

US EPA ARCHIVE DOCUMENT

National Historic Preservation Act Section 106 Assessment for the
Kennecott Eagle Mine Project
Underground Injection Control Permit
Marquette County, Michigan

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Submitted to
Environmental Protection Agency Region 5
Chicago, Illinois

CONFIDENTIAL

August 2008

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1.0 Introduction

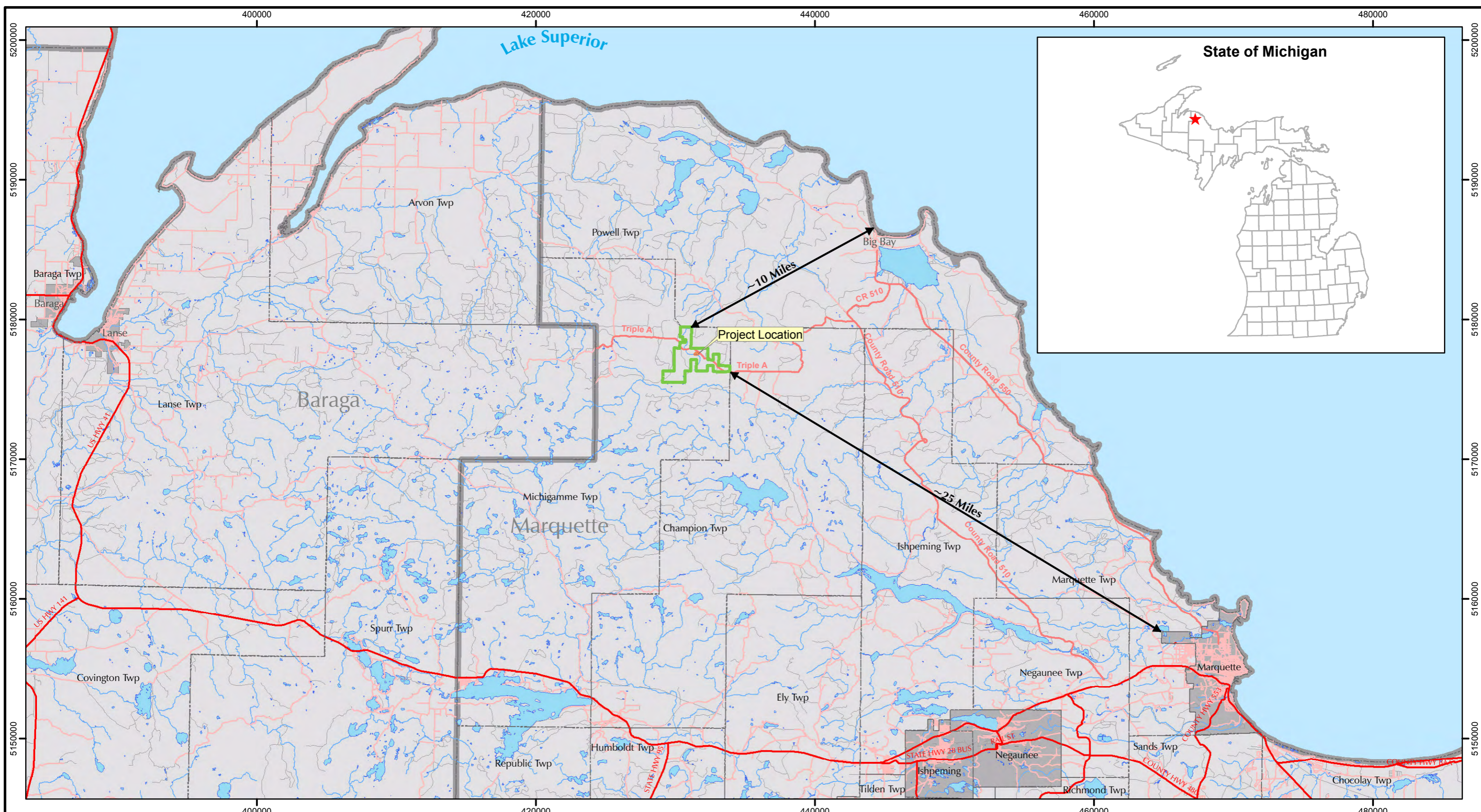
1.1 Purpose of the Report

The Kennecott Eagle Mine is proposed for Michigamme Township, Marquette County, Michigan, about 20 miles northwest of the City of Marquette. The proposed underground mine will entail the extraction of nickel and copper, with lesser amounts of cobalt and platinum group elements. The project area is located in Sections 11 and 12, T50N-R29W, on land that is zoned for mineral resource production (Figure 1-1 and Figure 1-2). The main surface facilities are located in the NW ¼ of Section 12, and the ore body is located in the N ½ of Section 11 (Figure 1-3). The overall surface area for the project is about 145 acres owned or leased by Kennecott Eagle Minerals Company (Kennecott), encompassing a fenced facility and an access road, while the area that will be disturbed for the facility is 97.8 acres. The mineral deposit's footprint is about six acres underground.

In February 2006, after the passage of a new state mining statute and implementing rules, and several years of environmental studies, Kennecott submitted its Mining Permit Application and Environmental Impact Assessment, Groundwater Discharge Permit Application, and Air Pollution Control Permit Application for the project, as required under Parts 632, 31 and 55 of the Michigan Natural Resources and Environmental Protection Act. The Michigan Department of Environmental Quality (DEQ) conducted its review with a mining team assembled from the DEQ and Michigan Department of Natural Resources (DNR) divisions with specialized expertise and members of the public. DEQ requested additional information from Kennecott, held public hearings, and issued the permits in December 2007.

In April 2007, Kennecott applied to the U.S. Environmental Protection Agency (EPA), Region 5, for an Underground Injection Control Permit (UIC) to handle the injection of treated water (the UIC permit application is attached as Appendix B). EPA has indicated that this constitutes an undertaking that is subject to review under Section 106 of the National Historic Preservation Act of 1966, as amended. Although Kennecott believes that the undertaking for the UIC permit is limited to the underground injection gallery, rather than including the entire mining project (see letter from Kennecott to EPA, dated May 20, 2008), the company asked qualified professional archaeologists, historians, and anthropologists to conduct historic property studies of the project's construction footprint for archaeology and a somewhat larger area for traditional cultural properties.

Historic properties usually consist of prehistoric and historic-period archaeological sites, historical buildings and structures, and traditional cultural properties. They are termed "historic" if they are listed in, or eligible for listing in, the National Register of Historic Places. Traditional cultural properties are places that are important for their association with a community's cultural practices or beliefs that are rooted in the community's history and important to maintaining its cultural identity. This report describes the research methods and findings of the historic property studies.



- NOTES**
1. Surface property boundary as of November 18, 2004 supplied by Kennecott via Golder & Associates Inc., August, 2005.
 2. Horizontal datum based on NAD 83/94. Horizontal coordinates based on UTM Zone 16.
 3. All base information downloaded from Michigan Center of Geographic Information (<http://www.michigan.gov/cgi>).
 4. Site Location - Project Site within Sections 11 & 12, T50N, R29W, Town of Michigamme, Marquette County, Michigan.

LEGEND

| | |
|-----------------------------|-------------|
| Counties | Highways |
| Minor Civil Divisions | Major Roads |
| Kennecott Surface Ownership | Minor Roads |
| Lakes and Rivers | |

Figure 1-1. Project Location.

| Foth & Van Dyke | | | |
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Kennecott Eagle Minerals

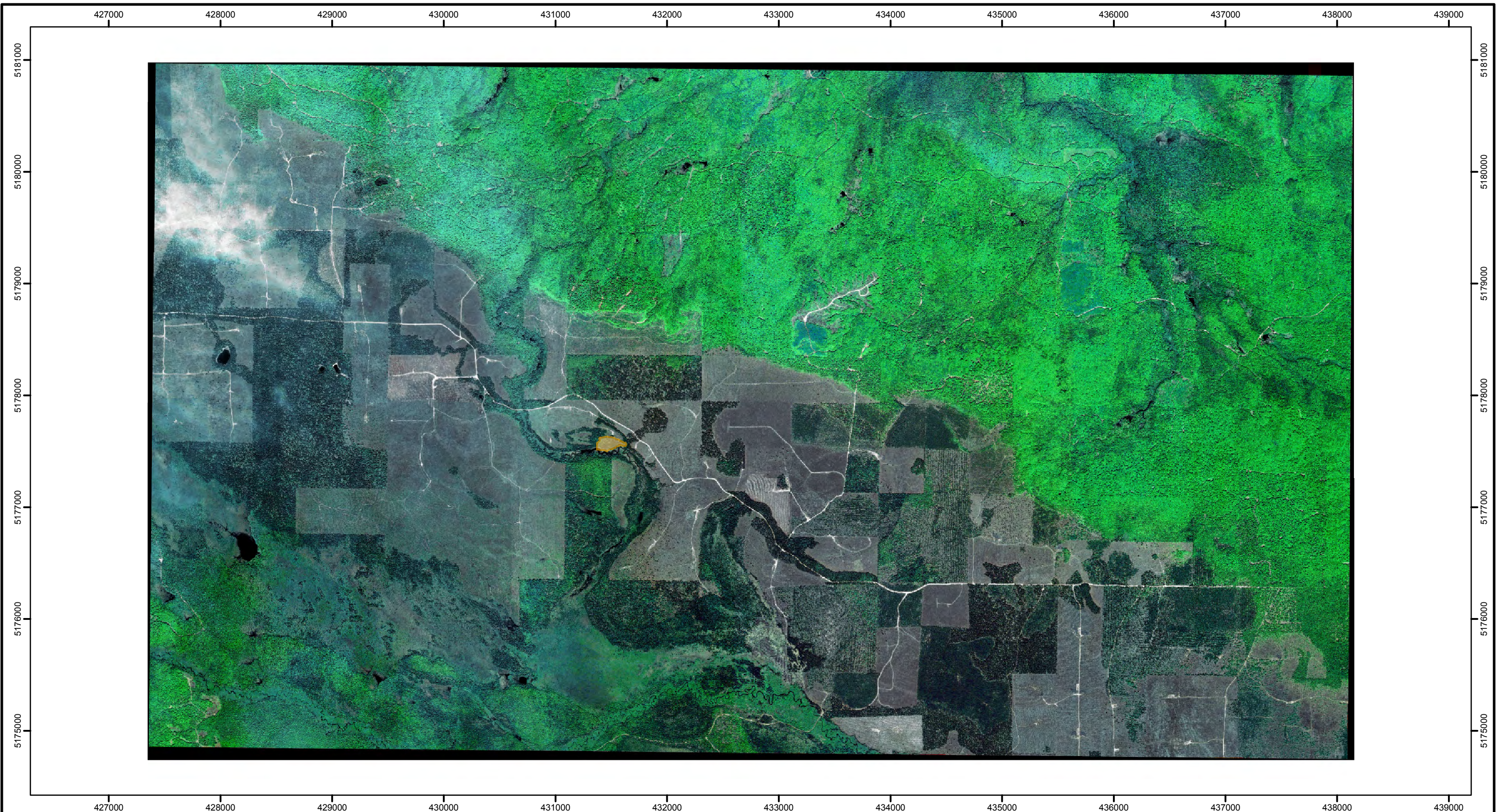
FIGURE 1-1
PROJECT LOCATION

Scale: 0 2 4 Miles


Date: FEBRUARY, 2006

Prepared by: **Foth & Van Dyke** By: DAT 04W018





- NOTES**
- Horizontal datum based on NAD 83/94.
Horizontal coordinates based on UTM Zone 16.
 - Aerial Photography supplied by Digital Globe, Kennecott data purchase was in May of 2003. Date of Photography: May 2002
 - Site Location - Project Site within Sections 11 & 12, T50N, R29W, Michigamme Township, Marquette County, Michigan.

LEGEND
 Eagle Ore Body



| Foth Infrastructure & Environment, LLC | | | |
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FIGURE 1
 2002 ORTHOPHOTOGRAPHY

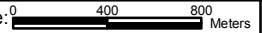
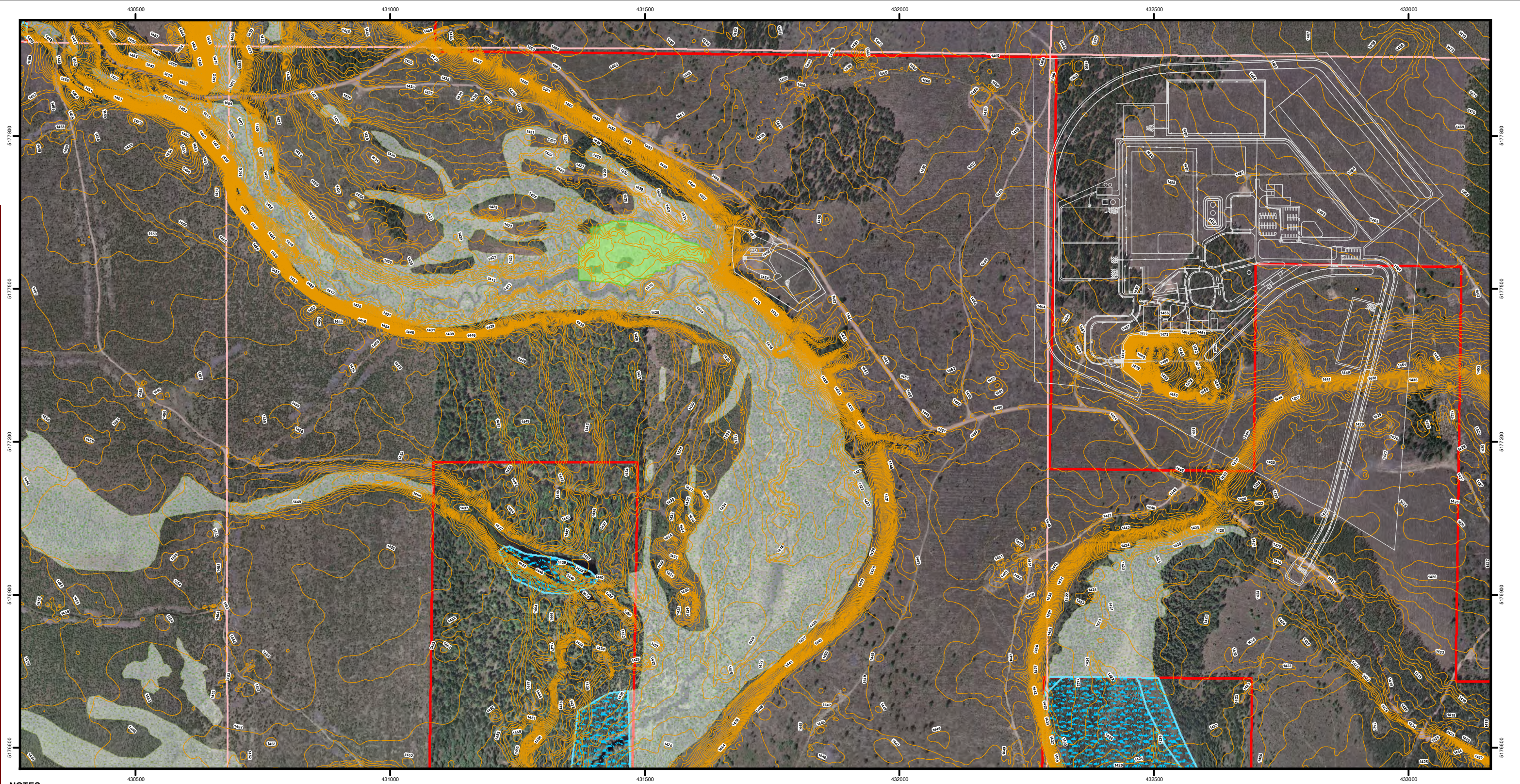
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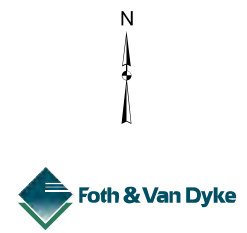
Figure 1-2. Orthographic Map of Yellow Dog Plains Including Eagle Project Site.



- NOTES**
1. Date of photography June 2, 2004, supplied by Aero-metric Engineering, Sheboygan, Wisconsin.
 2. Mine plan data adapted from McIntosh Engineering, Inc., Tempe, Arizona.
 3. Surface property boundary as of November 18, 2004 supplied by Kennecott via Golder & Associates Inc., August, 2005.
 4. Contour interval based on NAVD 1988. Horizontal datum based on NAD 83/94. Horizontal coordinates based on UTM Zone 16.
 5. Ore body, wetland boundary (Wetland and Coastal Resources) and topography supplied by Golder & Associates, Inc. August, 2005.
 6. US Fish and Wildlife Service Wetlands downloaded from USFWS website.
 7. Site Location - Project Site within Sections 11 & 12, T50N, R29W, Town of Michigamme, Marquette County, Michigan.

LEGEND

- Eagle Deposit
- Kennecott Surface Ownership
- Location of Surface Facilities
- WCR Wetland Boundary
- Wetlands adapted from US Fish and Wildlife Service Wetlands Inventory Map
- Existing Elevation Contour ft MSL, Contour Interval 1 ft
- Section Lines



| Foth & Van Dyke | | | |
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FIGURE 3-3
PROJECT FACILITY PLAN ON AERIAL PHOTOGRAPH

Scale: 0 300 600 Feet

Date: FEBRUARY, 2006

Prepared by: **Foth & Van Dyke**

By: DAT

04W018

Figure 1-3. Aerial photograph of Project Facility Plan.

1.2 Report Organization

This section provides a brief description of the project. Section 2 summarizes the applicable federal and state laws, regulations, and guidelines, and Section 3 describes consultation that has taken place with state agencies and tribal governments. The historical context and land use history of the project site and its vicinity are discussed in Section 4. Section 5 summarizes the Phase I archaeological studies that took place in 2004 and 2005, and it presents the findings of follow-up work conducted in 2008. This section concludes that there are no archaeological sites that meet the criteria for listing in the National Register of Historic Places.

Section 6 examines whether any traditional cultural properties exist in the project area. The section also analyzes assertions that the rock outcrop in the project area is a traditional cultural property (TCP) eligible for listing in the National Register of Historic Places and concludes that the evidence does not support eligibility.

Section 7 gives the report's conclusions. References cited appear at the end of each of the report's major sections. The appendices provide copies of the resumes for the report authors (Appendix A), a copy of the UIC permit application (Appendix B), a copy of the state Surface Use Lease (Appendix C), consultation documents (Appendix D), the Phase I archaeological report (including site inventory forms) and a related technical memorandum (Appendix E), and a copy of testimony provided by KBIC representatives at the Michigan DEQ's contested case hearing, in which KBIC and others are challenging Kennecott's state permits (Appendix F).¹

The report's authors are experts in history, archaeology, anthropology, and the Section 106 review process; their resumes appear in Appendix A. Dr. Emily Greenwald, author of Section 4, is an Associate Historian at Historical Research Associates, Inc., with 14 years experience as a professional historian. Dr. Christopher Bergman, Principal Investigator for the archaeological work and author of Section 5, is a Registered Professional Archaeologist. He is a Principal Archaeologist at URS Corporation, with over 30 years experience in archaeology and 20 years experience in cultural resource management, including Section 106 compliance. He is also Director of the Cultural Resources Program at URS's Cincinnati Office.

Dr. Paul Driben and Dr. Gail Thompson are the authors of the Section 6 context and analysis of traditional cultural properties.² Dr. Driben is Professor of Anthropology at Lakehead University, with 40 years experience in Ojibwe culture. Dr. Gail Thompson is a Registered Professional Archaeologist and Senior Associate Archaeologist at Historical Research Associates, Inc., with more than 30 years experience in cultural resource management and Section 106 compliance, including almost 20 years working with traditional cultural properties.

The authors carefully researched available information on the project vicinity and believe that the work presented here is reasonably comprehensive, although additional information on the area may exist.

¹ Some lengthy attachments were not included in the appendices. For example, the appendices of the UIC permit application were not included in Appendix B, and the Mining and Reclamation Plan that was part of the Surface Use Lease was not included in Appendix C. These materials can be provided on request.

² Dr. Thompson also authored report Sections 1, 2, and 3.

1.3 Eagle Mine Project Description

The project's state Mining Permit Application, Environmental Impact Assessment, and appendices describe the project and provide information on engineering and environmental studies that have been conducted for the design, construction, operation, closure, reclamation, and post-closure care of the project facilities and site. These documents can be found on the DEQ website, and copies can be provided if desired.

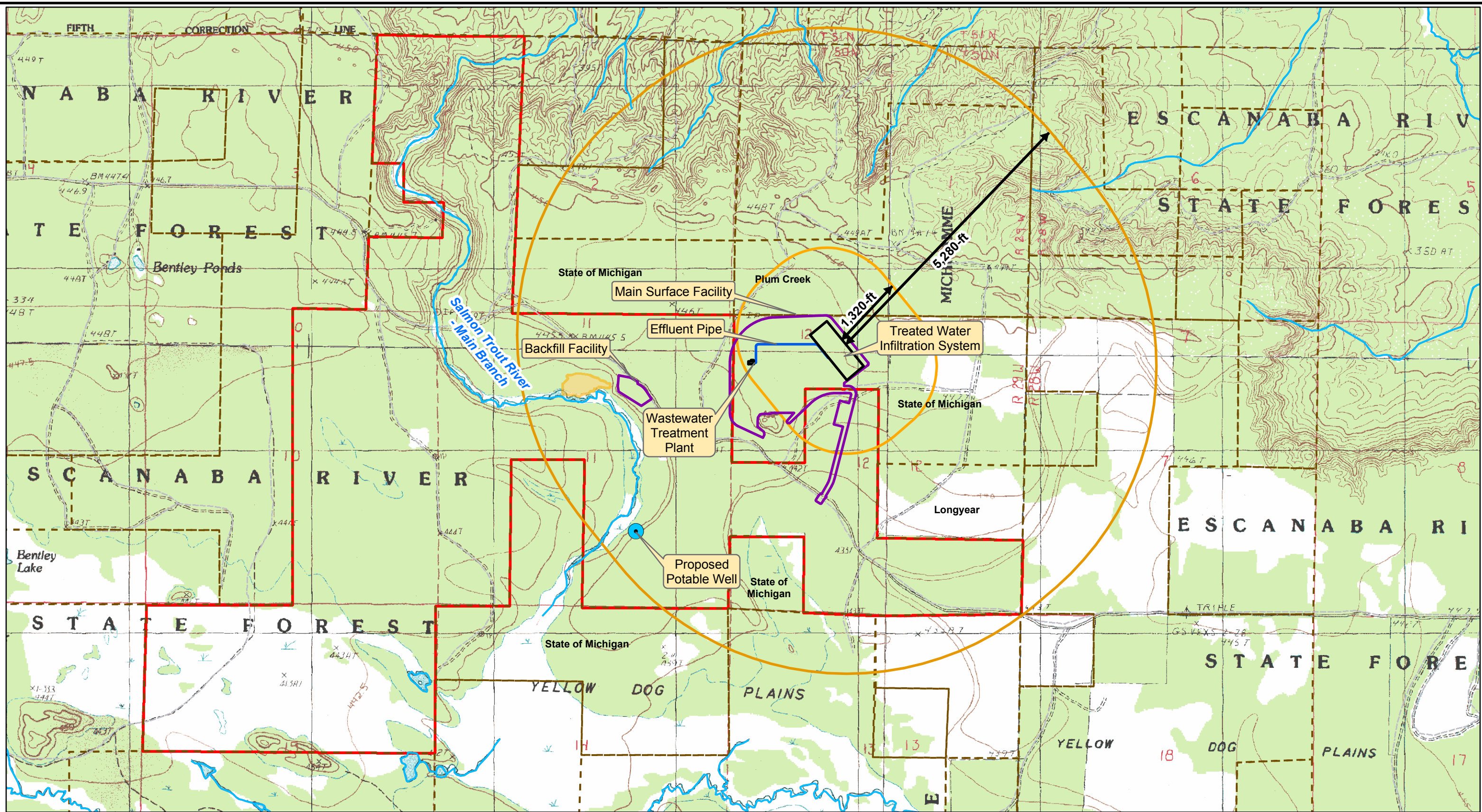
1.3.1 Treated Water Infiltration System

Kennecott's application to EPA, Region 5, is for an Underground Injection Control Permit to handle the injection of treated water. Information about handling treated water is contained in the EPA permit application and in the application for a state groundwater discharge permit. A waste water treatment system will collect and treat contact mine water and dewatering water generated during development, operation, and closure of the Eagle Project mine and its facilities. The treated water will pass through a treated water infiltration system (TWIS) (Figures 1-4 and 1-5), where it will be injected into the ground. Contact mine water and dewatering water will continue to be pumped until the salvageable equipment has been removed and closure operations have been completed. The wastewater treatment plant and the TWIS will continue to operate for as long as required by applicable law. Construction of the TWIS will take about eight weeks.

