 plugs of wild strawberries, wild geranium, columbine and woodland sunflowers”
- Planting “more than 2,500 tree and shrub seedlings and about 300 larger trees were transplanted from the on-site nursery”
- Constructed a 8.5-acre wetland that “was planted with more than 10,000 plants and bare rootstock of typical wetland species”
- By the end, “more than 170 different species of plants were seeded or installed on the mining site”
- A public trail system was also created by the Flambeau Mining Company
- At the request of the Ladysmith Community Industrial Development Corporation, with DNR’s permission, “32 acres of the site were set aside for industrial use”⁷ that includes “certain buildings and the rail spur”¹

It was reported that “after mining was completed in 1997, approximately another \$20 million was spent on mine site reclamation.”⁴

Economic Development and Other Contributions:

- Local residents were employed at the Flambeau Mine
 - A minimum of the 75% of the jobs created by the mine had to be local residents that lived within approximately ten miles of the Rusk County border for at least a year before hiring⁴

Natural Resource

DEVELOPMENT ASSOCIATION

- Over the whole project, approximately 81% of the employees were local residents.⁴ During the construction and operations phase of the project, approximately 85% of the employees were local residents.⁸
- According to the Northwest Regional Planning Commission's report on the Flambeau Mine, the positions held by local residents included:
*"Accounting Assistant, Environmental Manager, Laboratory Technicians, Operations/WTP Technicians, Environmental Technician, Engineering Technicians, Chemists, Sample Prep Technicians, Maintenance Technicians, and Administrative Assistants"*⁴
- Wages:
 - In Rusk County, the mining industry contributed to *"the highest wages of any industry"*⁴
 - Multiplier effect of these wages also benefitted the local economy
 - It was *"estimated that for every dollar in salary paid to mine employees, \$2.00 to \$3.00 more circulated through the local economy in the form of tax payments and purchases of other goods and services"*⁴
- Encouraged Tourism to Rusk County
 - Tours of the Mine Site and Mine's Visitor Center attracted people from across Wisconsin, nearby states, and worldwide⁴
 - The company contributed to the Rusk County Economic Development's "Discover Rusk County" promotional material⁴
- Taxes on mining operations benefited local, state, and federal government
 - In fact, *"during the life of the mine, the Flambeau Mining Company paid more than \$27.7 million in taxes and fees to local and state governments in Wisconsin"*⁹
 - According to information provided by Kennecott Minerals,
*"Net sales revenue totaled \$341 million with net income of \$126 million after operating costs and taxes. Operating costs were largely for payroll, material, supplies and services purchased in the local communities, transportation, and environmental protection. Flambeau paid \$64 million in local, state, and federal taxes"*⁴
- Job Creation
 - Employment numbers at the Flambeau Mine during the various phases of the project included:¹⁰
 - 150 people during "construction/preproduction"
 - 60 people during mining operations
 - 80 people during the reclamation process
 - *"A study by the City of Ladysmith showed more than 450 jobs were created or retained because of the Flambeau Mine"*¹⁰

⁸ <http://flambeaumine.com/>

⁹ <http://flambeaumine.com/economic-prosperity>

¹⁰ http://flambeaumine.com/images/fact_sheets/flambeau_economic_development.pdf



After the Flambeau Mine

In 2003, the U.S. Department of Interior's Bureau of Land Management awarded the Hardrock Mineral Award for Community Outreach and Economic Security to Kennecott Flambeau.¹¹ This award "recognizes the successful coordination of projects with local and regional stakeholders" and "focuses on the concern shown for community responsibilities and the economic benefits of mineral development."¹¹

Despite challenges to the Flambeau Mine, a U.S. District Court of Appeals for the Seventh Circuit ruled in 2013 that "Flambeau is deemed to be in compliance with the [Clean Water Act], and summary judgment should have been granted for Flambeau."¹² This ruling followed a lower court's decision where Judge Barbara Crabb recognized,

"...[The Flambeau Mining Company's] exemplary efforts to protect the environment during its mining operations and reclamation effort. These efforts deserve commendation, not penalties."¹³

Over the years, there has been a great deal of discussion regarding the Flambeau Mine and questions over its impact within the surrounding communities. It is important to remember that the majority of the employees of the Flambeau Mine were local residents. The City of Ladysmith's Administrator, Al Christianson, recently published a column called, "The Real Flambeau Story" that explains his local point of view on the Flambeau Mine. In this editorial, he explains that,

"Even though the last ore was mined over two decades ago, Ladysmith continues to get inquiries about supposed mining related problems. That never ceases to amaze me considering local residents like me are unaware of any. Then again, why would we be? They didn't happen. What did happen was the mine provided an incredible economic boost that remains in town today. The city of Ladysmith can thank the Flambeau Mine for a new library, jobs, a new airport, jobs, a new visitor center, jobs, and a new school playground."¹⁴

Visitors to Rusk County can still visit the Flambeau Mine Visitors Center, which was relocated to the Rusk County Historical Museum following its operation at the mine where it greeted more than 100,000 visitors to the Flambeau Mine.¹⁵ A museum display features mineral samples, material on the Flambeau Mine, and additional historical information on mining.¹⁵

Flambeau Mine – By the Numbers:⁴

- Startup cost: \$60 million including the creation of a state-of-the-art water treatment facility
- Net sales tax revenue: \$341 million with \$64 million paid in local, state, and federal taxes

¹¹ <http://www.imcc.isa.us/NewsLetters/NewsOctober2003.htm>

¹² <http://flambeaumine.com/images/pdfs/flambeau-decision-081513.pdf>

¹³ <http://flambeaumine.com/images/pdfs/opinion-and-order-072412.pdf>

¹⁴ <https://www.wispolitics.com/2017/al-christianson-the-real-flambeau-mine-story/>

¹⁵ <http://ruskcountymuseum.com/flambeau-mine-center/>

Natural Resource

DEVELOPMENT ASSOCIATION

- Net proceeds tax: over \$14 million to the state with 60% of this tax going into the Mining Investment and Local Impact Fund with \$200,000 transferred from that fund to the Wisconsin Department of Commerce to help convert the mine's buildings
- Direct guaranteed payments from Flambeau Mining Company to the City of Ladysmith, Town of Grant, and Rusk County: \$2.7 million
 - This means roughly \$8.4 million came back to local governments through *"construction year payments, first dollar payments, additional payments to the County, and discretionary grants"*
- Net income of the project: \$126 million following taxes and operational costs of the mine including payroll, materials, and services for environmental protection and transportation
- Reclamation cost: \$20 million