1.3.2 The Overall Mine Project

Project development will include surface and underground facilities needed to mine the ore body. Figure 1-6 shows a plan view of the facilities encompassed by the Part 632 permit. The criteria used to site the surface facilities and the portal included proximity to the ore body, minimizing disturbance to sensitive surface features and water bodies, minimizing visual impacts from local roads, accessibility to county and state roads, and maintaining the natural topographic configuration of the property during operation and post-reclamation periods.

The main surface facility will be obscured from view by tree-covered areas. Soil berms constructed around most of the facility will further obscure the facilities from view and restrict site access.



- NOTES**
1. Surface Property Boundary as of November 18, 2005 supplied by Kennecott via Golder Associates Inc., August, 2005.
 2. USGS georeferenced Digital Raster Graphics (DRG) quadrangles supplied by Kennecott via Golder Associates Inc., August, 2005.
 3. Horizontal datum based on NAD 83/94. Horizontal coordinates based on UTM Zone 16.
 4. Site Location - Project Site within Sections 11 & 12, T50N, R29W, Town of Michigamme, Marquette County, Michigan.

LEGEND

- Eagle Ore Body
- Location of Surface Facilities
- Kennecott Surface Ownership
- Streams
- Longyear Property Owner



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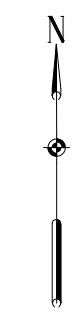
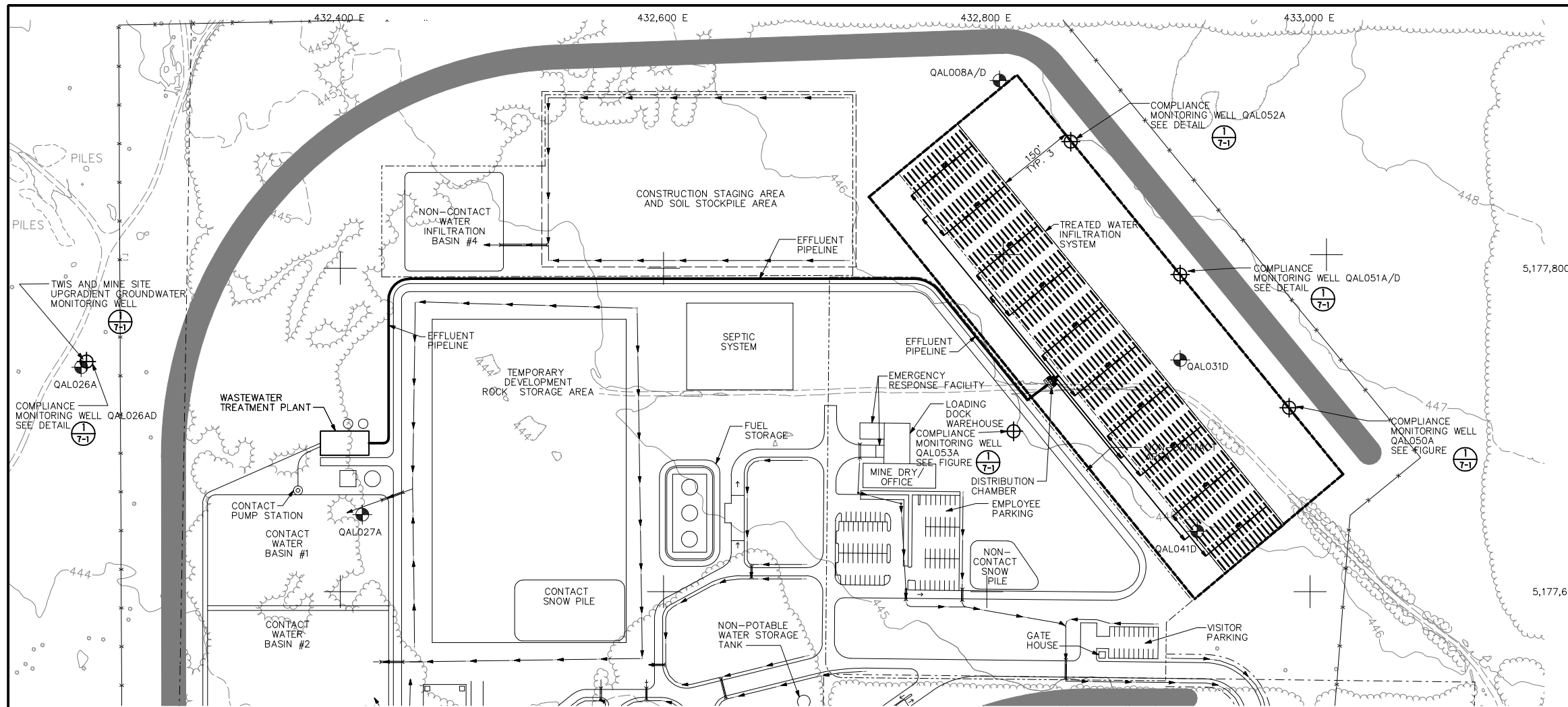
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Kennecott
Eagle Minerals

FIGURE 2
SITE LOCATION MAP

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| Prepared by: DAT | Scope: 04W018 |

Figure 1-4. Location of Treated Water Infiltration System.



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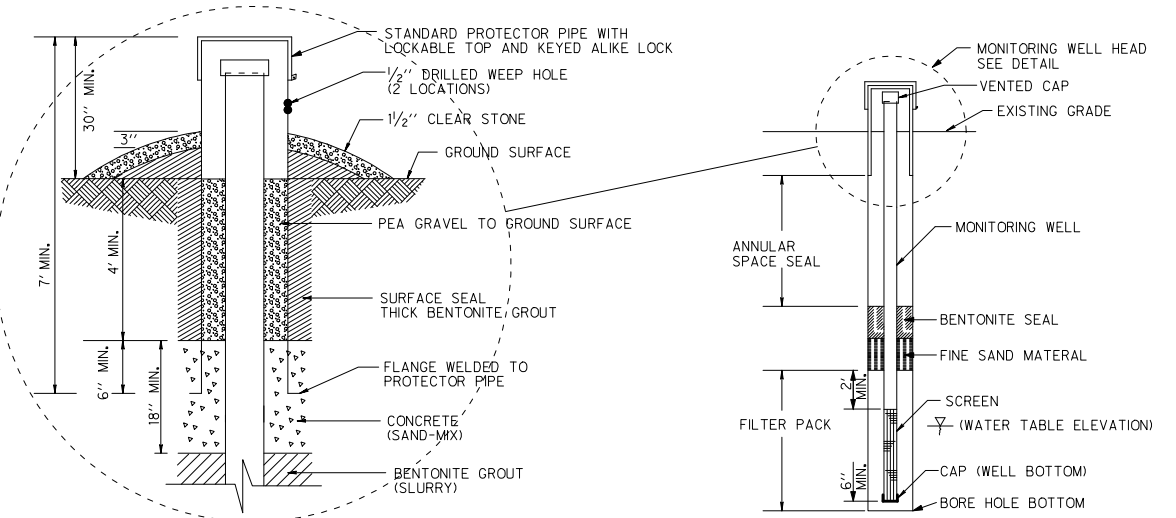
- EXISTING CONTOUR
- UNPAVED ROAD
- TREE
- TREE LINE
- PROPOSED EFFLUENT PIPELINE
- PROPOSED TREATED WATER INFILTRATION SYSTEM AREA
- PROPOSED PERIMETER FENCE
- PROPOSED CULVERT
- PROPOSED VALVE
- PROPOSED DITCH AND FLOW DIRECTION
- TRAFFIC FLOW DIRECTION
- PROPOSED GROUND WATER MONITORING WELL
- EXISTING GROUND WATER MONITORING WELL
- CONTACT PUMP STATION
- INFILTRATION CELL OBSERVATION PIPE
- EXCESS SOIL BERM

TREATED WATER INFILTRATION SYSTEM LAYOUT



NOTES:

1. WELLS QAL041D AND QAL027A TO BE ABANDONED PER R 323.2223 (4)(j)
2. WELL QAL031D TO BE USED FOR MONITORING GROUNDWATER LEVELS ONLY. QAL031D IS NOT A COMPLIANCE MONITORING WELL.



NOTE:
MONITORING WELL SHALL BE CONSTRUCTED, DEVELOPED AND DOCUMENTED IN ACCORDANCE WITH ALL CODE REQUIREMENTS

MONITORING WELL DETAIL
NOT TO SCALE

Figure 1-5. Layout of Treated Water Infiltration System.

| Foth & Van Dyke | | | | | | |
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| | | | | TREATED WATER INFILTRATION SYSTEM LAYOUT AND DETAILS | | |
| | | | | | | |
| | | | | | | |
| CHECKED BY: | | PAK | DATE: | FEB. '06 | Scale: AS SHOWN Date: FEBRUARY, 2006 Prepared By: Foth & Van Dyke By: GJB 04W018 | |
| APPROVED BY: | | SVD1 | DATE: | FEB. '06 | | |
| APPROVED BY: | | | DATE: | | | |

Total rock excavation, including mineable resource and development rock, is estimated to be about 4,100,000 tonnes. The entire project development from construction through operations and closure is expected to take about 11 years, depending on ore production rates. The major surface construction and underground development activities will take about two years, with the mine coming on line in Year 2 and reaching full production in Year 3. The major construction activities include:

- Installing the perimeter fence;
- Preparing the construction staging area and soil stockpile areas;
- Clearing, grubbing, and stripping and stockpiling topsoil;
- Constructing the mine site access road;
- Constructing the Temporary Development Rock Storage Area;
- Constructing the Wastewater Treatment Plant;
- Constructing Contact Water Basins;
- Constructing the Treated Water Infiltration System; and
- Constructing the Non-Contact Water Infiltration Basins.

Under the mining plan described in the Mining Permit Application, the mine portal, which is the entrance to the main access tunnel to the ore body, will be located about 120 feet west of the rock outcrop. Kennecott will construct a decline that will go through bedrock underneath the surface of the rock outcrop to access the ore body approximately one-half mile to the west. The decline will not impact the surface of the rock outcrop.³ The ore will be brought to the surface, crushed, and then transported by truck on the Triple A Road, County Road 510, and County Road 550, and then by rail to Sudbury, Ontario, for further processing.

As part of the process of obtaining a lease from the Michigan DNR for use of certain state land surface, Kennecott conducted an analysis of alternative locations considered for the mine portal and surface facilities. The company considered four portal options and six alternatives for pairing surface facility and portal options, based on criteria involving:

- Portal safety;
- Groundwater protection—available unsaturated zone for groundwater discharge;
- Surface water protection—distance of discharge to surface water down-gradient of facility;
- Watershed location;
- Aesthetics (viewshed);
- Prior disturbance of location; and

³ Tracey Jane Arlaud, an expert in mining engineering, geophysics, and blasting, who works for McIntosh Engineering, has testified that the project, including construction of the portal, would not affect the structural integrity of the rock outcrop. "Testimony," (given in the matter of The Petitions of the Keweenaw Bay Indian Community, Huron Mountain Club, National Wildlife Federation, and Yellow Dog Watershed Environmental Preserve, Inc., on permits issued to Kennecott Eagle Minerals Company, May 21, 2008), pp. 3730-3731.

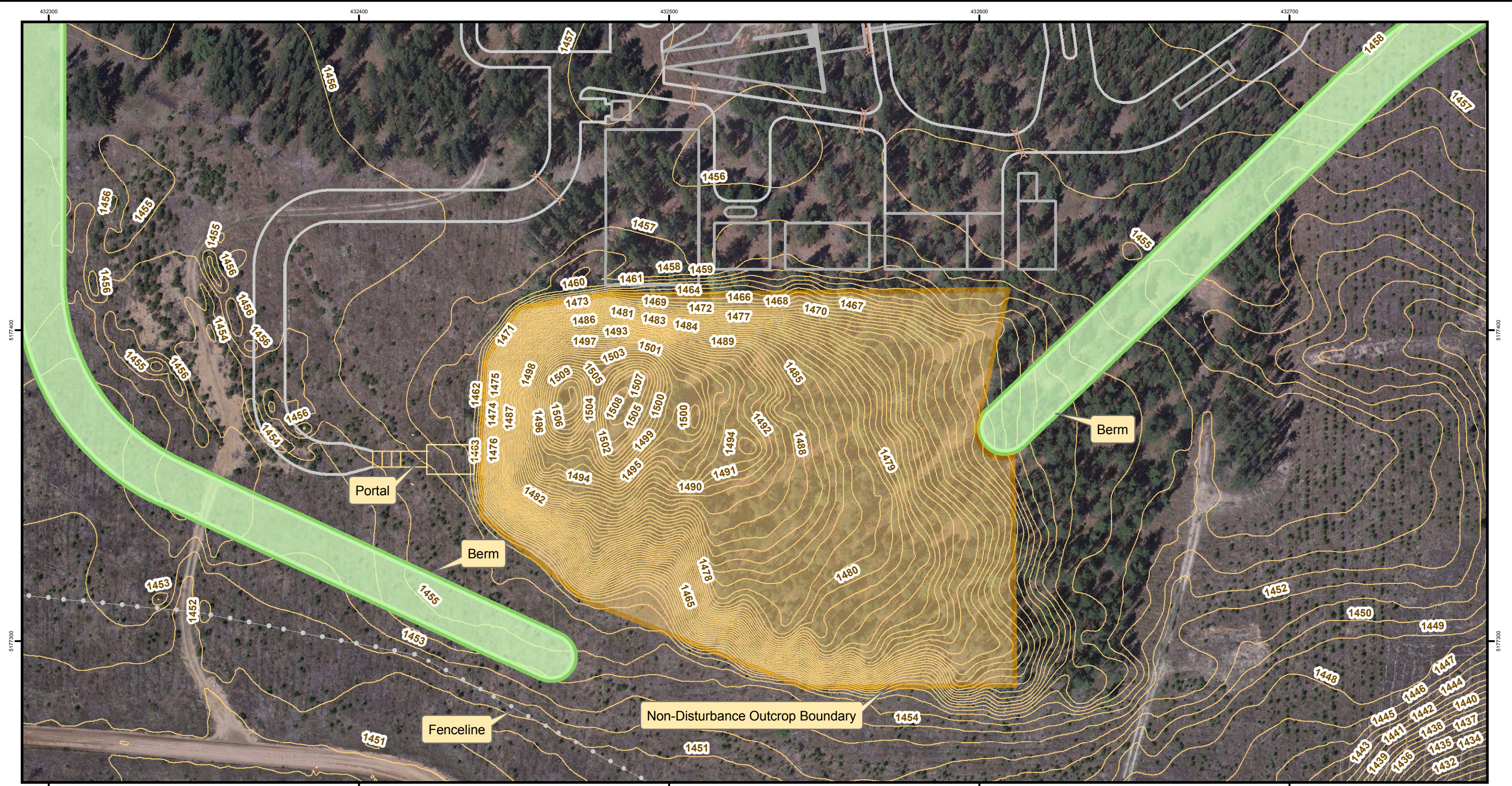
- Ownership of surface and mineral rights.

Kennecott's rationale for selecting the proposed location for the portal and surface facilities, in which both DEQ and DNR concurred, included:

- The mine portal and surface facilities should be located in close proximity to each other and in one watershed if possible;
- The proposed alternative is the most environmentally protective alternative, particularly with respect to management of treated wastewater associated with mine operations;
- The selected portal location involves no disturbance to the facing of the rock outcrop, minimal disturbance of surface, and less blasting for portal construction; and
- The selected surface facility location is situated in an area that was recently clear cut and is screened from the closest public road.

The state's Surface Use Lease contains a provision (4.B.6) that prohibits "[c]learing of, or mining operation activities on the rock outcrop." Exhibit G of the Lease provides a map showing the area of the rock outcrop where surface disturbance is prohibited (Figure 1-7). Figure 1-8 shows a view of the outcrop from the west.

Kennecott will reclaim the mine site after mining is complete. Reclamation includes removal of all buildings on the site, and re-grading and re-vegetating the site to pre-mine conditions.



- NOTES**
1. Date of photography June 2, 2004, supplied by Aero-metric Engineering, Sheboygan, Wisconsin.
 2. Mine plan data adapted from McIntosh Engineering, Inc., Tempe, Arizona.
 3. Surface property boundary as of November 18, 2004 supplied by Kennecott via Golder & Associates Inc., August, 2005.
 4. Contour interval based on NAVD 1988. Horizontal datum based on NAD 83/94. Horizontal coordinates based on UTM Zone 16.
 5. Ore body, wetland boundary (Wetland and Coastal Resources) and topography supplied by Golder & Associates, Inc. August, 2005.
 6. US Fish and Wildlife Service Wetlands downloaded from USFWS website.
 7. Site Location - Project Site within Sections 11 & 12, T50N, R29W, Michigamme Township, Marquette County, Michigan.

LEGEND

| | |
|--|----------------------------------|
| | Non-Disturbance Outcrop Boundary |
| | Facility |
| | 1ft Contours |



Figure 1-7. Non-Disturbance Boundary for Rock Outcrop.

| Foth Infrastructure & Environment, LLC | | | |
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| REVISED | DATE | BY | DESCRIPTION |
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| APPROVED BY: SVD1 | DATE: JAN. '08 |
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| | |
| FIGURE 1 NON-DISTURBANCE OUTCROP BOUNDARY MAP | |
| Scale: | Date: JANUARY, 2008 |
| Prepared by: DAT | Project No: 04W018 |



Figure 1-8. Photograph of Rock Outcrop, View from the West.

2.0 Applicable Laws and Regulations

This section of the report briefly summarizes the federal and state laws, regulations, and guidance applicable to Kennecott's Eagle Project.

2.1 Federal Laws, Regulations, and Guidance

The Environmental Protection Agency (EPA) is required to comply with Section 106 of the National Historic Preservation Act (NHPA) of 1966 (16 U.S.C. 470 et seq.), as amended, in issuing an Underground Injection Control Permit for the Eagle Project. NHPA requires federal agencies to manage the cultural resources under their jurisdiction and authorizes the Secretary of the Interior to maintain a National Register of Historic Places (National Register or NRHP). It also provides for the designation of state historic preservation officers (SHPOs) to facilitate the implementation of federal cultural resource policy at the state level. Section 106 of the act requires federal agencies to consider the effects of their proposed undertakings (i.e., a permit, license, or approval) on properties listed in, or eligible for listing in, the National Register. NHPA is a procedural statute and does not mandate any particular outcome.

Regulations that implement Section 106 of NHPA are found in 36 CFR Part 800 (revised 2004), "The Protection of Historic and Cultural Properties." These regulations state the requirements for inventorying cultural resources and determining which ones are eligible for listing in the National Register and are thus considered to be historic properties. The procedures also provide for evaluating project effects on historic properties and resolving adverse effects. The responsible federal agency official implements the steps in consultation with state oversight agencies, such as the SHPO, Indian tribal representatives such as the Tribal Historic Preservation Officer (THPO), and other interested parties.

The National Register of Historic Places is the nation's official list of cultural resources worthy of preservation. Properties listed in the National Register include districts, sites, buildings, structures, and objects that retain integrity and are significant in American history, architecture, archaeology, engineering, and culture. The criteria for evaluating the eligibility of properties for listing appear in 36 CFR Part 60.4:

The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

- A. That are associated with events that have made a significant contribution to the broad patterns of our history; or
- B. That are associated with the lives of persons significant in our past; or
- C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that present a significant and distinguishable entity whose components may lack individual distinction; or
- D. That have yielded or may be likely to yield information important in prehistory or history.

To be eligible for listing in the National Register, properties must possess *integrity*. For traditional cultural properties, the aspects of association (or relationship) and those related to condition, such as location, setting, and feeling, are typically most relevant. The property must

have an integral relationship with traditional cultural practices or beliefs (integrity of association), and the relevant relationships must survive.¹

Ordinarily, cemeteries, birthplaces, graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past 50 years are not considered eligible for the National Register unless they are integral parts of districts that meet the criteria, or if they meet one of seven criteria considerations. One of the considerations allows for properties that have achieved significance within the past 50 years to be considered for eligibility if they are of exceptional importance.

Other relevant documents include *Archeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines* (48 FR 44716, issued 1983, revised 2001), which provides guidance for identification, evaluation, and other aspects of preservation planning, including the use of historic contexts in this work. It also contains professional qualifications standards for individuals to conduct the work. National Register Bulletins, issued by the National Park Service, provide guidance for documenting, evaluating, and nominating historic properties. *National Register Bulletin* 15, "How to Apply the National Register Criteria for Evaluation," explains how the National Park Service applies the National Register criteria in evaluating properties that that may be significant in local, state, and national history.² *National Register Bulletin* 38, "Guidelines for Evaluating and Documenting Traditional Cultural Properties," is more specifically oriented to properties that are important for their "association with cultural practices or beliefs of a living community that (a) are rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community."³

EPA maintains an instruction manual on implementing Section 106 and 36 CFR Part 800, titled *Historic and Archaeological Resource Protection for USEPA Personnel*.⁴ The manual outlines the rationale and procedures for implementing agency and tribal consultation, inventory and evaluation of historic properties, determination of effects on them, resolution of adverse effects, preparation of agreement documents, and archaeological data recovery.

2.2 Compliance with State Laws and Regulations

Michigan's primary statute for environmental protection and natural resource conservation is the Natural Resources and Environmental Protection Act (NREPA), 1994 Public Act 451, at Michigan Compiled Laws (MCL) 324.101 et seq. The statute has many parts that address the

¹ Parker, Patricia L. and Thomas F. King, "Guidelines for Evaluating and Documenting Traditional Cultural Properties," *National Register Bulletin* 38 (Washington, D.C.: U.S. Department of the Interior National Park Service), 1998, p.11.

² National Register of Historic Places Staff (finalized by Patrick W. Andrus, edited by Rebecca H. Shrimpton), "How to Apply the National Register Criteria for Evaluation," *National Register Bulletin* 15 (Washington, D.C.: U.S. Department of the Interior National Park Service), 2002.

³ Parker and King, *ibid.* p. 1.

⁴ U.S. Environmental Protection Agency, *Historic and Archaeological Resource Protection for USEPA Personnel, An Instruction Manual on Implementing Section 106 of the National Historic Preservation Act and the Revised Regulations of the Advisory Council on Historic Preservation on Protection of Historic Properties*, August 2007.

various components of environmental protection. Portions that are relevant to the Eagle Project include Part 31, "Water Resources Protection," which addresses the issuance of groundwater discharge permits, and Part 55, "Air Pollution Control," which addresses the issuance of air permits.

In December 2004, Michigan passed a non-ferrous mining statute that was developed by a DEQ work group with the participation of Kennecott, tribal governments, and many others. Part 632 of NREPA, "Nonferrous Metallic Mining and Reclamation," provides for the development of new non-ferrous metallic mineral mines in Michigan with minimal environmental risk (see MCL 324.63201, et seq.). The provisions and the rules that implement the law, including its extensive provisions for public participation, were also developed through a stakeholder work group, which included Kennecott, the Keweenaw Bay Indian Community (KBIC), EPA, and others.

Under Part 632, prospective operators must apply for a Mine Permit from the Michigan Department of Environmental Quality (DEQ). The process involves submitting a Mining Permit Application, which must include several attachments. An Environmental Impact Assessment (EIA) is required to describe the baseline conditions, expected impacts to the mined area and surrounding affected areas, and alternatives. An application also must include a detailed plan for mining and reclamation that would minimize impacts of the proposed operation, and prevent and control potential acid rock drainage, as well as a contingency plan for dealing with any accidents or failures.

Part of the EIA addresses potential impacts to the environment, including an inventory and evaluation of cultural, historical, and archaeological resources that are listed in the National Register. Part 632 provides extensive opportunities for public input, including a pre-application public scoping meeting, a public meeting on an application, public comments, and a public hearing on proposed permit decisions.

Kennecott submitted permit applications to DEQ in February 2006 under Parts 632, 31, and 55. From March to May 2006, the Mining Review Team reviewed and commented on the Part 632 application, with a public meeting on April 18, 2006, and public comment until May 17, 2006. On June 21, 2006, DEQ issued a letter to Kennecott with 91 comments seeking clarification. The company responded to the comments on October 27, 2006, and the Mining Review Team reviewed compiled public comments and Kennecott responses. The team recommended that the permit be issued in January 2007; DEQ then issued its proposed decision and responded to public comments. The agency posted draft general and special permit conditions on its web site in February. DEQ withdrew the proposed decision in March 2007 but reinstated it in July 2007. The agency then held public hearings in Marquette and Lansing over five days in September 2007. The public comment period ended in October 2007, followed by DEQ's issuance of the Part 632, 31, and 55 permits in December 2007. In the same month, several parties, including KBIC, filed petitions and a state lawsuit challenging state issuance of the permits.

As part of the state approval process, Kennecott negotiated a Surface Use Lease for certain land in the northwest quarter of Section 12 with the Michigan Department of Natural Resources (DNR). The agency allowed for extensive public comments, and the Natural Resources Commission conducted several public hearings regarding the lease and Kennecott's Mining and Reclamation Plan. During December 2007, in response to a DNR request, Kennecott provided

the agency with an analysis of alternative facility locations and various project plans. In January 2008, Kennecott provided additional information explaining why the proposed location for the facilities is the preferred alternative. In February 2008, the DNR Director approved the Surface Use Lease and the Mining and Reclamation Plan. Section 4.B.6 of the Lease prohibits “[c]learing of, or mining operation activities on the rock outcrop.” Exhibit G of the Surface Use Lease contains a map showing the area of the rock outcrop, where surface disturbance is prohibited (see Figure 1-7 above).

3.0 Agency and Tribal Consultation

3.1 Introduction

Considerable agency and tribal communication and consultation about the Eagle Project have taken place over the past several years. Kennecott and the Michigan Department of Environmental Quality (DEQ) have consulted with the State Historic Preservation Office (SHPO). Kennecott, state agencies, and the U.S. Environmental Protection Agency (EPA) have consulted with the Keweenaw Bay Indian Community (KBIC), and EPA has also consulted with other tribes. KBIC is the tribe that has expressed the most interest in the project; its offices are located in Baraga, which is about 30 miles west of the project site. Other tribes include the Lac Vieux Desert Band of Lake Superior Chippewa Indians (LVD), the Sault Ste. Marie Tribe of Chippewa Indians, and others party to the treaties covering land cessions in the project area. Other communications have taken place; for example, KBIC has had additional communications with the Office of the State Archaeologist (OSA) and EPA, which are not discussed here. Section 3.3 below provides a brief chronological summary of consultation letters and meetings, with copies of these documents included in Appendix D.

The statutory provisions of Michigan's Natural Resource and Environmental Protection Act (NREPA) Part 632 and the rules that implement the law, including its extensive provisions for public participation, were developed through a stakeholder work group, which included Kennecott, KBIC, and others. Even though the tribe participated in the process, KBIC expressed categorical opposition to the law, the regulations, and the Eagle Project. Their objection is expressed in the Tribe's "Position Statement on HB 6243 and SB 1457," which opposed the adoption of Part 632 (KBIC was the only work group member to do so), and in tribal resolution KB-1301-2004, which prohibits mining activities within the boundaries of the L'Anse Reservation. KBIC also objected to the implementing rules. Despite KBIC's clear opposition to the project, Kennecott made many attempts to consult with the tribe to understand and address its cultural and other concerns.

3.2 Agency and Public Comment on the Permit Application

Kennecott submitted permit applications for the Eagle Project under NREPA Parts 632, 31, and 55 to DEQ in February 2006. From March to May 2006, the State's Mining Review Team of specialists reviewed and commented on the Part 632 application, with a public meeting on April 18 and public comment until May 17. On June 21, 2006, DEQ provided Kennecott with 91 comments on its mine permit application. The company responded to the comments on October 27, and the state's Mining Review Team completed its review of the compiled public comments and the Kennecott response in December 2006.

The Mining Review Team recommended that the mine permit be issued in January 2007; DEQ then issued its proposed decision and responded to public comments. The agency posted draft general and special permit conditions on its web site in February, 2007. DEQ withdrew the proposed decision in March 2007 but reinstated it in July 2007. The agency then held public hearings over five days in September 2007. The public comment period ended in October 2007, followed by DEQ's issuance of the Part 632, 31, and 55 permits in December 2007. That month and again in January 2008, in response to a Michigan Department of Natural Resources (DNR)

request, Kennecott provided DNR with a Facility Location Alternatives Analysis and various plans.

In February 2008, the DNR Director approved the terms of the Surface Use Lease, which contains a provision (4.B.6) that prohibits “[c]learing of, or mining operation activities on the rock outcrop.” Exhibit G of the Lease provides a map showing the area of the rock outcrop, where surface disturbance is prohibited (see Figure 1-7 above).

Kennecott retained an archaeological consultant, Dr. Christopher Bergman of URS Corporation (formerly BHE Environmental, Inc. [BHE]), to conduct archaeological investigations of the project area. Kennecott assured that the studies were done in consultation with the Michigan State Historic Preservation Office (SHPO) and OSA, following that agency’s advice. The archaeological work began in 2004 and continued in 2005, with consultation in 2007 and a follow-up site visit in 2008. Dr. Bergman’s staff conducted background research in the SHPO archives at the State Library in Lansing and registered the survey findings of a prehistoric lithic scatter and two historic-period logging campsites with the SHPO.

3.3 Tribal Consultation

Kennecott’s consultation and communications with KBIC began in early 2005, a year before the company submitted its state mining permit application. Jon Cherry, Kennecott’s project manager, contacted Susan LaFernier, then KBIC’s Tribal Council President, early in 2005 to request a meeting “to more fully understand KBIC’s concerns and to begin to discuss tribal consultation processes that have successfully incorporated tribal objectives (environmental and cultural) at other Kennecott and Rio Tinto operations.”⁴ Mr. Cherry cited the company’s work with aboriginal communities in regard to the Diavik Diamond Mine in Canada.

Kennecott and KBIC representatives met on March 22, 2005 at KBIC’s offices on the L’Anse Reservation. Mr. Cherry asked about KBIC’s project concerns. Tribal representatives discussed environmental impacts but made no mention of cultural resources or historic properties, including any significance associated with the rock outcrop in the project area. Mr. Cherry invited KBIC to be part of the Community Advisory Group (CAG) that Kennecott had formed for the project. He also offered for KBIC representatives to tour the company’s mining projects in other areas and to have representatives of tribal groups at other Rio Tinto projects meet with KBIC. Mr. Cherry also indicated that Kennecott could assist KBIC in remediating abandoned (non-Kennecott) mine sites on the tribe’s reservation. He further suggested that monthly meetings occur between the company and KBIC to discuss the project.

Mr. Cherry followed the March 2005 meeting with a letter thanking Ms. LaFernier for establishing a line of communication and information exchange, and reiterating the items discussed in their meeting.⁵ He stated his desire to have a follow-up meeting in late April 2005. Later that month, Mr. Cherry wrote to Ms. LaFernier with a formal invitation for KBIC to join

⁴ Letter from Jon Cherry, Kennecott Eagle Minerals Company, to Susan LaFernier, KBIC Tribal Council President, February 7, 2005. Rio Tinto is Kennecott’s parent company.

⁵ Letter from Jon Cherry, Kennecott Eagle Minerals Company, to Susan LaFernier, KBIC Tribal Council President, April 1, 2005.

the CAG, attaching its charter, and he also let her know about an upcoming CAG meeting that would feature a tour of the Eagle Project site.⁶

On June 10, 2005, Mr. Cherry wrote to Ms. LaFernier that he had been trying to contact her for several weeks because he wished to schedule a meeting to continue their earlier discussion regarding the Eagle Project. He also let her know that Kennecott intended to proceed with exploration activities on privately owned land within the Tribe's reservation, and he renewed an offer to train KBIC college-age students.⁷ Ms. LaFernier responded with a letter on June 24, 2005, saying that at the time, she did not feel another meeting would be productive.⁸ She referred to the concerns about mining expressed in tribal resolution KB-1301-2004 and in the Tribe's comments on NREPA Part 632. Ms. LaFernier concluded the letter to Mr. Cherry by stating that she would "contact you in the future if the Community feels that further discussions may become productive." KBIC then discontinued further communications with Kennecott regarding the project.

Also on June 24, 2005, Ms. LaFernier sent a letter to Governor Granholm objecting to the rules developed by the Work Group (which included KBIC) to implement Part 632.⁹ She stated, "[a]fter serious consideration of the provisions of the Sulfide Mining Act and the rules that have been proposed to date by the work group ('Rules'), the Keweenaw Bay Indian Community ('Community') remains unconvinced that technology and practice have advanced to the point where sulfide mining can be effectively performed in Michigan without substantial and long-lasting degradation of the environment and adverse impacts to human health."

In processing the mining permit application, DEQ requested that OSA review project impacts on archaeological resources. In response, OSA archaeologist Dean Anderson analyzed the information in May 2006. Mr. Anderson provided the opinion that "...the project will not affect archaeological resources within the proposed construction footprint."¹⁰

On December 9, 2006, James Paquette, an amateur archaeologist consulting with KBIC, submitted to OSA an archaeological site record form for a pit feature located on the rock outcrop.¹¹ The agency issued state archaeological site number 20MQ251 for the pit feature. Kennecott contacted OSA the next month to offer additional archaeological investigation of the

⁶ Two letters from Jon Cherry, Kennecott Eagle Minerals Company, to Susan LaFernier, KBIC Tribal Council President, April 20, 2005.

⁷ Letter from Jon Cherry, Kennecott Eagle Minerals Company, to Susan LaFernier, KBIC Tribal Council President, June 10, 2005.

⁸ Letter from Susan LaFernier, KBIC Tribal Council President, to Jon Cherry, Kennecott Eagle Minerals Company, June 24, 2005.

⁹ Letter from Susan LaFernier, KBIC Tribal Council President, to Governor Jennifer Granholm, State of Michigan, June 24, 2005.

¹⁰ Letter from Dean Anderson, Historical Archaeologist, OSA, to Joe Maki, DEQ, May 10, 2006.

¹¹ James R. Paquette, Michigan State Archaeological Site Form for 20MQ251, submitted to Michigan Office of State Archaeologist, dated December 9, 2006. See also James R. Paquette, *Preliminary Surface Cultural Resource Assessment of the Eagle Rock Project Area, Marquette, Michigan*. Report prepared for the Keweenaw Bay Indian Community, Tribal Historic Preservation Office.

20MQ251 pit feature.¹² In an email to Mr. Cherry, Mr. Anderson said that Dr. Bergman “did a thorough job of surveying the project area.”¹³

Kennecott again contacted KBIC on May 21, 2007, when Mr. Cherry wrote a letter to Summer Cohen, the KBIC Tribal Historic Preservation Officer (THPO), stating Kennecott’s intention to conduct additional archaeological investigation at site 20MQ251, even though OSA had not required such work, and inviting the tribe to send representation.¹⁴ He asked for her views in preparing for the work and renewed his invitation for KBIC to participate in the project’s Community Advisory Group, stating that he wanted to resume dialogue between Kennecott and the Tribe to discuss issues important to both entities. In a letter dated June 5, 2007, Ms. Cohen asked for more details about the proposed archaeological fieldwork, stated that the site has been the location of tribal cultural activities, and expressed concern about the potential effects of mining operations.¹⁵

Mr. Cherry, Ms. Cohen, and Chuck Brumleve (KBIC’s Environmental Mining Specialist) had additional written communications in June 2007 regarding the planned archaeological investigation and KBIC’s attendance.¹⁶ On June 27, Mr. Cherry emailed Ms. Cohen that the investigation scheduled for June 29 had been cancelled and that he would contact her when it was rescheduled. Mr. Cherry did not reschedule the work after OSA advised Kennecott that the investigation was not necessary because the project would not affect 20MQ251.

In an exchange of letters between Kennecott and OSA during July 2007, Jon Cherry expressed Kennecott’s intention to avoid disturbing the ground surface in the immediate vicinity of the bedrock outcrop, which has been incorporated as a condition in the project’s State Surface Use Lease.¹⁷ Mr. Anderson responded that although he understood that the Eagle Project did not (at that time) fall under the purview of NHPA and that Kennecott’s archaeological survey was done voluntarily, “[o]ur review of the report indicated that the archaeological survey of the project had been carried out in a manner consistent with the standards we would expect of any survey conducted for the purpose of meeting section 106 requirements. The necessary background research had been conducted, sufficient shovel testing had been carried out, and

¹² Email from Jon Cherry, Kennecott Eagle Minerals Company, to Dean Anderson, Historical Archaeologist OSA, January 18, 2007.

¹³ Email from Dean Anderson, Historical Archaeologist, OSA, to Jon Cherry, Kennecott Eagle Minerals Company, January 19, 2007; see also email from Dean Anderson, Historical Archaeologist, OSA, to Jon Cherry, Kennecott Eagle Minerals Company, April 16, 2007.

¹⁴ Letter from Jon Cherry, Kennecott Eagle Minerals Company, to Summer Cohen, KBIC THPO, May 21, 2007.

¹⁵ Letter from Summer Cohen, KBIC THPO, to Jon Cherry, Kennecott Eagle Minerals Company, June 5, 2007.

¹⁶ Letter from Jon Cherry, Kennecott Eagle Minerals Company, to Summer Cohen, KBIC THPO, June 12, 2007; Letter from Chuck Brumleve, KBIC Environmental Mining Specialist, to Jon Cherry, Kennecott Eagle Minerals Company, undated [ca. June 25, 2007]; Email from Jon Cherry, Kennecott Eagle Minerals Company, to Summer Cohen, KBIC THPO, June 27, 2007.

¹⁷ Letter from Jon Cherry, Kennecott Eagle Minerals Company, to Dean Anderson, Historical Archaeologist, OSA, July 16, 2007.

there was even some examination of areas outside the Area of Potential Effect (APE). No archaeological sites were identified within the project APE.”¹⁸

With regard to 20MQ251, Mr. Anderson went on to note that “work plans for the Bedrock Outcrop vicinity will not disturb the ground surface. The work at the outcrop does include plans to drill beneath the outcrop. However, the entry point for the drilling is approximately 70 feet south of 20MQ251, and approximately 50 feet below 20MQ251. This means that drilling activity will be far below the ground surface, and will not disturb the pit feature on the surface of the outcrop. Consequently, the work planned for the Bedrock Outcrop area will avoid 20MQ251, and therefore will have no effect upon the site.” Mr. Anderson noted that no further investigation of 20MQ251 would have been needed even if the project were subject to Section 106 review, because the project would not affect the site.¹⁹

On July 9, 2007, Giiwegiizhigookway Martin, LVD THPO, wrote to Mr. Cherry, saying that ground-disturbing activities would need to be reviewed under Section 106 of the National Historic Preservation Act and that cultural properties were located in the vicinity of the project. She said that the cultural properties are associated with the LVD Band, which was once part of the Keweenaw Bay Indian Community. Although LVD has separate federal recognition, Ms. Martin said that their traditional and cultural ties remain with KBIC.²⁰

In response to Kennecott’s application to EPA for an Underground Injection Control permit (submitted in April 2007), EPA prepared to conduct a review of project effects on historic properties under Section 106 of the National Historic Preservation Act. Cheryl Newton of EPA sent a letter to Summer Cohen of KBIC in September 2007, responding to an email that Ms. Newton had received about the Tribe’s request to be consulted about the potential effects of mining activities on Ojibwe cultural properties.²¹ Ms. Newton said that it would be appropriate for EPA to consult with KBIC about potential historic properties that may be subject to review under Section 106. She offered for EPA representatives to meet at KBIC’s convenience and said EPA would be happy to receive information about cultural properties in advance of a meeting.²²

Also in September, 2007, KBIC members, including Ms. LaFernier, spoke at public hearings held by DEQ as part of the mining permit process. KBIC members voiced their environmental and cultural concerns at those hearings.

On October 15, 2007, Susan LaFernier of KBIC submitted written comments to Steven Wilson of the Michigan Office of Geological Survey (OGS) on DEQ’s proposed decision to grant the mining permit.²³ She included the Community’s concerns about natural resources,

¹⁸ Letter from Dean Anderson, Historical Archaeologist, OSA, to Jon Cherry, Kennecott Eagle Minerals Company, July 19, 2007.

¹⁹ Letter from Dean Anderson to Jon Cherry, *ibid*.

²⁰ Letter from Giiwegiizhigookway Martin, LVD THPO, to Jon Cherry, Kennecott Eagle Minerals Company, July 9, 2007.

²¹ Email from Summer Cohen, KBIC THPO, to Louis Luna, EPA, July 9, 2007.

²² Letter from Cheryl Newton, Acting Director of Water Division, USEPA Region 5, to Summer Sky Cohen, KBIC THPO, September 12, 2007.

²³ Letter from Susan LaFernier, KBIC Tribal Council President, to Steven Wilson, Michigan Office of Geological Survey, October 15, 2007.

assertions about the cultural importance of the rock outcrop, and her objections to most of OSA's determinations about the project's archaeological investigations. Ms. LaFerner requested that DEQ not issue a final decision granting the mine permit and that the agency consult with KBIC about the proposed action under the terms of the 2002 Government-to-Government Accord (dated October 29, 2002) between the Governor of the State of Michigan, the Community, and other federally recognized Indian tribes. She attached a copy of James Paquette's "Preliminary Surface Cultural Resource Assessment of the Eagle Rock Project Area, Marquette County, Michigan," which had been prepared for KBIC in June 2007.²⁴

Ms. LaFerner followed up on October 17, 2007, by filing with DEQ and DNR written combined comments of KBIC, the National Wildlife Federation, and the Huron Mountain Club in opposition to the proposed issuance of the mine permits, expressing concerns about the potential environmental impacts of the project.²⁵ Ms. LaFerner asserted that the rock outcrop is a National Register-eligible traditional cultural property. On November 2, 2007 (pages 2-4 of the letter are dated October 31, 2007), Ms. Fernier wrote to Governor Granholm, explaining KBIC's opposition to the Eagle Project.²⁶ She summarized comments prepared jointly by KBIC, the National Wildlife Federation, and the Huron Mountain Club.

Mr. Cherry wrote to Ms. LaFerner on October 31, 2007, acknowledging having received a copy of the Tribe's comments to OGS.²⁷ He referred to Ms. LaFerner's statement that the Tribe possesses information and documentation of cultural features in the vicinity of the project, requesting a copy of the materials so that Kennecott could address the Tribe's concerns. Ms. LaFerner did not respond to Mr. Cherry's letter.

On October 17, 2007, the Great Lakes Indian Fish and Wildlife Commission (GLIFWC) sent comments to DEQ and DNR regarding the preliminary decision to grant permits for the proposed mine.²⁸ GLIFWC's Director of Intergovernmental Affairs, Ann McCammon Soltis, expressed concern that impacts on the site, including lack of access during the project and disturbance of the rock underground, had not been evaluated. The comments stated that impacts to the rock

²⁴ Kennecott learned through a Freedom of Information Act response (FOIA) from SHPO on September 27, 2007, that Summer Cohen, KBIC THPO, had a few email communications with OSA in the spring of 2006 and then again in 2007 regarding traditional cultural properties. On May 10, 2006, Ms. Cohen emailed Barbara Mead, Assistant State Archaeologist of OSA, that there were traditional cultural properties located within T50N, R28W & 29W, Michigamme Township. Ms. Mead responded by encouraging Ms. Cohen to send her specific concerns to Kennecott and DEQ. Ms. Cohen did not do so at the time. On February 16, 2007, Ms. Cohen emailed Ms. Mead to inquire about the implications of identifying 20MQ251 and how to have it listed in the National Register. Ms. Mead responded by explaining the Section 106 review process and invited Ms. Cohen to provide supporting information if the Tribe believed that the site was important. On April 11, 2007, Ms. Cohen sent an email to Ms. Mead stating that a site called "Eagle Rock" was and is still used for cultural and ceremonial purposes and that she wanted to see the site classified as a traditional cultural property. In response, Ms. Mead asked Ms. Cohen if she could forward that message to Jon Cherry of Kennecott, and Ms. Cohen stated that she could not. In fact, additional FOIA documents indicate that Ms. Cohen's superiors at KBIC had instructed her not to talk about the issue because of litigation.

²⁵ Comments from Susan LaFerner, KBIC Tribal Council President, to DEQ/DNR, October 17, 2007.

²⁶ Letter from Susan LaFerner, KBIC Tribal Council President, to Jennifer Granholm, Governor, State of Michigan, November 2, 2007 (pages 2-4 are dated October 31, 2007).

²⁷ Letter from Jon Cherry, Kennecott Eagle Minerals Company, to Susan LaFerner, KBIC Tribal Council President, October 31, 2007.

²⁸ Letter from Ann McCammon Soltis, Director, Division of Intergovernmental Affairs, Great Lakes Indian Fish and Wildlife Commission, to "DEQ/DNR Kennecott Comments," October 17, 2007.

outcrop should be fully explored and documented before any permit decision is made and that DEQ should work with the “Keweenaw Bay Indian Community to determine whether Eagle Rock is a Traditional Cultural Property (TCP) and, if so, what protection should be afforded to that site.” Ms. Soltis discussed a project in which GLIFWC worked with tribal elders to compile the names of places and natural features in the 1842 ceded territory. She attached a map showing the Ojibwa names for Salmon Trout River (Maazhamegosikaa-ziibi) and Yellow Dog River (Ozaawasimong-ziibi). No name is shown for the rock outcrop at the project area. Ms. Soltis also attached a copy of the report, titled *Cultural and Economic Importance of Natural Resources Near the White Pine Mine to the Lake Superior Ojibwa*. Ms. Soltis emailed GLIFWC’s comments to Ross Micham of EPA Region 5 on October 22.²⁹

EPA sent consultation letters to several tribes on October 31, 2007.³⁰ They included the Bad River Band, Fond du Lac Band, Lac Courte Oreilles Band, Lac du Flambeau Band, Lac Vieux Desert Band, Mille Lacs Band, Red Cliff Band, St. Croix Chippewa Tribe, Sault Ste. Marie Tribe, and the Sokaogon Chippewa Community. EPA’s letter stated that the agency was consulting with KBIC about potential traditional cultural properties at the proposed Eagle Mine Project, inquired if the other bands have traditional religious or cultural significance attached to a historic property that may be affected by the project, and asked if they would be interested in consulting with EPA.

Cecil Pavlat, Sr., Cultural Resource Repatriation Specialist of the Sault Ste. Marie Tribe, responded to EPA on November 14, 2007, saying that his tribe and the other Ojibwe/Chippewa Nations have a cultural and historic association with the proposed project area and that his Tribe opposed any project that would adversely affect the environment.³¹ Mr. Pavlat raised a potential for burial sites and other traditional cultural properties in the area. Giiwegiizhigookway Martin, the LVD THPO, responded to EPA on November 19, 2007, requesting that her tribe be made a consulting party.³² She asserted that the project area contains cultural properties associated with her tribe, based on its affiliation with KBIC.

On December 11, 2007, state agencies and KBIC held a government-to-government meeting about the proposed project. Representatives from Michigan’s Executive Office, Attorney General, DEQ, and DNR met with representatives of KBIC’s tribal council, its THPO, and the Tribe’s in-house and external attorneys. KBIC representatives presented their concerns about potential project impacts on traditional cultural and natural resources, requesting that

²⁹ Email from Ann McCammon Soltis, Director, Division of Intergovernmental Affairs, Great Lakes Indian Fish and Wildlife Commission, to Ross Micham, USEPA Region 5, October 22, 2007.

³⁰ Letters from Rebecca Harvey for Robert Tolpa, Acting Director, Water Division, USEPA Region 5, to Giiwegiizhigookway Martin, LVD THPO; Edith Leosso, Bad River Band THPO; Tim Funk, Red Cliff Band THPO; Jerry Smith, Lac Courte Oreilles Band THPO; Kelly Jackson-Golly, Lac du Flambeau Band THPO, Natalie Weyaus, Mille Lacs Band THPO; LeRoy DeFoe, Cultural Resources Coordinator, Fond du Lac Band; Wanda McFaggen, St. Croix Chippewa Tribe THPO; Tina Van Zile, Director, Natural Resources Department, Sokaogon Chippewa Community, and Kim Green Sault Ste. Marie Tribe THPO, October 31, 2007. On January 14, 2008, Ms. Harvey (for Tinka Hyde, Acting Director, Water Division, USEPA Region 5) also wrote to Victoria Raske, Grand Portage Band THPO.

³¹ Letter from Cecil E. Pavlat, Sr., Cultural Repatriation Specialist, Sault Ste. Marie Tribe, to Robert Tolpa, Acting Director, Water Division, USEPA Region 5, November 14, 2007.

³² Letter from Giiwegiizhigookway Martin, LVD THPO, to Robert Tolpa, Acting Director, Water Division, USEPA Region 5, November 19, 2007.

Kennecott's permit be denied. The Tribe provided state representatives with a copy of the THPO's *Assessment of Migi zii wa sin (Eagle Rock)*.³³

The report authors understand that EPA and KBIC representatives met at the Tribe's offices on December 13, 2007 to discuss the Tribe's concerns about cultural resources.

On December 7, DNR wrote to Kennecott requesting additional information on the proposed project.³⁴ On December 14, 2007, Kennecott submitted to DNR a Facility Location Alternatives Analysis and other information in response to questions from DNR about the Surface Use Lease and Mining and Reclamation Plan, including the rationale for the preferred location of surface facilities.³⁵ The company submitted additional information in this regard on January 21, 2008.³⁶

KBIC again provided comments to DNR on the Surface Use Lease and concerns about natural resources to DNR on January 3, 2008.³⁷ The following day, Ms. LaFernier wrote to Rebecca Humphries, the Director of DNR, to thank her for the opportunity to consult with DNR regarding the Surface Use Lease and the Mining and Reclamation Plan.³⁸ Ms. LaFernier also summarized KBIC's concerns about impacts on natural resources, the environment, and traditional cultural resources.

EPA responded to LVD's THPO on January 3, 2008, agreeing to consult with the Tribe, offering to meet in the next 30 days, and expressing appreciation for any information on cultural properties before the meeting.³⁹

On January 9, 2008, Kennecott representatives met with EPA Region 5 representatives in Chicago. During that meeting, Kennecott described its efforts to consult with KBIC. The company also expressed its willingness to discuss with the Tribe ways to accommodate its cultural concerns and gave examples of how the company had done so with other mine projects.

On January 9, 2008, KBIC's attorneys sent written comments on behalf of the Tribe to the Michigan Natural Resources Commission.⁴⁰ In opposing approval of the mine's proposed surface use lease and mining and reclamation plan, the attorneys listed a number of concerns about environmental impacts, including those to the rock outcrop, which they asserted is a National Register-eligible traditional cultural property.

³³ Summer Cohen, *Assessment of Migi zii wa sin (Eagle Rock)*, undated (first appears in the record in December 2007).

³⁴ Letter from Thomas Wellman, DNR, to Jon Cherry, Kennecott Eagle Minerals Company, December 7, 2007.

³⁵ Letter from Jon Cherry, Kennecott Eagle Minerals Company, to Thomas Wellman, DNR, December 14, 2007.

³⁶ Letter from Jon Cherry, Kennecott Eagle Minerals Company, to Lynn Boyd, DNR, January 21, 2008.

³⁷ Comments from KBIC, January 3, 2008.

³⁸ Letter from Susan LaFernier, KBIC Tribal Council President, to Rebecca Humphries, Director, Michigan Department of Natural Resources, January 4, 2008.

³⁹ Letter from Rebecca Harvey for Tinka Hyde, Action Director, Water Division, USEPA Region 5, to Giiwegiizhigookway Martin, LVD THPO, January 3, 2008.

⁴⁰ Letter from Eric J. Eggan, Honigman Miller Schwartz and Cohn LLP, to Michigan Natural Resources Commission, Executive Division, January 9, 2008.

KBIC's Ms. LaFernier wrote to the Natural Resources Commission on February 6, 2008, opposing approval of the Surface Use Lease. She objected to the use of state land in the project and to Kennecott's alternatives analysis.⁴¹ She also said that DNR had not responded to KBIC's concerns and should set forth the reasons for not selecting a feasible alternative for the proposed portal location for the project. She requested a more detailed rationale and public review before a decision is made. In her February 7, 2008, decision approving the Surface Use Lease, the DNR Director explained why the location of the portal and the other surface facilities was preferred.

On February 7, 2008, KBIC's Ms. Cohen responded to Ross Micham of EPA with documentation of cultural resources located in the proposed mine area found in her report, "Assessment of Migi zii wa sin (Eagle Rock)."⁴² She expressed concern that the mine would significantly impact land owned by and subject to the treaty rights of KBIC.

A conference call took place on April 9, 2008, among EPA, Ms. Cohen, and Ms. Martin. Ms. Martin sent a follow-up letter to EPA's Ross Micham on April 30, 2008, asserting that the project site is a sacred place historically and expressing concern about the level of archaeological survey work and the potential for disturbing burials.⁴³ She stated her concern that mining would prevent tribal members from accessing the site and damage it permanently. She also provided comments about environmental effects of the project.

In July 2008, the Grand Portage Band of Chippewa Indians provided EPA with a report regarding the rock outcrop, claiming that it is a sacred site and comparing it to Mt. McKay in Thunder Bay, Ontario.⁴⁴

⁴¹ Letter from Susan LaFernier, KBIC Tribal Council President, to Michigan Natural Resource Commission, Executive Division, February 6, 2008.

⁴² Letter from Summer Cohen, KBIC THPO, to Ross Micham, USEPA Region 5, UIC Branch, February 7, 2008.

⁴³ Letter from Giiwegiizhigookway Martin, LVD THPO, to Ross Micham, USEPA Region 5, UIC Branch, April 30, 2008.

⁴⁴ Grand Portage Band of Chippewa Indians, Report regarding "Eagle Rock" (no title page, no date), provided to USEPA Region 5 in July 2008.

4.0 History of Land Use

4.1 Introduction

4.1.1 Section Overview

Dr. Emily Greenwald of Historical Research Associates, Inc., (HRA) examined the history of land use and ownership in the vicinity of the proposed Kennecott Eagle Mine site. She focused her inquiry on Sections 11 and 12 of Township 50 North, Range 29 West (T50N-R29W). Because the historical records do not always provide specific information about Sections 11 and 12, the discussion that follows addresses the north-central part of present-day Marquette County, especially the region known as the Yellow Dog Plains. Wherever possible, it includes information about the area including and immediately around the proposed mine site.

The Yellow Dog Plains region differs from the surrounding area because of its relatively level terrain. The region has been utilized for logging, homesteading, recreation, and mineral exploration at least since the late nineteenth century. Although it may appear to be a remote wilderness, it was and continues to be the site of extensive logging activity. Loggers in the nineteenth century altered the flow of the Yellow Dog and Salmon Trout rivers in order to move logs down those rivers to market. Their removal of the mature forest cover, combined with fire activity that followed early logging, transformed the vegetation of the region.

The Yellow Dog Plains lie between two historically important mining areas, a copper zone to the northwest and an iron region to the south. Although neither copper nor iron have been mined in the Yellow Dog Plains, the plains have been explored for minerals at several points in time. The rock outcrop in the northwest quarter of Section 12, T50N-R29W, has been a place of particular interest for mineral exploration since at least the 1970s.⁴⁵

In the course of her research, Dr. Greenwald sought to determine whether the rock outcrop was mentioned in early accounts of the area or ever appeared on historical maps. No such references were found. More recent records, such as those related to logging and mineral exploration in the 1970s and later, do mention the outcrop. These records refer to it as the rock knob, the Yellow Dog peridotite, or generically as an outcrop. No historical records identify the outcrop as “Eagle Rock” or “Migi zii wa sin.”

The historical records do not contain any evidence that the rock outcrop in Section 12 was used by Native Americans for spiritual or ceremonial purposes. While this is not necessarily dispositive, it is consistent with the accounts of people who visited the outcrop in the 1970s and since the 1990s for the purpose of mineral exploration.

Forestry records and firsthand accounts indicate that the outcrop was not visible from any distance except after the trees surrounding it were cut. The forest cover around the outcrop has been cut twice, first in the late nineteenth or early twentieth century, and again within the last thirty-five years. The outcrop itself was logged approximately one hundred years ago.

⁴⁵ A smaller outcrop that lies just to the west, in Section 11, has also been of interest for mineral exploration.

4.1.2 Methodology

Dr. Greenwald, with help from HRA historians Karen Espeseth and Katherine Beckley, conducted research at the Marquette County Historical Society, the Northern Michigan University and Central Upper Peninsula Archives, and the Lydia M. Olson Library at Northern Michigan University. At those repositories, the team examined rare and manuscript records, maps, and early published materials.

Ms. Espeseth reviewed records at the Marquette County Register of Deeds to develop a history of ownership for Sections 11 and 12. She used abstracts that list conveyances by quarter section to trace the history of tracts within the two sections. For conveyances from the 1980s forward, which are not covered by the abstracts, Ms. Espeseth used the on-line database of the Register of Deeds, which is accessible to the public for a fee. HRA obtained photocopies of all conveyances in the northwest quarter of Section 12, which includes the rock outcrop.

In addition to the materials above, Dr. Greenwald reviewed published histories of the region, treaties, historical records on microfilm pertaining to the negotiation and implementation of the 1842 Treaty of La Pointe, and materials produced by the Michigan Department of Natural Resources (DNR) in response to Freedom of Information Act requests. She also interviewed several people with knowledge about the rock outcrop from their work in mineral exploration or forestry.

Dr. Greenwald received her Ph.D. in history at Yale University. Her training focused on North American environmental history, Native American history, and the history of the American West. At HRA, she has conducted research, analysis, and writing on a variety of subjects, primarily within environmental history and Native American history. Dr. Greenwald has served as an expert witness in litigation involving Indian land ownership, water rights, and responsibility for hazardous waste cleanup.

4.2 The Early Nineteenth Century

4.2.1 Treaties and Mineral Exploration

The proposed Eagle Mine site lies within an area ceded to the United States by various Ojibwe⁴⁶ bands in 1842. The Ojibwe have maintained a presence at the base of Keweenaw Bay, at or near the site of present-day L'Anse, since at least the mid-1600s.⁴⁷ By 1810, there were Ojibwe villages at L'Anse, Pequaming (north of L'Anse on the east shore of Keweenaw Bay), and at or near the site of present-day Marquette.⁴⁸ The *Atlas of Great Lakes Indian History* shows no permanent settlements in the inland area between L'Anse and Marquette at any point during the time period it covers, roughly 1640 to 1870.⁴⁹

⁴⁶ Many of the historical sources cited in this chapter refer to the Ojibwe as the Chippewa.

⁴⁷ Helen Hornbeck Tanner, ed., *Atlas of Great Lakes Indian History* (Norman: University of Oklahoma Press, 1987), 32 [Map 6].

⁴⁸ Tanner, *Atlas of Great Lakes Indian History*, 98 [Map 20].

⁴⁹ Tanner, *Atlas of Great Lakes Indian History*, passim.

In 1826, various Ojibwe bands, including representatives from Ontonagon, entered into a treaty with the United States at Fond du Lac. The main purpose of the 1826 treaty was to obtain the bands' agreement to the 1825 Treaty of Prairie du Chien, which had aimed to end conflicts between Chippewa (Ojibwe) and Sioux Indians.⁵⁰ In addition, the 1826 treaty contained a provision related to minerals. It stated,

The Chippewa tribe grant to the government of the United States the right to search for, and carry away, any metals or minerals from any part of their country. But this grant is not to affect the title of the land, nor the existing jurisdiction over it.⁵¹

In other words, the Ojibwe remained in possession of the land, but the United States could explore for and extract minerals from anywhere within Ojibwe territory, as defined under the 1825 Treaty of Prairie du Chien.

In 1840, Douglass Houghton, head of the Michigan State Geological Survey, explored the region along the southern shore of Lake Superior and on the Keweenaw Peninsula.⁵² Charles W. Penny, who traveled with the survey team along Lake Superior, kept a journal. He recorded a number of rock features along the lake, but it does not appear that he saw the interior of what is now Marquette County. He reported ascending “one of the highest knobs of granite we have ever seen” near the site of present-day Marquette. The editors of his journal note that this feature is now called Sugar Loaf.⁵³ (Sugar Loaf is located next to County Road 550.)

When the expedition camped where the Pine (Salmon Trout) River empties into Lake Superior, Penny observed three or four Indian lodges “[o]pposite our encampment” and described meeting with the “old chief.”⁵⁴ He also encountered “an old Indian burying ground” at the Huron River. He wrote, “The Indians pay great respect to their dead & renew the covering to their graves often.”⁵⁵

Houghton's expedition revealed the presence of extensive copper deposits in the Upper Peninsula, prompting the United States to try to acquire the area from the Ojibwe. In 1842, various Ojibwe bands (whom the United States termed collectively “the Chippewa Indians of the Mississippi and Lake Superior”) ceded the western Upper Peninsula of Michigan and an adjacent portion of Wisconsin, an area referred to as the Mineral District, to the United States. The cession treaty—the 1842 Treaty of La Pointe—included signatories from Ontonagon, L'Anse,

⁵⁰ Treaty of August 19, 1825, 7 Stat. 272.

⁵¹ Treaty of August 5, 1826, 7 Stat. 290.

⁵² James L. Carter and Ernest H. Rankin, eds., *North to Lake Superior: The Journal of Charles W. Penny, 1840* (Marquette, Mich.: John M. Longyear Research Library, 1970), xxi-xxii.

⁵³ Carter and Rankin, *North to Lake Superior*, 34.

⁵⁴ Carter and Rankin, *North to Lake Superior*, 35.

⁵⁵ Carter and Rankin, *North to Lake Superior*, 36.

and Lac Vieux Desert.⁵⁶ It is sometimes called the “Miners’ Treaty” because it served to open up part of Chippewa territory to mining.⁵⁷

The 1842 treaty noted that the Indians “stipulate for the right of hunting on the ceded territory, with the other usual privileges of occupancy, until required to remove by the President of the United States” It also provided that “The Indians resident on the Mineral district, shall be subject to removal therefrom at the pleasure of the President of the United States.”⁵⁸ The treaty left the Ojibwe without ownership of any land within the cession area.

The bands’ concern about their removal from the cession area ultimately led to negotiations for permanent reservations. An 1854 treaty concluded at La Pointe reserved certain unsold lands at the base of Keweenaw Bay for the L’Anse and Lac Vieux Desert bands. It also reserved four sections of land, location unspecified, for the Ontonagon band.⁵⁹

4.2.2 Ojibwe Understanding of the 1842 Treaty

Historical documents shed some light on what the Ojibwe understood the 1842 treaty provision about the Mineral District to mean. L.H. Wheeler, a missionary with the American Board of Commissioners for Foreign Missions (ABCFM), kept notes of the 1842 treaty council. His notes indicate that the “Antonagon” chief said, “It does not appear that our Father wants to buy our land except the Mineral country.”⁶⁰ In 1843, Martin, the head chief of the Lac Court Oreilles band, recounted the treaty provisions in an effort to obtain some compensation for “half breeds” who were left out of the treaty:

We were told by the commissioner that our grand father wanted our lands for the sake of the mines, but that we might remain on them as long as our grand father see [*sic*] fit. But I & my brother chiefs refused to touch the pen, unless our half breed relations were provided for, so we should be permitted to live on the land as long as we behaved well & are peaceable with our grandfather & his white children.

. . . We have no objection to the white mans working the mines, & the timber and making farms, But we reserve the Birch bark & cedar, for canoes, the Rice & the sugar tree and the priviledge [*sic*] of hunting without being disturbed by the whites.⁶¹

Another man, identified as The Warrior, acknowledged that the Ojibwe were left without land and asked for a reservation. He explained,

⁵⁶ Treaty of October 4, 1842, 7 Stat. 591.

⁵⁷ For example, Al Gedicks, *The New Resource Wars: Native and Environmental Struggles Against Multinational Corporations* (South Island Press, 1993), 50; “Origins and History,” Red Cliff Band of Lake Superior Chippewa <<http://www.redcliff-nsn.gov/Government/history.htm>> (July 30, 2008).

⁵⁸ Treaty of October 4, 1842, 7 Stat. 591.

⁵⁹ Treaty of September 30, 1854, 10 Stat. 1109.

⁶⁰ L.H. Wheeler to David Greene, 5/3/1843, American Board of Commissioners for Foreign Missions [ABCFM] Mss. 141 No. 223, typescript copy in American Board of Commissioners for Foreign Missions Papers, Minnesota Historical Society, St. Paul, Minn. (Original document is in Series 18.3.7, v. 2, American Board of Commissioners for Foreign Missions, Archives, 1810-1961, Houghton Library, Harvard University).

⁶¹ Attachment C, Alfred Brunson to J.S. Doty, 1/6/1843, Letters Received by the Office of Indian Affairs, 1824-1881, National Archives Microfilm Publication M234, Roll 388, Frame 404. [This series cited hereafter as M234, R#, F#].

Father: Our grand father bought our lands for the copper it contains. There is a piece of land where this metal is not found; The trees are not good (pine), & there is nothing there that the pale faces can make use of. We want our grand father to reserve us this land, where we make our sugar & plant our gardens.⁶²

In September 1843, various Ojibwe chiefs petitioned the “Great Father” regarding certain matters, including their opposition to having their farm and blacksmith shop moved to Bad River. The chiefs explained, “We beg you again to look at our situation. If we go to Bad river, we are near to the white men who work the copper mines—we sold twelve moons ago. We do not wish to be near them.”⁶³

Buffalo, the head chief of the La Pointe band, along with his chiefs, headmen, and warriors, petitioned President Millard Fillmore in 1852 to prevent removal of the Ojibwe from the 1842 ceded area. The petition included some comments about the 1842 treaty:

. . . we your Chippewa children residing at Lapointe feel deeply grieved at the non-fulfillment of promises made to us by your Commissioner Robert Stuart Esq. when you authorized him to purchase our mineral lands in 1842

And when we understood that your Commissioner had come to purchase our mineral lands, and when we understood the stipulated amount to be paid to us, and the time of the annuities commencing; and at this state of affairs some of the Indians were induced to deliver up our mineral lands, it was children who first did so.⁶⁴

In 1872, the headmen of L’Anse wrote to the president of the United States, stating that their chiefs had not intended to sell their lands and did not agree to sign the 1842 treaty, despite the fact that their names appeared on it. Their letter reflects an understanding that the 1842 treaty involved mineral lands. They said that when Robert Stuart came to negotiate the treaty, he told the chiefs,

“Your Great Father wishes to purchase the Mineral lands which are in your country. He asks not for your land because it is not fit for farming purposes. . . . He has sent me here to hold a council with you and your people.--those who claim the ownership of the lands situate between the Montreal and Chocolate rivers, to propose to buy the mineral which may be found on there. He has not sent me to any other bands of your brethren, only to yourselves.”

. . . After the expiration of two days the Commissioner called all the chiefs together in the open air, to meet them in council. When all the speeches were concluded, commissioner Stewart said:-- “I shall never propose to buy your lands; you must not expect that your great Father is anxious to buy your lands and to give you a great price for them. The great benefit that the Great Father expects from these lands is the Minerals on them. The minerals are the only things the whites want now. The whites do not want to come and live on them.”⁶⁵

⁶² This man’s reference to “Father” appears to be to the Superintendent of Indian Affairs, J.S. Doty, and “grand father” appears to be a reference to the president of the United States. Attachment D, Alfred Brunson to J.S. Doty, 1/6/1843, M234, R388, F406.

⁶³ Various chiefs to Great Father, 9/12/1843, M234, R388, F424-425.

⁶⁴ Buffalo, Head Chief at Lapointe, and his chiefs, head men, and warriors, to Millard Fillmore, 6/12/1852, M234, R149, F203.

⁶⁵ Peter Marksman, David King, et al., to the President, 3/11/1872, M234, R410, F625 and 631.

Records from government officials and missionaries state that the Ojibwe were told, at the time of the treaty and afterward, that they would need to stay out of the way of mining activities. In 1844, Robert Stuart, who negotiated the treaty on behalf of the United States, sent the Commissioner of Indian Affairs a “Sketch of Speech to the Indians at La Pointe by Robert Stuart, Comr. September 29, 1842.” In that speech, Stuart said,

The principal benefit your great Father expects from your lands at present is, the removal of the minerals which are said to be on them⁶⁶

He further reminded the Ojibwe,

you have already given permission by the [1826] Treaty of Fond du Lac, to have the minerals taken from your land, which shall be done, whether you sell your lands or not; and this is all the whites want of your lands; still, you must be ready to leave them whenever the President shall require you to do so.⁶⁷

Missionary L.H. Wheeler, in his account of the treaty negotiations, reported that Stewart said to the Ojibwe chiefs, “you understand [your great father] does not want the land now, it is only the Minerals he wants.”⁶⁸ Not long after the treaty was negotiated, Stuart wrote missionary David Greene, “I have the pleasure to state, that it is not expected the Indians will have to remove from their present locations, for many years to come. There are a few on and near the mineral district, who, in imitation of Abraham and Lot, may have to move to the right, or left”⁶⁹

In April 1843, Stuart informed the Commissioner of Indian Affairs that he had written to government subagents at Sault Ste. Marie and La Pointe “to enjoin upon their Indians, not to impede in any respect, either the operations of miners or of the Gov. Agent, (having the supervision of the mineral lands)”⁷⁰

Three years later, William Alburtiz, commander at Fort Wilkins, wrote the Superintendent of Indian Affairs for Michigan about a delegation of L’Anse Ojibwe under Chief David King who requested to move from L’Anse to the west side of the Sturgeon River. Alburtiz supported the move, noting, “It is believed that the selection of land they have made would not interfere in any respect with the mineral lands”⁷¹

In a 1851 letter to the Commissioner of Indian Affairs, L.B. Treat, Secretary of the ABCFM, wrote,

⁶⁶ “Sketch of Speech to the Indians at La Pointe by Robert Stuart, Comr. September 29, 1842,” enclosed in Robert Stuart to T. Hartley Crawford, 3/29/1844, M234, R389, F64.

⁶⁷ “Sketch of Speech to the Indians at La Pointe by Robert Stuart, Comr. September 29, 1842,” enclosed in Robert Stuart to T. Hartley Crawford, 3/29/1844, M234, R389, F64.

⁶⁸ L.H. Wheeler to David Greene, 5/3/1843, American Board of Commissioners for Foreign Missions [ABCFM] Mss. 141 No. 223.

⁶⁹ Emphasis in original. Robert Stuart to David Greene, 12/8/1842, ABCFM Mss. Misc. Vol. 159 (VII): No. _42 [first character is not clear], typescript copy in American Board of Commissioners for Foreign Missions Papers, Minnesota Historical Society, St. Paul, Minn. (Original document is in Series 10, v. 31, American Board of Commissioners for Foreign Missions, Archives, 1810-1961, Houghton Library, Harvard University.)

⁷⁰ Robert Stuart to T. Hartley Crawford, 4/9/1843, M234, R425, F369.

⁷¹ Wm. Alburtiz to Wm. A. Richmond, 5/14/1846, M234, R426, F61.

It was the declared wish of government when the treaty of 1842 was made, to obtain the controll [sic] of the mineral lands, in the possession of the Ojibwas, and not to purchase their territory for agricultural purposes.

The Indians were told that they could remain where they were for an indefinite period, except so far as they might be required to give places to miners⁷²

4.2.3 Land Surveys and Maps

The United States General Land Office surveyed T50N-R29W in the years following the 1842 land cession. W.A. Burt, John Burt, and Austin Burt surveyed the township lines in 1846, and A.B. Wood, Jr., marked the subdivisions (section lines) in 1852. Wood noted the general condition of the land along each line he ran, including topography, soil conditions, and tree types. For example, on the line between Sections 10 and 11, he recorded “Foot of hill + Enter Alder bottom CNNW + E.S.E.”⁷³ Wood was nearest to the rock outcrop in the northwest quarter of Section 12 when he ran the lines on the west and north sides of Section 12. He did not mention any elevation features on these lines, and in both cases he commented “Land level Soil sandy.”⁷⁴

From the survey notes, the General Land Office prepared a township plat, a map of the 36-section square that constitutes T50N-R29W (see Figure 4-1).⁷⁵ While the plat illustrates water features inside sections, it only shows those elevation features that intersect section lines.⁷⁶ Three granite knobs are explicitly indicated on the southern boundary of Sections 33 and 34. The Michigan DNR recently used the same survey data, in conjunction with data for other townships, to prepare a map of Michigan vegetation circa 1800 (see Figure 4-2).

HRA historians reviewed maps, manuscripts, and other documentary materials for Ojibwe place names at or near the proposed Eagle Mine site. This review included Virgil J. Vogel’s *Indian Names in Michigan* (University of Michigan Press, 1986) and Bernard C. Peters’ *Lake Superior Place Names: From Bawating to the Montreal* (Northern Michigan University Press, 1996). Peters’ book includes Ojibwe names for Sugar Loaf Mountain, Granite Point (Little Presque Isle), the Yellow Dog River, the Salmon Trout River, and other major rivers and features in northern Marquette County. These names were drawn from Bela Hubbard’s 1840 map of the Lake Superior shoreline and Homer Huntington Kidder’s interviews with Charlie Kobawgam, Charlotte Kobawgam, and Jacques Le Pique.⁷⁷ Neither “Eagle Rock” nor “Migi zii wa sin” appears in the sources discussing place names, and the rock outcrop did not appear on any historical maps.

⁷² L.B. Treat to Luke Lea, 1/21/1851, M234, R767, F249.

⁷³ United States Field Notes of Township 50 North Range 29 West (certified copy dated 1905), 59, Marquette County Register of Deeds, Marquette, Mich.

⁷⁴ Field Notes of Township 50 North Range 29 West, 48-49.

⁷⁵ Surveyor General’s Office, Detroit, Map of Township No. 50 North of Range No. 29 West, Principal Meridian Michigan (August 18, 1853).

⁷⁶ It is not clear whether the surveyors “meandered” the rivers and creeks to get their exact course, or if the person drawing the plat interpolated the water courses from survey coordinates on the section lines.

⁷⁷ Bernard C. Peters, *Lake Superior Place Names: From Bawating to the Montreal* (Marquette, Mich.: Northern Michigan University Press, 1996), 55-57.

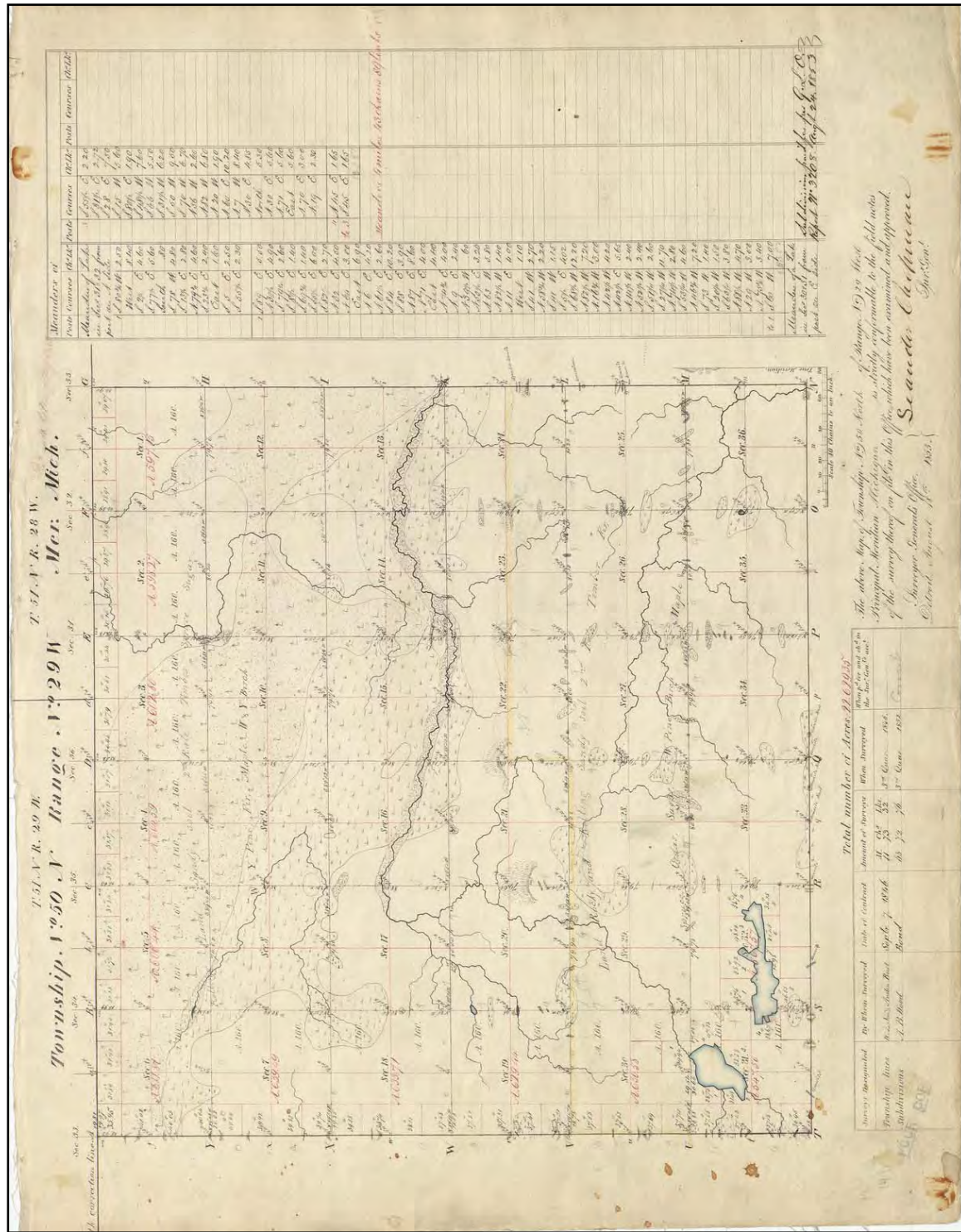


Figure 4-1. Township 50 North, Range 29 West. Source: Bureau of Land Management, General Land Office Records <http://www.gloreords.blm.gov> (December 19, 2007).

**Vegetation circa 1800 of
Marquette County, Michigan
NORTHWEST PART**

An Interpretation of the General Land Office Surveys

By F. J. Conner and D. A. Albert
Michigan Natural Features Inventory

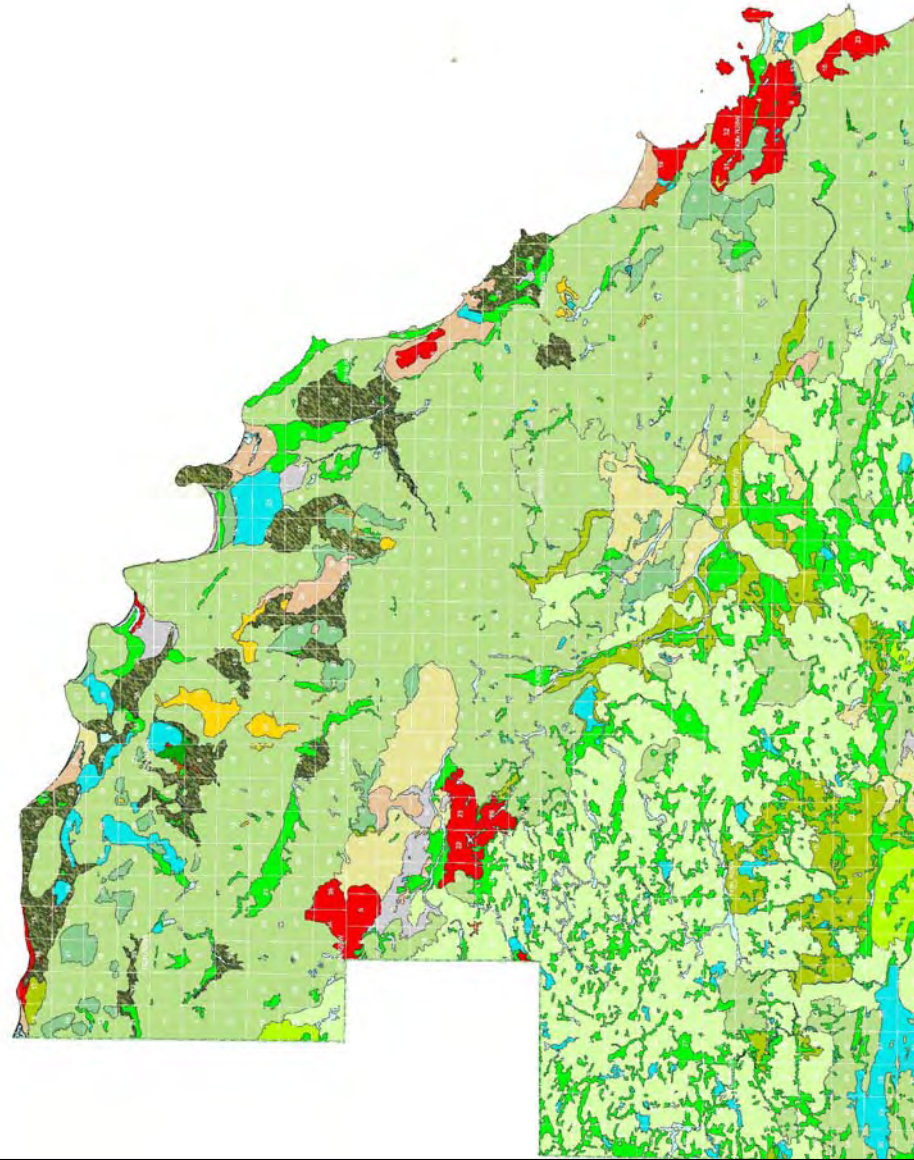


Figure 4-2. Vegetation circa 1800, northwestern Marquette County. *Source:* <<http://web4.msue.msu.edu>>(August 5, 2008).

4.3 History of Mining in Northern Marquette County

4.3.1 Iron Mining

In 1844, William A. Burt reported erratic compass behavior while conducting surveys for the General Land Office near Teal Lake, at the present site of Negaunee. He recorded in his field notes for the east boundary of T47N-R27W, “Spathic and hematite iron ore about this line.”⁷⁸ Philo M. Everett read reports of Burt’s finding and of copper found by Douglass Houghton. Based on those reports, Everett and others in Jackson, Michigan, formed the Jackson Mining Company during the winter of 1844-45, and in the spring, they traveled to the Upper Peninsula in search of minerals. Everett’s party was ultimately led by an Ojibwe man named Marjigeesek to an outcrop of iron ore near present-day Negaunee.⁷⁹

Burt’s report and Everett’s find triggered an iron mining boom in the 1850s.⁸⁰ The opening of the St. Mary’s Ship Canal in 1855 facilitated the boom by allowing iron companies to ship ore by water.⁸¹ Railroad construction starting in the 1850s began the process of connecting Marquette to the iron mining region and to L’Anse.⁸² As iron mining expanded through the late 1800s, the population of Marquette County grew from 2,821 in 1860 to 46,076 in 1910.⁸³ Mining companies active in the Marquette Iron Range included Jackson Mining Company, the Marquette Iron Company, Cleveland Iron Company, and the Iron Cliffs Company. These four all became part of the Cleveland-Cliffs Iron Company. Initially, the iron companies shipped raw ore to furnaces in Ohio and Pennsylvania, but then they constructed forges near the mine sites. Miners first worked the surface deposits, but in 1866, Cleveland Iron Mining Company started the first underground mining operation. In 1877, Cleveland-Cliffs introduced use of diamond drills in exploration for ore bodies.⁸⁴

The iron mining industry took advantage of the extensive forests close at hand. Timbers were used to frame mine shafts and underground chambers. Wood was also made into charcoal for use in the production of pig iron. To supply their timber needs, mining companies purchased vast tracts of land. The Cleveland Iron Mining Company bought 2,200 acres in 1849, and by 1978,

⁷⁸ *History of the Upper Peninsula of Michigan Containing a Full Account of Its Early Settlement; Its Growth, Development and Resources; An Extended Description of Its Iron And Copper Mines . . .* (Chicago: Western Historical Company, 1883), 186, 380; C. Fred Rydholm, *Superior Heartland: A Backwoods History* (1989), 127-28.

⁷⁹ Russell M. Magnaghi, *A Guide to the Indians of Michigan’s Upper Peninsula* (Marquette, Mich.: Belle Fontaine Press, 1984), 50; *Negaunee Centennial* (1965), [no page numbers], VF-5, Vertical Files, Northern Michigan University Archives, Marquette, Michigan [hereafter NMU Archives]; Wilbert H. Treloar, *A Bond of Interest* (1988), 3-4 [reprinted from *Harlow’s Wooden Man* XIII: 5 (Fall 1978)]; Rydholm, *Superior Heartland*, 137. There are differing versions of the story of how the Everett party found iron. But they agree that Marjigeesek played a key role.

⁸⁰ A description of early iron mining activities can be found in *A Brief History of the Marquette Iron Range* by Ernest H. Rankin, 2d ed. (Marquette County Historical Society, 1966).

⁸¹ Treloar, *A Bond of Interest*, 7.

⁸² *History of the Upper Peninsula of Michigan*, 167.

⁸³ Rankin, *A Brief History of the Marquette Iron Range*, 10-11.

⁸⁴ *Negaunee Centennial*, [no page number]. Although this source names Cleveland-Cliffs as the originator of diamond drilling in the area, Cleveland Iron and Iron Cliffs had not yet merged to form Cleveland-Cliffs.

Cleveland-Cliffs Iron owned 330,000 acres.⁸⁵ Cleveland-Cliffs initiated an “open-land” policy in 1891, through which its forest lands were kept open for public recreation.⁸⁶

Don H. Clarke’s *Guide to Michigan Iron Mines* lists roughly 175 named iron mines in Marquette County, with founding dates between 1846 and 1918.⁸⁷ (The total number of entries for Marquette County is nearly 200, but a few of these mines were known by various names and thus appear on the list more than once.) In his *Brief History of the Marquette Iron Range*, Ernest Rankin notes, “The number of mine shafts and locations on the Marquette Iron Range during the past 120 years is prodigious—amounting to several hundred at least.”⁸⁸ An historical overview by Burton Boyum indicates that 529,274,750 tons of iron were shipped from the Marquette Range between 1846 and 1982 (see Figure 4-3).⁸⁹ The Gogebic and Menominee Iron Ranges, also in the Upper Peninsula (and within the 1842 ceded area), similarly produced vast quantities of iron (see Figure 4-3). Figure 4-4 shows the locations of the Michigan iron ranges.

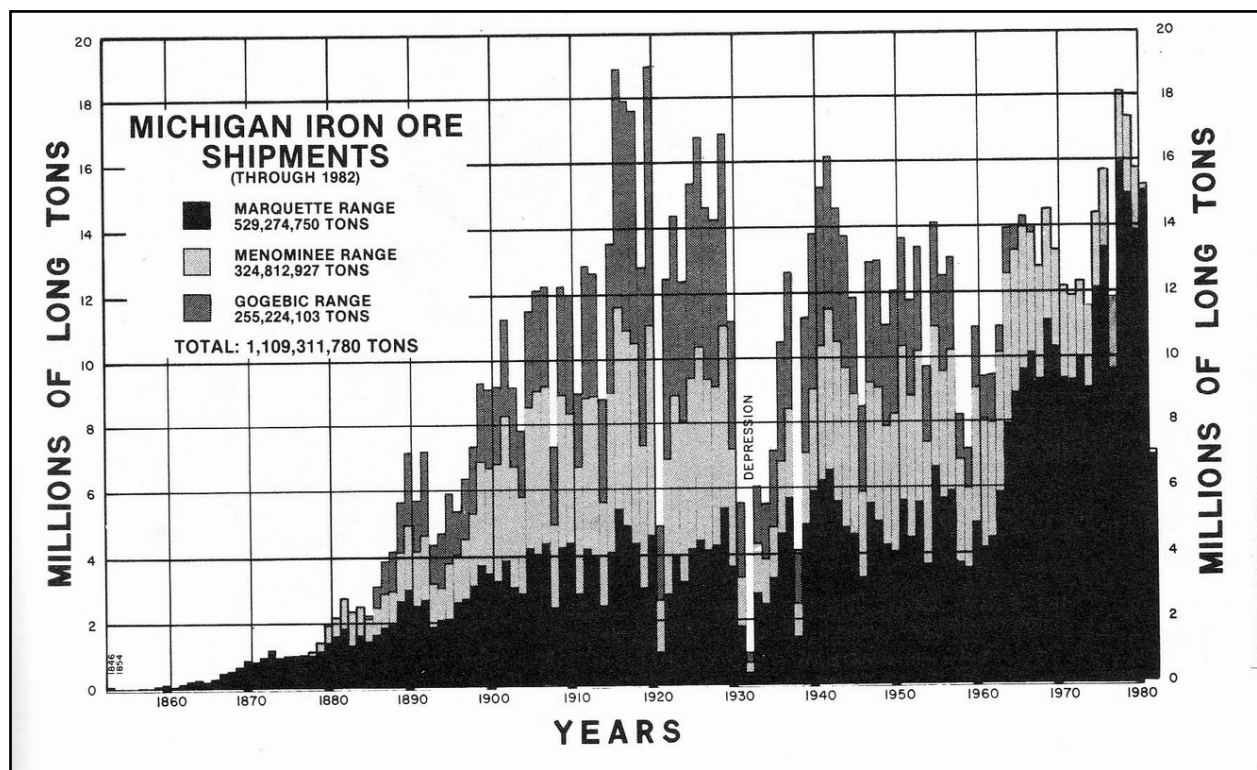


Figure 4-3. Michigan iron ore shipments, 1846-1982. Source: Burton H. Boyum, *The Saga of Iron Mining in Michigan’s Upper Peninsula* (Marquette, Mich.: John M. Longyear Research Library, 1983), 25.

⁸⁵ Treloar, *A Bond of Interest*, 17-18.

⁸⁶ Treloar, *A Bond of Interest*, 27.

⁸⁷ Don H. Clarke, *Guide to Michigan Iron Mines* (1992), VF-427, NMU Archives.

⁸⁸ Rankin, *A Brief History of the Marquette Iron Range*, 10.

⁸⁹ Burton H. Boyum, *The Saga of Iron Mining in Michigan’s Upper Peninsula* (Marquette, Mich.: John M. Longyear Research Library, 1983), 25.

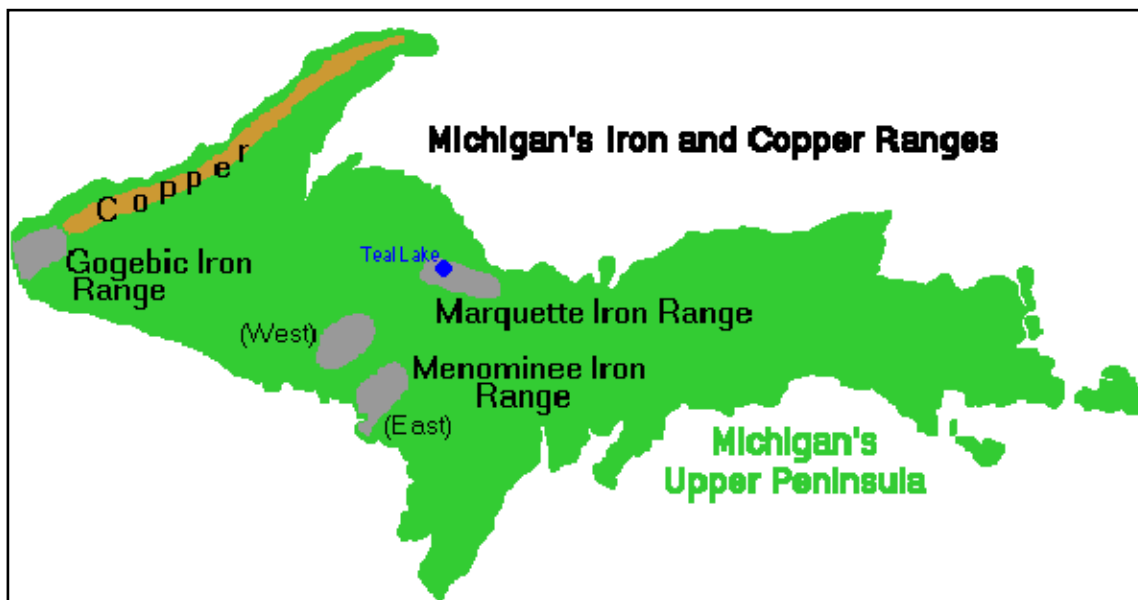


Figure 4-4. Michigan’s iron and copper ranges. *Source:* Michigan Historical Museum, “Mining in Michigan” <<http://www.sos.state.mi.us/>> (August 11, 2008).

Michigan’s iron mining declined in the mid-twentieth century as the steel industry began requiring higher grade ores. In response, Cleveland-Cliffs initiated a research program to develop methods for upgrading lower-grade ores. By the 1960s, the company and its partners were able to revive low-grade iron mining.⁹⁰ Around 1980, Cleveland-Cliffs Iron Company was the region’s largest employer.⁹¹

4.3.2 Copper Mining

Native Americans began mining copper from deposits around Lake Superior perhaps as long as 7800 years ago, and certainly by 5000 years ago. They continued to use Lake Superior copper until the seventeenth century, when they began using metals introduced by Europeans.⁹² W.H. Holmes studied ancient copper mines in the area and determined that exposed deposits were hammered or cut away. To extract copper within solid rock, Indians heated the rock and then poured water on it to cause the rock to fracture. Then they used stone hammers or mauls to separate rock from ore. In the process of following copper veins through the rock, miners created substantial pits or trenches (5-15 feet wide, 6-10 feet deep, and 20 feet long).⁹³

⁹⁰ *Negaunee Centennial*, [no page number].

⁹¹ *Marquette Economic Profile [Marquette: The Superior Location]* (Economic Development Corporation of the City of Marquette, no date [ca. 1981]), 13, VF-19, NMU Archives.

⁹² Susan R. Martin, *Wonderful Power: The Story of Ancient Copper Working in the Lake Superior Basin* (Detroit: Wayne State University Press, 1999), 143-45, 180.

⁹³ “Copper: Its Mining and Use by the Aborigines of the Lake Superior Region,” *Bulletin of the Public Museum of the City of Milwaukee* 10: 1 (May 29, 1929), 44-45, 56-57.

Europeans in the Great Lakes region took note of copper deposits as early as 1636.⁹⁴ But no substantial non-Indian mining took place until after 1841, when Douglass Houghton reported the results of his mineral survey work to the Michigan legislature.⁹⁵ As noted above, the copper region of Michigan was still part of Ojibwe territory at this time, but the 1842 land cession opened the door to mining. Miners quickly moved into the region in the next few years.⁹⁶ The mining region stretched up the Keweenaw Peninsula's interior, in present-day Ontonagon, Houghton, and Keweenaw Counties (see Figure 4-4). No copper mines existed in the Yellow Dog Plains.

Miners who arrived in the 1840s and after worked with hand drills and blasting powder to break out chunks of copper. Mining technology developed during the later part of the century, including the introduction of diamond drills (1870s) and dynamite (1880s). Increasing mechanization, using steam power and then gasoline, further transformed the mining process.⁹⁷ By the early twentieth century, Michigan copper mining had penetrated deep below the earth's surface. The Quincy Mine, near Hancock, Michigan, reached a depth of one mile with 61 levels within the mine by 1905.⁹⁸ (Quincy is No. 26 on Figure 4-5.) Michigan copper production peaked during World War I (see Figure 4-6).

Although copper mining continued through the twentieth century, by 1999, Michigan had only one operating copper mine.⁹⁹ As of 2003, there were no operating copper mines in the state.¹⁰⁰

⁹⁴ A.P. Swineford, *History and Review of the Copper, Iron, Silver, Slate and Other Material Interests of the South Shore of Lake Superior* (Marquette, Mich.: The Mining Journal, 1876), 3.

⁹⁵ "Copper: Its Mining and Use by the Aborigines of the Lake Superior Region," 51; Swineford, *History and Review*, 17.

⁹⁶ *History of the Upper Peninsula of Michigan*, 132-33.

⁹⁷ Michigan Historical Museum, "Mining in Michigan: Copper Mining" <<http://www.sos.state.mi.us/history/museum/explore/museums/hismus/prehist/mining/copper.html>> (August 11, 2008).

⁹⁸ T.A. Rickard, *The Copper Mines of Lake Superior* (New York and London: The Engineering & Mining Journal, 1905), 63.

⁹⁹ United States Geological Survey [USGS], *Minerals Yearbook—1999*, 24.2 <<http://minerals.usgs.gov/minerals/pubs/state/982600.pdf>> (August 12, 2008).

¹⁰⁰ USGS, *Minerals Yearbook—2003*, 24.2 <<http://minerals.usgs.gov/minerals/pubs/state/2003/mistmyb03.pdf>> (August 12, 2008); USGS, *Minerals Yearbook—2004*, 24.1 <<http://minerals.usgs.gov/minerals/pubs/state/2004/mistmyb04.pdf>> (August 12, 2008).

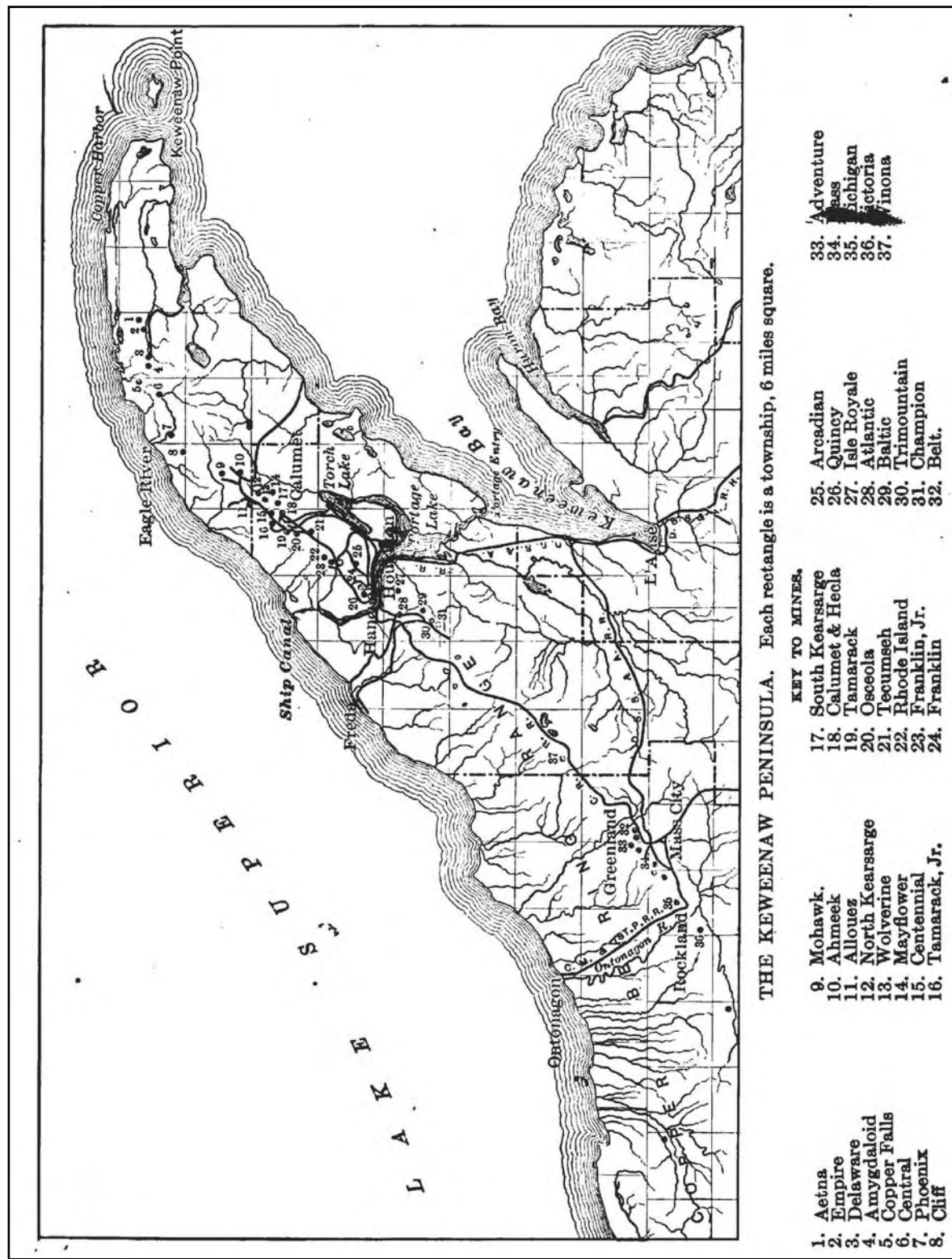


Figure 4-5. Copper mines on the Keweenaw Peninsula, circa 1905. Source: T.A. Rickard, *The Copper Mines of Lake Superior* (New York and London: The Engineering & Mining Journal, 1905), 17.

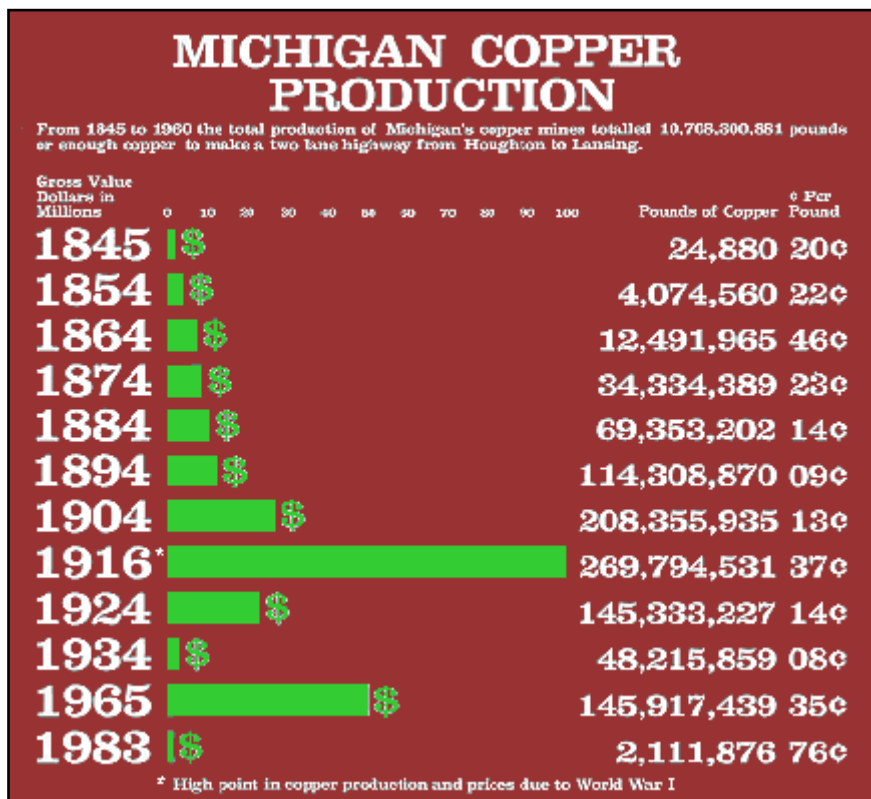


Figure 4-6. Michigan copper production. *Source:* Michigan Historical Museum, "Mining in Michigan" <<http://www.sos.state.mi.us>> (August 11, 2008).

4.3.3 Other Minerals

Douglass Houghton was reported to have found gold in a stream north of Ishpeming in 1845.¹⁰¹ Julius Ropes discovered gold northwest of Ishpeming (roughly 15 miles southeast of the Yellow Dog Plains) in 1880 and 1881, and he established the Ropes Gold Mine. The mine has passed through different hands over the years and has had several phases of production, including a period from 1985 to 1989.¹⁰² When Callahan Mining Corporation acquired the Ropes Mine in 1975, it constructed a new mine shaft 1620 feet deep and also built an inclined ramp shaft that descended to 1640 feet below the surface.¹⁰³

The Michigan Gold Mine was established three miles west of the Ropes Mine in 1887, and it produced for a short period of time.¹⁰⁴ Other prospecting efforts led to some small gold finds,

¹⁰¹ Boyum, "Marquette Range Non-Ferrous Mineral Prospects and Mines," D-2.

¹⁰² Boyum, "Marquette Range Non-Ferrous Mineral Prospects and Mines," D-3.

¹⁰³ Boyum, "Marquette Range Non-Ferrous Mineral Prospects and Mines," D-10 to D-11.

¹⁰⁴ Boyum, "Marquette Range Non-Ferrous Mineral Prospects and Mines," D-3 to D-4.

including one in Marquette.¹⁰⁵ (Figure 4-7 shows gold mines in northern Marquette County, along with silver and lead mines.)

Nels Andersen, who homesteaded on the Yellow Dog Plains between 1902 and 1913 (in Section 35, T51N-R29W), discovered gold while digging a well, but he did not mine it.¹⁰⁶ In the 1930s, exploration for gold was conducted in portions of T50N-R28W and R29W. The effort located gold in Sections 12 and 13 of T50N-R29W, with the highest values per ton lying along the Yellow Dog River (see Figure 4-8).¹⁰⁷ Some placer mining occurred along the Yellow Dog and other streams during the 1930s. The United States Geological Survey (USGS) and two mining companies conducted gold exploration work in the 1970s, but they found little.¹⁰⁸

Some silver and lead mining occurred in the 1860s in an area north of Silver Lake (several miles south of the Yellow Dog Plains).¹⁰⁹ By the 1870s, slate had become a resource of value. A.P. Swineford wrote in 1876 that the slate belt “lies midway between the copper and iron deposits No estimate of the length, depth and breadth of the belt can at present be satisfactorily made.”¹¹⁰ Swineford described several slate quarries at work in the area.¹¹¹

In 1972, Willard Arthur Bodwell compiled geologic data for the western Upper Peninsula for his M.A. thesis at Michigan Technological University. He described “principal bodies of serpentinized peridotite” in T48N-R25W and T48N-R27W and R28W. In addition, he wrote, “Other small occurrences of ultramafic rocks are noted in Dickinson County and T50N R29W [in the Yellow Dog Plains], Marquette County, and large gabbroic intrusive bodies occur in Iron County. Smaller mafic intrusive bodies occur north of Dead River in Marquette County.”¹¹²

During the 1970s, the Geological Survey Division of the DNR conducted mineral surveys in conjunction with the USGS and the Institute of Mineral Research at Michigan Technical University. The survey work included geophysical and geochemical testing at and around the rock outcrop in Section 12, T50N-R29W (the outcrop at issue in this report).¹¹³ It also involved drilling core samples from the outcrop itself. A team from the Institute of Mineral Research

¹⁰⁵ Fountain, *Michigan Gold*, 102-3.

¹⁰⁶ Fountain, *Michigan Gold*, 135-36.

¹⁰⁷ Willard Arthur Bodwell, “Geologic Compilation and Nonferrous Metal Potential, Precambrian Section, Northern Michigan” (M.A. Thesis, Department of Geology and Geological Engineering, Michigan Technological University, 1972), 94-95, VF-300, NMU Archives.

¹⁰⁸ Fountain, *Michigan Gold*, 136.

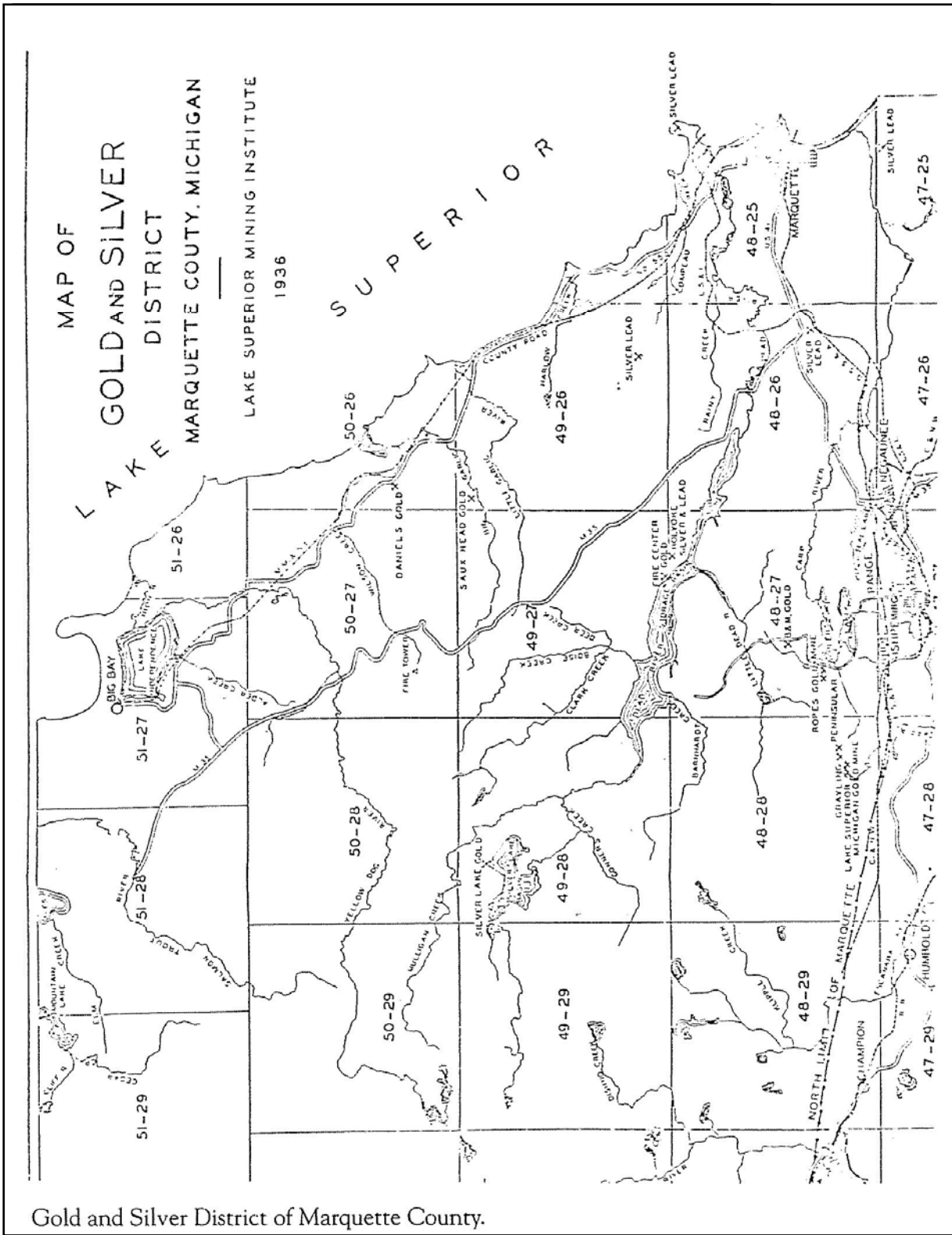
¹⁰⁹ Boyum, “Marquette Range Non-Ferrous Mineral Prospects and Mines,” D-2.

¹¹⁰ Swineford, *History and Review*, 265-66.

¹¹¹ Swineford, *History and Review*, 266-68.

¹¹² Bodwell, “Geologic Compilation and Nonferrous Metal Potential,” 91-92.

¹¹³ The results of this research were published as John S. Klasner et al., “The Yellow Dog Peridotite and a Possible Buried Igneous Complex of Lower Keweenaw Age in the Northern Peninsula of Michigan,” Report of Investigation 24, Geological Survey Division, Michigan Department of Natural Resources, 1979. This report covered both the outcrop in Section 12, the one at issue here, and a smaller outcrop in Section 11, near the Salmon Trout River.



Gold and Silver District of Marquette County.

Figure 4-7. Gold and silver district, Marquette County. Source: C. Fred Rydholm, *Superior Heartland: A Backwoods History* (1989), 231.

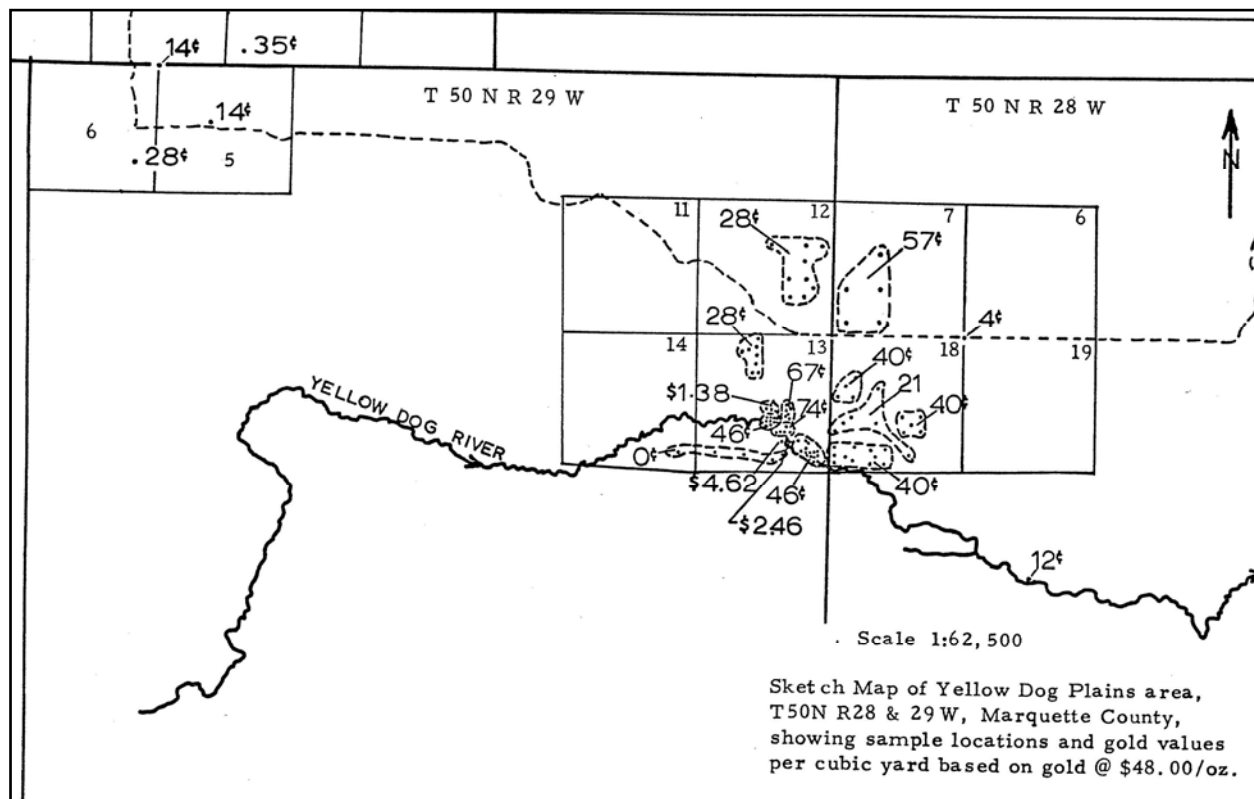


Figure 4-8. Placer gold values along Yellow Dog River. *Source:* Willard Arthur Bodwell, "Geologic Compilation and Nonferrous Metal Potential, Precambrian Section, Northern Michigan" (M.A. Thesis, Department of Geology and Geological Engineering, Michigan Technological University, 1972), Figure 16.

conducted the drilling work in October 1976. They used a portable Winkie Drill to obtain a one-inch-diameter core down to a depth of about 100 feet.¹¹⁴

Kennecott Exploration Company began investigating the Baraga Basin (which includes the present Eagle Project site) in 1990. Kennecott Exploration began a drilling program at the outcrop in 1995, at which time the effort was called the Yellow Dog Project. Holes were drilled around the four corners of the outcrop. Kennecott Exploration conducted geophysical surveys at the outcrop and adjacent areas in 1995 and 1996. These surveys tested the earth's electrical, magnetic, and gravitational properties in those areas, and they were conducted by carrying instruments along the ground and taking readings.¹¹⁵

Little work occurred between 1996 and 1999, but the project restarted in 2000 and drilling began at the east end of the outcrop in July 2001.¹¹⁶ In 2002, drilling work was being conducted at the ore body that lies approximately 2600 feet west of the outcrop. At one stage, Kennecott

¹¹⁴ Interview with Dr. Allan M. Johnson, conducted by Emily Greenwald, 7/14/2008; field notes of Dr. Allan M. Johnson, October 13-15, 1976.

¹¹⁵ Interviews with Dean Rossell, conducted by Emily Greenwald, 6/23/2008 and 8/6/2008.

¹¹⁶ Interview with Dean Rossell, 6/23/2008.

Exploration submitted an exploration plan to the DNR and Michigan Department of Environmental Quality to drill holes on the outcrop. The plan was approved, but Kennecott Exploration did not implement the work.¹¹⁷

After Kennecott Exploration discovered an ore body in the Yellow Dog Project in 2002, London-based officials of Rio Tinto, Kennecott Exploration's parent company, called for a name change because they did not like the name "Yellow Dog." Kennecott Exploration President John Main looked for a name with a connection to the Ford Motor Company, from which Kennecott Exploration had acquired a large block of mineral titles that included the ore body. The name "Falcon" was selected. Around that same time, however, one of Kennecott Exploration's competitors was exploring the Upper Peninsula and had issued press releases touting its Falcon System, an airborne gravity gradiometer (to measure changes in the earth's gravity). Because the name Falcon was being used by a competitor, Rio Tinto officials in London decided to rename the project and came up with the name "Eagle."¹¹⁸

4.4 History of Logging in the Yellow Dog Plains

Logging in the interior of Marquette County began in the 1850s, and the initial exploitation of the Yellow Dog Plains occurred in the 1880s. At first, loggers went after white pine, which could be transported by river. Over time, they shifted to hardwoods and then to "weed" trees (pulpwood), ultimately removing nearly all of the forest cover of the Yellow Dog Plains. Historian Ted Karamanski has noted, "Pine logging had a detrimental effect on the forest of northern Michigan." Although they did not clear-cut, pine loggers left behind branches and rotted trees that became a fire hazard and often burned before they could naturally decay.¹¹⁹ As loggers introduced more mechanized technologies and started harvesting all types of trees, they did clear-cut. According to Karamanski, "They removed all trees and most tree limbs from the forest, regardless of tree size, type, or quality."¹²⁰

4.4.1 The White Pine Era

The first sawmills in Marquette County were established between 1848 and 1850. By the 1870s, inexpensive land prices (\$1.25 per acre) and expanding transportation networks combined with external demand to trigger a logging boom in Marquette County. The boom lasted until the early twentieth century.¹²¹

The Jackson Iron Company established the first commercial forest operations in Marquette County to obtain charcoal for smelting iron. Its forge on the Carp River went into operation in

¹¹⁷ Interview with Andrew Ware, conducted by Emily Greenwald, 6/25/2008.

¹¹⁸ Interviews with Dean Rossell, 8/6/2008 and 8/8/2008.

¹¹⁹ Theodore J. Karamanski, *Deep Woods Frontier: A History of Logging in Northern Michigan* (Detroit: Wayne State University Press, 1989), 84.

¹²⁰ Karamanski, *Deep Woods Frontier*, 145.

¹²¹ Martin L. Tremethick, "Sawmills in Marquette County," *Historic Resources of the Iron Range in Marquette County, Michigan, 1844-1941*, 1-2.

1848.¹²² As the iron business and the population of Marquette County grew, demand increased for wood for railroad construction and housing.¹²³

From the 1850s to 1900, logging companies in Marquette County focused on white pine. Pine could be transported by floating it down rivers to Lake Superior, from which it could reach other markets. Most hardwoods, by contrast, would not float, and they remained in the forest.¹²⁴ The logging companies employed timber cruisers, who scouted areas along rivers to find good timber stands that the companies could purchase and cut.¹²⁵

Loggers used hand tools in this era: axes, cross-cut saws, and pickaroons (long-handled tools with a hook end used to manipulate logs). They established a network of roads, which they leveled by chopping out roots, moving rocks, and filling holes.¹²⁶ They cut pine in the winter and hauled it to the rivers using oxen or horses, then stacked it on the banks (see Figure 4-9). During the spring, as snow melted and filled the streams with rushing water, they “drove” the logs down the river to sawmills on or near Lake Superior. They had to alter the course and flow of rivers in order to use them effectively for transportation. Loggers blasted away obstacles and straightened river courses. They constructed dams to raise river levels, and they released water from the dams to propel logs downstream.¹²⁷

Logging crews established camps near their work areas.¹²⁸ Tim Nester established camps on the east bank of the Salmon Trout River in Section 11, T50N-R29W.¹²⁹ According to Terry Klavitter, logging camps generally consisted of bunkhouses, a kitchen, and an office.¹³⁰ Ted Karamanski described the construction of a logging camp near Whitefish River (in present-day Delta County), as witnessed by Charles Schaible:

¹²² Kenneth D. LaFayette, “The Way of the Pine: Forest Industries of Marquette County During the White Pine Era, 1848-1912” (unpublished manuscript), v, Marquette County Historical Society.

¹²³ LaFayette, “The Way of the Pine,” vi.

¹²⁴ Terry Klavitter, “Logging in Marquette County,” *Historic Resources of the Iron Range in Marquette County, Michigan, 1844-1941*, [pages unnumbered: 2, 10].

¹²⁵ William Gerald Rector, *Log Transportation in the Lake States Lumber Industry, 1840-1918* (Glendale, Calif.: Arthur H. Clark Company, 1953), 66-68.

¹²⁶ Karamanski, *Deep Woods Frontier*, 67, 68.

¹²⁷ Klavitter, “Logging in Marquette County,” [2-3]; Betty A. Waring, *Yellow Dog Tales and Logging Trails to Big Bay, Michigan* (Marquette, Mich.: Lake Superior Press, 1986), 10-11.

¹²⁸ Klavitter, “Logging in Marquette County,” [8].

¹²⁹ Rydholm, *Superior Heartland*, 931.

¹³⁰ Klavitter, “Logging in Marquette County,” [8].



Figure 4-9. Nester Estate record load of 50 logs, 1893. *Source:* Theodore J. Karamanski, *Deep Woods Frontier: A History of Logging in Northern Michigan* (Detroit: Wayne State University Press, 1989), 128.

When the crew arrived at the campsite, men immediately built several temporary sheds for themselves and the cook, thereby keeping the rain and sleet off their bacon and blankets. The second day, skilled sawyers cut enough pine logs for four structures: a cook camp, men's camp, barn, and office. The third day, actual construction began. Two forty-foot logs were laid parallel on the ground, about twenty-five feet apart. Earth was shoveled around the logs to prevent them from rolling. Axmen cut notches into the ends of the logs and shorter logs were laid at right angles on the notches. This was repeated until the building stood about eight feet high. A ridgepole was then raised and cut boards brought from town were used for a roof. A door and window at opposite ends of the building were made by spiking the notched logs in place and cutting an opening out of the logs.¹³¹

¹³¹ Karamanski, *Deep Woods Frontier*, 121.

4.4.2 Use of Rivers During the White Pine Era

In the northern part of Marquette County, loggers used the Huron, Salmon Trout, Garlic, and Yellow Dog Rivers. In a 1991 history of Marquette County logging, Terry Klavitter commented, “Several logging companies worked the Yellow Dog [Plains] area, sending their logs down the [Yellow Dog] river to Lake Independence where timber was separated and sent on through the Iron River [to Lake Superior].”¹³² He listed the following logging companies as operating on rivers in the northern part of the county:¹³³

Table 4-1. Logging Companies Operating in Rivers in Northern Marquette County [Klavitter].

| River | Companies |
|--------------------|--|
| Huron River | Hines Lumber Co.; Tim Nestor; Powell & Sullivan |
| Little Huron River | Dead River Mill Co. |
| Pine River | P.C. Peterson; Smith Brothers |
| Yellow Dog River | Dead River Mill Co.; Fegason [Ferguson?] Bros.; Andy Mitchell; Moore & Bond; Powell & Sullivan; Patrick Sullivan |
| Garlic River | Dead River Mill Co. |
| Salmon Trout River | Dead River Mill Co.; John R. Gordon; Powell & Sullivan; Reichel Bros. |

In his history of white pine logging in Marquette County, Kenneth LaFayette identified the following “jobbers and lumber dealers” on the Yellow Dog and Salmon Trout Rivers:¹³⁴

Table 4-2. Jobbers and Lumber Dealers on the Yellow Dog and Salmon Trout Rivers [LaFayette].

| Company | River | Period of Activity |
|-----------------------------------|------------------------------------|--------------------|
| Fordney’s of Saginaw | Yellow Dog River | 1896 |
| Hall & Buell | Yellow Dog River | 1886-88 |
| James Hurst | Yellow Dog River | 1893 |
| Hurst & Eastman of Lower Michigan | Yellow Dog River | 1894 |
| George McBurney | Salmon Trout | 1897-98 |
| Moore & Bond | Yellow Dog River | 1886 |
| Thomas Nester Estate | Yellow Dog River | 1897-99 |
| Powell & Sullivan | Yellow Dog River | 1886-88 |
| Ready Bros. | Yellow Dog | 1892-94 |
| Prosper Roberts | Salmon Trout and Yellow Dog Rivers | 1893-94 |
| Patrick Sullivan | Yellow Dog River | 1895-1900 |

Finally, Betty Waring identified the following as the loggers who “seemed to be the most active on the Yellow Dog”: Tim Nester, Patrick Sullivan, William Busch, Dan Powell, W. Hursley, Andrew Mitchell, John Gordon, Lewis Hall, Arthur Hill, Robert Munson, Prosper Roberts,

¹³² Klavitter, “Logging in Marquette County,” [4].

¹³³ The source of this table is Klavitter, “Logging in Marquette County,” Appendix. Kenneth LaFayette refers to other loggers on the Yellow Dog in the late nineteenth century, including W.C. Busch and Ready Bros. LaFayette, “The Way of the Pine, 126-27.

¹³⁴ LaFayette, “The Way of the Pine,” 172-75.

Clement & Beauman, the Fordneys of Saginaw, the Ferguson brothers, Moore and Bond, and the Ready brothers.¹³⁵

Powell & Sullivan moved 1.5 million feet of logs on the Salmon Trout River and half a million feet on the Yellow Dog River in 1886. Andy Mitchell drove another half million feet of logs down the Yellow Dog the same year.¹³⁶ During the winter of 1896-1897, John R. Gordon employed 35 loggers along the Salmon Trout River, cutting pine for McCall & Burney of Canada. Kenneth LaFayette explained that the loggers “were expected to get out 500,000 cubic feet of pine from the nearly hundred forties of timber the firm had control of near the river.”¹³⁷ A log driver named Edward Martin lost his life on the Salmon Trout in 1886, trying to break up a log jam.¹³⁸

At the end of the river journey, a mill or a booming company separated the logs by owner, using marks made by axe or logging hammer. Marquette County had three booming companies: the Peshekee River Boom and Improvement Company (established in 1887), the Yellow Dog River Improvement Company (1891), and the Salmon Trout Improvement Company (1891).¹³⁹ The Yellow Dog River Improvement Company stated that its three shareholders

associated ourselves together for the purpose of improving the navigation of the Little Iron River, appearing by that name on the government maps, but commonly known now as the Yellow Dog River—and to so improve the navigation of said river by deepening the channel thereof, and by the construction of dams therein and canals to connect therewith, by rock blasting and removing obstructions in said river, and making channel through said bars in said river.¹⁴⁰

In *Superior Heartland*, Fred Rydholm noted that loggers considered the Yellow Dog River to be the toughest river in the state to drive. Jim Redi (sometimes spelled Redy or Ready) built a dam at the outlet of Bulldog Lake that could “send a torrent of water racing down its course and crashing over the East Falls, giving depth to the normally shallow stream and making it possible to float the huge pine logs.”¹⁴¹ Redi also built the Pinnacle Falls Dam on the Yellow Dog, at a site where the river “dropped through a 50-foot chute as it passed a huge pinnacle of rock, then dropped abruptly over smooth granite about 35 feet to the rocky bed below.” Construction of that dam involved blasting away rocks and erecting chutes to carry logs through the section of river.¹⁴²

4.4.3 Railroads and Hardwoods

Railroads allowed logging companies to break free of river transportation and to move logs virtually anywhere at any time of year. They no longer had to confine their cutting to areas easily

¹³⁵ Waring, *Yellow Dog Tales and Logging Trails*, 9.

¹³⁶ LaFayette, “The Way of the Pine,” 9.

¹³⁷ LaFayette, “The Way of the Pine,” 167.

¹³⁸ Waring, *Yellow Dog Tales and Logging Trails*, 13.

¹³⁹ Klavitter, “Logging in Marquette County,” [7].

¹⁴⁰ Waring, *Yellow Dog Tales and Logging Trails*, 10.

¹⁴¹ Rydholm, *Superior Heartland*, 603.

¹⁴² Rydholm, *Superior Heartland*, 604-5.

accessible to rivers, and they could move hardwoods and small material that was not possible to transport by river. Railroads also changed the configuration of logging camps, making them mobile and much larger.¹⁴³ Betty Waring identified rail spurs built in the early twentieth century “up to the area of the Sportsman’s Club on 510 where there was a lumber camp, then along what is now the Sullivan Creek Road to Conway Lake, and in other non-hilly areas that could be served by a rod engine.” Rail hauling from the woods into Big Bay continued until 1932.¹⁴⁴

Railroads made clear-cutting profitable and thus intensified the environmental impact of logging. Ted Karamanski noted,

Railroads revolutionized forest operations. Clear-cutting—the cutting of all trees, large, small, sound, or rotten—not only became possible but necessary. Pine loggers, operating remote from their mills, could not afford to trim and transport cull (or rotten) trees.¹⁴⁵

Railroads made it cost-effective to transport cull logs, which could be used in other industries. The Cleveland-Cliffs Iron Company developed long-range plans for its forest lands, including establishing nurseries and replanting cut-over areas.¹⁴⁶ Lumber companies set up nurseries and planted seeds and seedlings in the early 1900s, coinciding with the depletion of white pine stands.¹⁴⁷

When hardwood supplies declined in the 1930s, logging companies shifted their attention to pulpwood—young “weed” trees that grew in the cutover areas and were suitable for the paper industry.¹⁴⁸

4.4.4 Road Construction and Logging in the Yellow Dog Plains

A road from Marquette to L’Anse was built around 1858, crossing the Yellow Dog Plains.¹⁴⁹ As logging activity in the Yellow Dog Plains increased, so did road construction. Jim Redi built a road from the Marquette-L’Anse Road to Lake Independence in 1885.¹⁵⁰ In 1896, the Dead River Mill Company extended a road to the Yellow Dog River. The road reached the Salmon Trout the following year. Kenneth LaFayette explained, “[The road] was put in for the mill company contractors cutting pine on these rivers.” LaFayette also identified a road cut from Skanee to the Yellow Dog in 1897, which he said was “probably the same route the Triple A road follows today”¹⁵¹ Stage lines established in 1896 and 1897 carried loggers from camp

¹⁴³ Klavitter, “Logging in Marquette County,” 11-13].

¹⁴⁴ Waring, *Yellow Dog Tales and Logging Trails*, 16, 17.

¹⁴⁵ Karamanski, *Deep Woods Frontier*, 178.

¹⁴⁶ Klavitter, “Logging in Marquette County,” [4].

¹⁴⁷ LaFayette, “The Way of the Pine,” 177.

¹⁴⁸ Klavitter, “Logging in Marquette County,” [16].

¹⁴⁹ Rydholm, *Superior Heartland*, 194.

¹⁵⁰ Rydholm, *Superior Heartland*, 275.

¹⁵¹ LaFayette, “The Way of the Pine,” 129.

to town and back. William Stewart's stage line "took in 13 camps in a 90 mile round trip, all in the Lake Independence, Yellow Dog and Salmon Trout River area."¹⁵²

During the 1930s, the Civilian Conservation Corps (CCC) built fire towers and roads through the forests of the Upper Peninsula, including the Triple A Road. Truck hauling replaced railroad transportation in this period, and logging camps were no longer necessary (although some still existed). As Klavitter put it, "Each day trees could be cut, loaded, and driven to the mill, a process that took a number of months in years past."¹⁵³ The CCC also replanted the cutover lands throughout the Upper Peninsula, mostly with red, white, and jack pine.¹⁵⁴

Fred Rydholm describes the history of road building and logging during this period as follows:

Originally the Marquette Road, just an overgrown trail in the 1920s, was there from the 1850s. By 1927, the state of Michigan was building M-35, which was to go south of Mountain Lake and on over to L'Anse. However, about the same year, Oliver Morris, walking boss for the Brunswick Co. in Big Bay, along with Bill Schneider and Herman Doan, laid out a railroad grade for logging purposes from Big Bay out to the extreme eastern end of the Plains, and built Camp 6. This grade crossed the old Marquette Road near the corner of Sections 9, 10, 15 and 16. It was along this grade with a little straightening and changes that the WPA built a road to the same destination in 1933. In 1934, the CCC continued the road out across the Plains to the Christ Andersen homestead, eight miles away. This sequence of development led to the building of the Panorama Fire Tower and the logging of the entire Yellowdog Plains in the ensuing years.¹⁵⁵

During the 1930s, Victor Makela, known as "the Jackpine King," purchased large areas of land in the Yellow Dog Plains to harvest for pulpwood.¹⁵⁶ Makela established a main camp in "Section 10 just past the Salmon Trout River," (see Figure 4-10) and according to Fred Rydholm, "By the fall of 1935 Makela had nearly a hundred men working" In 1936, he established temporary camp in Section 16 of T50N-R29W for fifty men.¹⁵⁷ Makela worked the Yellow Dog Plains until 1941, cutting about 175,000 cords of wood from 2,500 acres of land he owned and over 4,000 acres of land on which he held timber rights (see Figure 4-11).¹⁵⁸ In this same period, Santura Luoma built a logging camp in Section 11, "right near the marsh that was the headwaters of the Salmon Trout" (see Figure 4-12).¹⁵⁹ Archaeologist Dr. Christopher Bergman found evidence of two camps near the proposed Eagle Mine site that appear to date from this era, one of which is probably the Luoma camp. The Schneiders (Bill and perhaps his father or a brother) were also active in logging the area and had a camp in Section 6 for about twenty-five men.¹⁶⁰ Fred Rydholm noted that Makela's departure did not end logging of the area:

¹⁵² LaFayette, "The Way of the Pine," 130.

¹⁵³ Klavitter, "Logging in Marquette County," [17-18].

¹⁵⁴ Rydholm, *Superior Heartland*, 960.

¹⁵⁵ Rydholm, *Superior Heartland*, 964-65.

¹⁵⁶ Rydholm, *Superior Heartland*, 559.

¹⁵⁷ Rydholm, *Superior Heartland*, 975.

¹⁵⁸ Rydholm, *Superior Heartland*, 985.

¹⁵⁹ Rydholm, *Superior Heartland*, 975.

¹⁶⁰ Rydholm, *Superior Heartland*, 978.

“Other loggers and jobbers . . . went on the Plains for cleanup, taking nearly all that was left there. And from the roads opened by the jackpine loggers, they penetrated into the hardwoods and were cutting in every direction.”¹⁶¹



Figure 4-10. Victor Makela's main camp, 1935, Victor Makela (left) and others. *Source:* C. Fred Rydholm, *Superior Heartland: A Backwoods History* (1989), 969.



Figure 4-11. Summer cutting and piling, 1936, Victor Makela (right) and guests. *Source:* C. Fred

¹⁶¹ Rydholm, *Superior Heartland*, 985.

Rydholm, *Superior Heartland: A Backwoods History* (1989), 973.



Figure 4-12. Santura Luoma's camp in SENE of Section 11, T50N-R29W. *Source:* C. Fred Rydholm, *Superior Heartland: A Backwoods History* (1989), 970.

Of the impact of logging in this period, Rydholm observed,

A trip across the Yellowdog Plains in those days revealed all the secrets that had lain so well hidden in former years. From the top of a high rock just north of the road a mile or so east of the Salmon Trout River, lumber camps and homesteads stuck out like a handful of thimbleberries in a pan of blueberries.

Owners of the cutover lands often abandoned them, and the lands frequently reverted to the state because of unpaid taxes.¹⁶²

4.4.5 Logging Technologies

In the first half of the twentieth century, machines increasingly replaced manual logging tools. The editor of *The True Republican*, a newspaper published in Sycamore, Illinois, visited a logging camp in 1949, located 27 miles east of L'Anse in Marquette County. The camp had nine gasoline-powered machine saws, five of which were two-man saws, and four of which were one-man saws. In addition, the camp had one two-man team using a manual cross-cut saw. A skidder gang used tractors to drag logs to the road, where they were loaded by crane onto trucks. Trucks carried 20 to 25 logs, weighing a total of about 20 tons. The editor commented that these heavy trucks required road construction and maintenance from a large bulldozer.¹⁶³

¹⁶² Rydholm, *Superior Heartland*, 990.

¹⁶³ "Experiences in a Huron Mountain Logging Camp," *The True Republican*, Sycamore, Illinois, February 15, 1949, 6, Pamphlet File 634.98—Lumber Camps, MCHS.

Technologies were similar in the 1970s. Logging in the Yellow Dog Plains area generally involved crews of two to twelve people using chainsaws. They cut trees and manually stacked logs, and then used machinery to load logs onto skidders and transport them out to roads. Trucks then picked up the logs.¹⁶⁴

Logging activity has continued to the present, with second-growth harvesting occurring in the Yellow Dog Plains. Terry Klavitter described the logging process in 1991, more mechanized than in the 1970s, as follows:

[A] cled tractor called a feller/buncher removes a few trees at a time, then the skidder drags from four to six trees to the slasher, which removes branches and cuts timber into 100 inch lengths. Smaller trees are left for the chipper, which picks up timber, chips branches into small wood chips and loads them into a 32-ton truck. The wood is then transported to the pulp mill.¹⁶⁵

He also noted that the DNR was assisting logging companies with reforestation projects, and the Mead Corporation “is currently conducting extensive logging operations including selective cutting and reforestation in the area of the Yellow Dog plains.”¹⁶⁶

A 1972 report on the Upper Peninsula stated, “The major land use in the Upper Peninsula is for wood production. Nearly 90% of the total land area is forested. A high proportion of the productive upland forest land is second growth.”¹⁶⁷ By about 1980, Marquette County provided fourteen percent of the value of annual forest harvests in the Upper Peninsula.¹⁶⁸

4.4.6 Logging On and Around the Rock Outcrop

At the end of the nineteenth century or early in the twentieth, the red and white pine on the rock outcrop in Section 12 and the surrounding area were cut. Evidence of this harvest exists in the form of red and white pine stumps on and around the outcrop, including a level area at the top of the outcrop and on the outcrop’s steepest slopes. A fire not long thereafter helped regenerate a jack pine forest cover, much of which has been cut over the last thirty years or so. Apart from some evidence that scattered jack pine trees have been cut on the outcrop, the outcrop itself has likely not been logged during the last hundred years.¹⁶⁹ The trees on the outcrop are approximately 89 years old.¹⁷⁰

¹⁶⁴ Interview with Bruce Veneberg, conducted by Emily Greenwald, 7/15/2008.

¹⁶⁵ Klavitter, “Logging in Marquette County,” [18].

¹⁶⁶ Klavitter, “Logging in Marquette County,” [18].

¹⁶⁷ Upper Peninsula Resource Conservation and Development Council, *Michigan’s Upper Peninsula: Resource Conservation & Development Project Plan* (Lincoln, Neb.: U.S. Department of Agriculture, Soil Conservation Service, 1972), 18, VF-16, NMU Archives.

¹⁶⁸ *Marquette Economic Profile*, 13.

¹⁶⁹ Interviews with Bruce Veneberg, 7/15/2008 and 7/22/2008; see also Timber Sale Completion Reports for Yellow Dog Plains Sale (completed 7/23/2003), Salmon Trout Pine (completed 10/17/2002) (both provided by Michigan DNR on 1/22/2008 in response to a FOIA request from Daniel Wells, 12/28/2007) and Duck Nest Jack Pine (completed 12/3/1993) (provided by Michigan DNR on 2/22/2008 in response to a FOIA request).

¹⁷⁰ Interview with Bruce Veneberg, conducted by Emily Greenwald, 8/7/2008.

Starting in the 1970s, demand for Michigan timber began to grow, and the timber markets in the lake states, particularly Michigan and Wisconsin, dramatically improved.¹⁷¹ The State of Michigan has conducted a number of timber sales in the area around the proposed Eagle Mine site since the 1970s. A sale completed in 1974 involved 30 acres in Sections 12 and 14 of T50N-R29W. The sale area consisted mostly of 52- to 59-year-old jack pine and some 74-year-old black spruce, which were clear-cut.¹⁷² Two sales in Section 12, completed in 1993, involved jack pine roughly 70 years of age.¹⁷³

The “Rock Knob” jack pine block sale, completed in 1992, included 20 acres of 75-year old jack pine immediately adjacent to the rock outcrop in Section 12. A map showing the sale area marks the rock outcrop as “Rock Knob” (see Figure 4-13).¹⁷⁴ The sale covered that part of the NW¼ of Section 12 lying south and west of the outcrop. Timber on the outcrop was not part of the sale.¹⁷⁵ A Visual Resource Impact Evaluation conducted in advance of the sale noted that there had been no previous complaints on “this or similar project in area.” It also said, “The area will be site prepped and planted immediately after cutting.”¹⁷⁶

At least since the 1970s, post-harvest treatment of state and private land has included scarification or trenching and tree-planting. Scarification involves breaking up slash and soil in the cut-over area in order to get pine cones down into mineralized soil. Then, when the temperature gets hot enough, the cones open up and release their seeds into the earth. Scarification work in the 1970s was performed using a bulldozer to drag a water-filled drum with slasher bars on it, followed by a scarifier made of large chains with spikes. This equipment ripped the cones off the slash and turned them down into the soil.¹⁷⁷

¹⁷¹ Interview with Bruce Veneberg, conducted by Emily Greenwald, 7/22/2008.

¹⁷² Timber Sale Proposal, T 50 N, R 29 W, Section 12-SW¼SW¼, Section 14-N½NE¼ and SW¼NE¼, 8/25/1972; Timber Cutting Report, Permit No. 16/72A, Completed 8/20/1974 (both provided by Michigan DNR on 2/22/2008 in response to a FOIA request).

¹⁷³ Timber Sale Map, Duck Nest Jack Pine, 5/16/1990, and Timber Sale Proposal, Duck Nest Jack Pine, 5/18/1990 (covering 61.8 acres of jack pine, 71 years of age, in NW¼ of Section 12); Timber Sale Map, Spruce Grouse Jack Pine Block, 4/23/1990, and Timber Sale Proposal, Spruce Grouse Jack Pine, 5/17/1990 (covering 49.5 acres of jack pine, 68 years of age, in NE¼ of Section 12) (all provided by Michigan DNR on 2/22/2008 in response to a FOIA request).

¹⁷⁴ Timber Sale Proposal, Rock Knob Jack Pine, 5/25/1990, and Timber Sale Map, Rock Knob Jack Pine Block, 5/25/1990 (provided by Michigan DNR on 2/22/2008 in response to a FOIA request).

¹⁷⁵ Timber Sale Map, Rock Knob Jack Pine Block, 5/25/1990 (provided by Michigan DNR on 2/22/2008 in response to a FOIA request). The sale also included 27.7 acres in Section 3.

¹⁷⁶ Visual Resource Impact Evaluation, Timber Sale No. 31-016-90-1, 5/25/1990 (provided by Michigan DNR on 2/22/2008 in response to a FOIA request).

¹⁷⁷ Interview with Bruce Veneberg, 8/7/2008. Mr. Veneberg noted that on a recent trip to the project area, he saw evidence of trenching and tree planting on adjacent private land. He said this was standard for the paper company that harvests timber in the area.

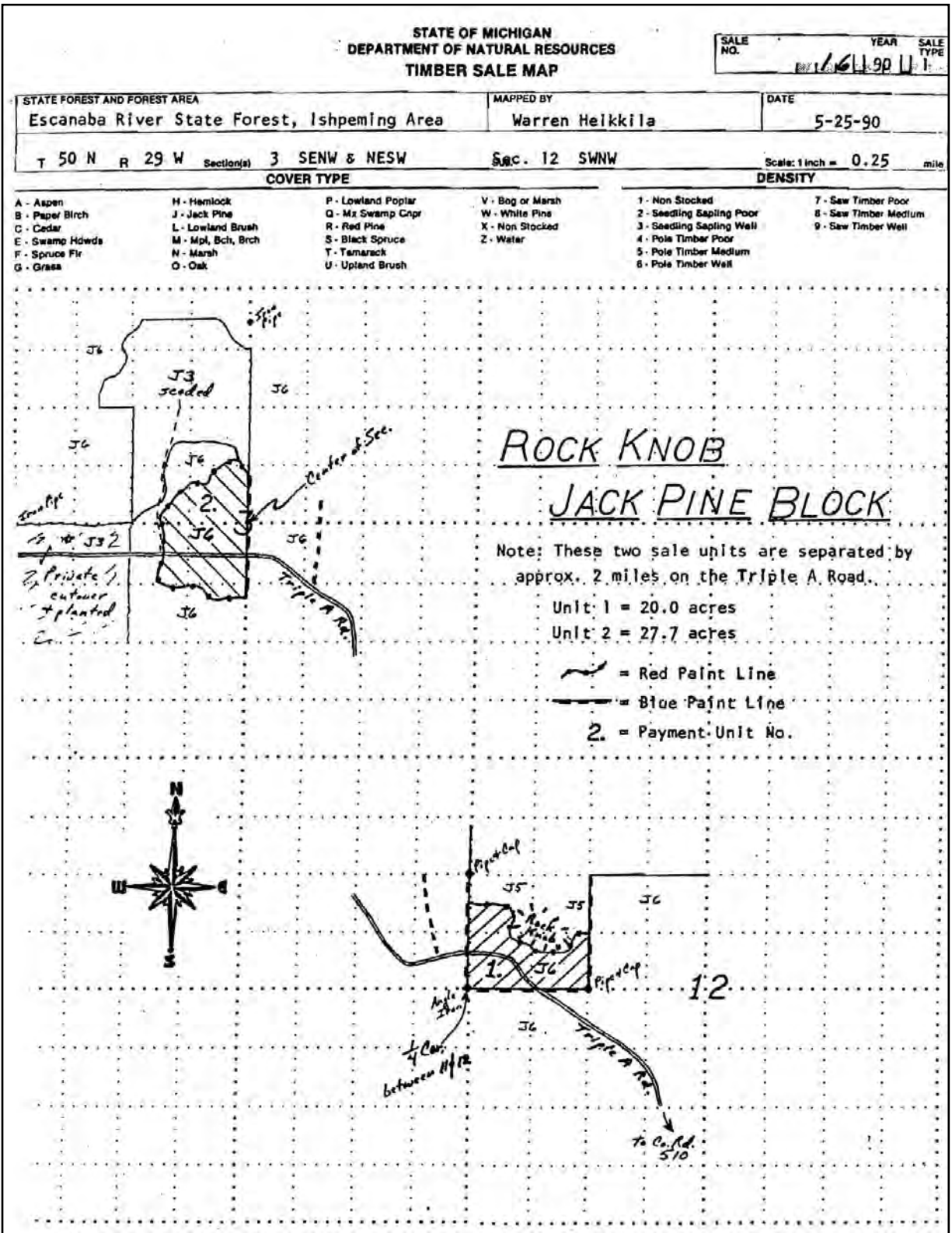


Figure 4-13. Rock Knob Jack Pine Block. Source: Timber Sale Map, Rock Knob Jack Pine Block, 5/25/1990, Michigan Department of Natural Resources.

The state lands in Sections 11 and 12 are part of Compartment 207 of the Escanaba River State Forest, Gwinn Management Unit. A compartment review prepared in 1999 noted, “Rock outcrop rises out of the plains in stand 22.”¹⁷⁸ DNR foresters examine six to eight compartments every year for management purposes, and it takes about ten years to go through all of the compartments in the area. The DNR advertises in the Marquette *Mining Journal* and elsewhere to notify the public if a timber sale or other treatment is proposed. The public is invited to attend a public meeting to comment on the proposed sale or other treatment.¹⁷⁹ DNR records reviewed for this study revealed no evidence of public complaints regarding logging in Sections 11 and 12.¹⁸⁰

4.5 Recreation

Recreational use of the Yellow Dog Plains area is somewhat difficult to trace in the historical record. The Huron Mountain Club (HMC), a large, privately owned area located to the north of the Yellow Dog Plains, is much better known. Cyrus Bentley, who owned property at Bulldog Lake at the west end of the Yellow Dog River, built a recreational trail from there to the club that passed through T50N-R29W about a mile west of the proposed Eagle Mine site. Other people established recreational “camps” in the Yellow Dog Plains. Standard recreational activities in the area engaged in by the general population include hunting, fishing, and blueberry picking. Since the 1970s, enthusiasm for snowmobiling has grown, and more recently, ATV use has increased.

4.5.1 The Huron Mountain Club

The Huron Mountain Shooting and Fishing Club was established in 1889. The organizers included J.M. Longyear and Peter White of Marquette. In 1892, the club advertised for members, stating that it had 7,000 acres of land and “It is proposed to make this region a hunting and fishing park The membership of the organization is limited to one hundred, and it is a stock corporation, the par value of the stock being \$100.”¹⁸¹ The club reorganized in 1905 as the Huron Mountain Club.¹⁸² Over the years, members built private cabins and membership was limited to 50 families. The club acquired additional land and held more than 12,000 acres by 1929.¹⁸³

Club members fished on the Salmon Trout River and elsewhere. The HMC planted fish in its own water courses, but in 1940 it also planted fish in the Yellow Dog, the Alder, and streams in the Big Bay area.¹⁸⁴ The club also took steps to “improve” the Salmon Trout River starting in

¹⁷⁸ Compartment Description, Gwinn Management Unit, Escanaba River State Forest, 8/10/1999 (provided by Michigan DNR on 2/22/2008 in response to a FOIA request).

¹⁷⁹ Interview with Bruce Veneberg, 7/22/2008.

¹⁸⁰ The records reviewed were those produced by DNR as responsive to FOIA requests for information about Sections 1-3, 10-12, and 13-15 of T50N-R29W.

¹⁸¹ Bayard H. Christy, “The History of the Club,” *The Book of Huron Mountain*, ed. Bayard H. Christy (Huron Mountain Club, 1929), 1-2.

¹⁸² Rydholm, *Superior Heartland*, 439.

¹⁸³ Christy, “History of the Club,” 13-14.

¹⁸⁴ Archer Mayor, *Huron Mountain Club: The First Hundred Years*, ed. Murray Dodge (Huron Mountain Club, 1988), 122.

1939, which one observer characterized as “tampering.”¹⁸⁵ In a history of the Huron Mountain Club, Archer Mayor mentioned problems in the Salmon Trout River in the 1940s, including over fishing, introduction of game fish that out-competed brook trout, increased water pollution, and “the devastation of the STR’s head waters by loggers”¹⁸⁶ Starting in 1949, Dr. Lloyd Smith helped the club with a stream restoration program, but Mayor noted, “Work done one summer would be regularly washed out the following spring”¹⁸⁷ Mayor said that the work “bumped along in this fashion for some 30 years,” at the end of which

Club fishermen were back where they started. They owned a flowing strip of water located between a lake they couldn’t control and headwaters they didn’t own, both of which contributed to problems they couldn’t solve by themselves. . . .

The ultimate saving grace of the entire experiment was that with all the various manipulations the STR was put through, it was never damaged.¹⁸⁸

4.5.2 The Bentley Trail

Cyrus McCormick and Cyrus Bentley, Chicago business associates, camped and hiked through the Yellow Dog Plains area in 1902 and 1903, during which time they searched for a tract of land for a permanent camp. Sometime around late 1903, they bought 160 acres of land at what was then called Fortress Lake, which they renamed White Deer Lake in 1907.¹⁸⁹ The men established an extensive camp there for their families and visitors.

Cyrus Bentley developed a trail from their camp to the HMC in 1904 and 1905, and laid out a new trail in the 1910s (see Figures 4-14 and 4-15).¹⁹⁰ He used the trail for hiking and camping outings. The new trail passed through Sections 3, 4, 9, 16, 17, and 20 of T50N-R29W; the old trail had crossed the township slightly farther to the west.¹⁹¹ In 1916, they completed a cabin in Section 4 of T50N-R29W called Arbutus Lodge or Halfway Cabin.¹⁹² Bentley and McCormick also developed the area around White Deer Lake for recreation, constructing trails and building a boat channel between White Deer and Bulldog Lakes.¹⁹³

4.5.3 Other Recreation

A 1984 fisheries management plan for the Yellow Dog River, prepared by the DNR, discussed past activities on the river related to sport fishing. It noted, “The Yellow Dog has been planted with brook, brown and rainbow trout since the mid-1930s.” An analysis of catch data between 1951 and 1960 revealed rates of 0.25 fish per hour for brook trout, 0.28 fish per hour for

¹⁸⁵ Mayor, *Huron Mountain Club*, 130.

¹⁸⁶ Mayor, *Huron Mountain Club*, 183.

¹⁸⁷ Mayor, *Huron Mountain Club*, 184, 186.

¹⁸⁸ Mayor, *Huron Mountain Club*, 187, 188.

¹⁸⁹ Rydholm, *Superior Heartland*, 606-616, 634.

¹⁹⁰ Rydholm, *Superior Heartland*, 618-19, 675.

¹⁹¹ Rydholm, *Superior Heartland*, 930.

¹⁹² Rydholm, *Superior Heartland*, 717, 930.

¹⁹³ Rydholm, *Superior Heartland*, 637.

rainbow trout, and 0.04 fish per hour for brown trout. The report also commented, “Communication with sports fishermen this past summer showed about equal interest in brook and brown trout with no particular preference.”¹⁹⁴ The report concluded,

The Yellow Dog system can be improved for sport fishing. In spite of the very serious limiting factors of extremely high spring flows and large moving sand bedload, angling can be improved following the installation of boulder groups at select locations and introductions of rainbow and brook trout annually.¹⁹⁵

The DNR began grooming snowmobile trails in the Yellow Dog Plains in the early 1970s. The trails did not experience much use initially.¹⁹⁶ But in the 1980, Fred Rydholm wrote in *Superior Heartland*, “The Yellowdog Plains are not the wild spot they used to be.” He continued,

A few more camps have sprung up in the last 20 years in the jackpine and off in the hardwoods. Snowmobiles buzz by on several trails almost any given day all winter, and motorcycles, three-wheelers and four-wheelers have put an end to the quiet, pristine wilderness I once found so challenging and hauntingly delightful on snowshoes or skis.¹⁹⁷

Rydholm noted that the idea of permanent camps in the Upper Peninsula first became popular in the 1890s. Some of these camps are in the fourth to sixth generation of ownership within a family. “Today,” Rydholm commented in 1989, “everyone steeped in the traditions of the Upper Peninsula just has to have a camp of his own back in the woods somewhere, or at least one of a friend that he can go to.”¹⁹⁸

Compartment 207 of the Escanaba River State Forest covers Sections 2, 3, 11, 12, 13, and 24 of T50N-R29W. A description of this compartment, prepared in 1999, lists the following recreational opportunities: hunting, fishing, blueberry picking, snowmobile trails, and dispersed camping.¹⁹⁹

In early 2007, the Forest, Mineral and Fire Management division of the Michigan DNR submitted comments related to Kennecott’s Surface Land Use Lease application. It noted, “The most common uses of the land are timber production, some hunting, blueberry picking, and some camping.” It continued, “The Triple A Road is a major snowmobile trail, which is heavily used during the winter months. This trail is contract groomed and provides users an East-West link between Big Bay and L’Anse.”²⁰⁰

¹⁹⁴ Jerome H. Peterson, “Fisheries Management Plan for Yellow Dog River, Marquette County,” Michigan Department of Natural Resources, 3/14/1984, 6 (provided by Michigan DNR on 1/22/2008 in response to a FOIA request from Daniel Wells, 12/28/2007).

¹⁹⁵ Peterson, “Fisheries Management Plan for the Yellow Dog River,” 8-9.

¹⁹⁶ Interview with Bruce Veneberg, 7/15/2008.

¹⁹⁷ Rydholm, *Superior Heartland*, 1461-62.

¹⁹⁸ Rydholm, *Superior Heartland*, 477.

¹⁹⁹ Compartment Description, Gwinn Management Unit, Escanaba River State Forest, 8/10/1999 (provided by Michigan DNR on 2/22/2008 in response to a FOIA request).

²⁰⁰ “FMFM Comments,” attached to Lynne Boyd, Chief, Forest, Mineral and Fire Management, to Mindy Koch, Resource Management Deputy, 1/8/2008 (Bates No. 000995).

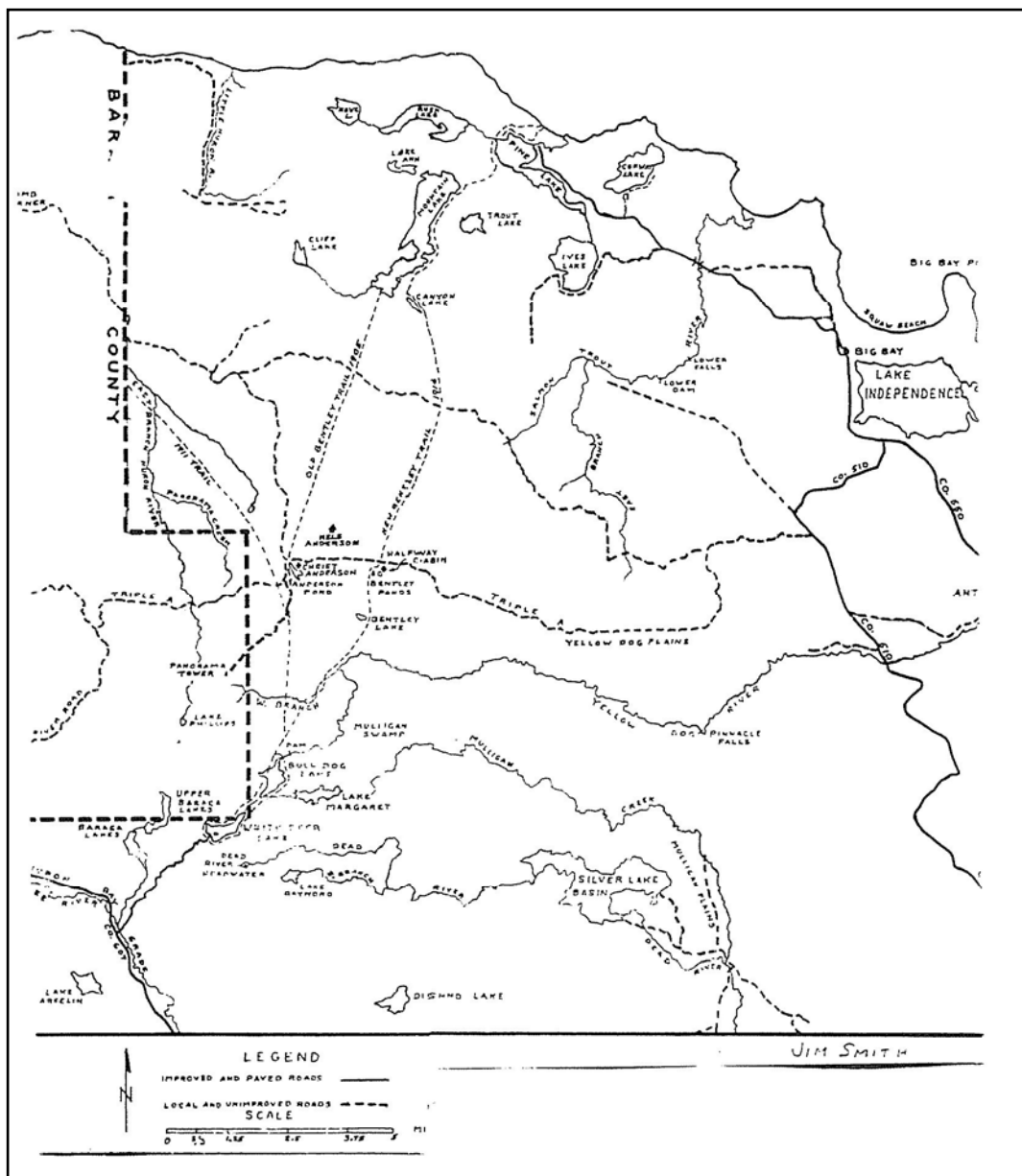


Figure 4-14. Northwestern Marquette County (showing Bentley Trail). Source: C. Fred Rydholm, *Superior Heartland: A Backwoods History* (1989), 929.

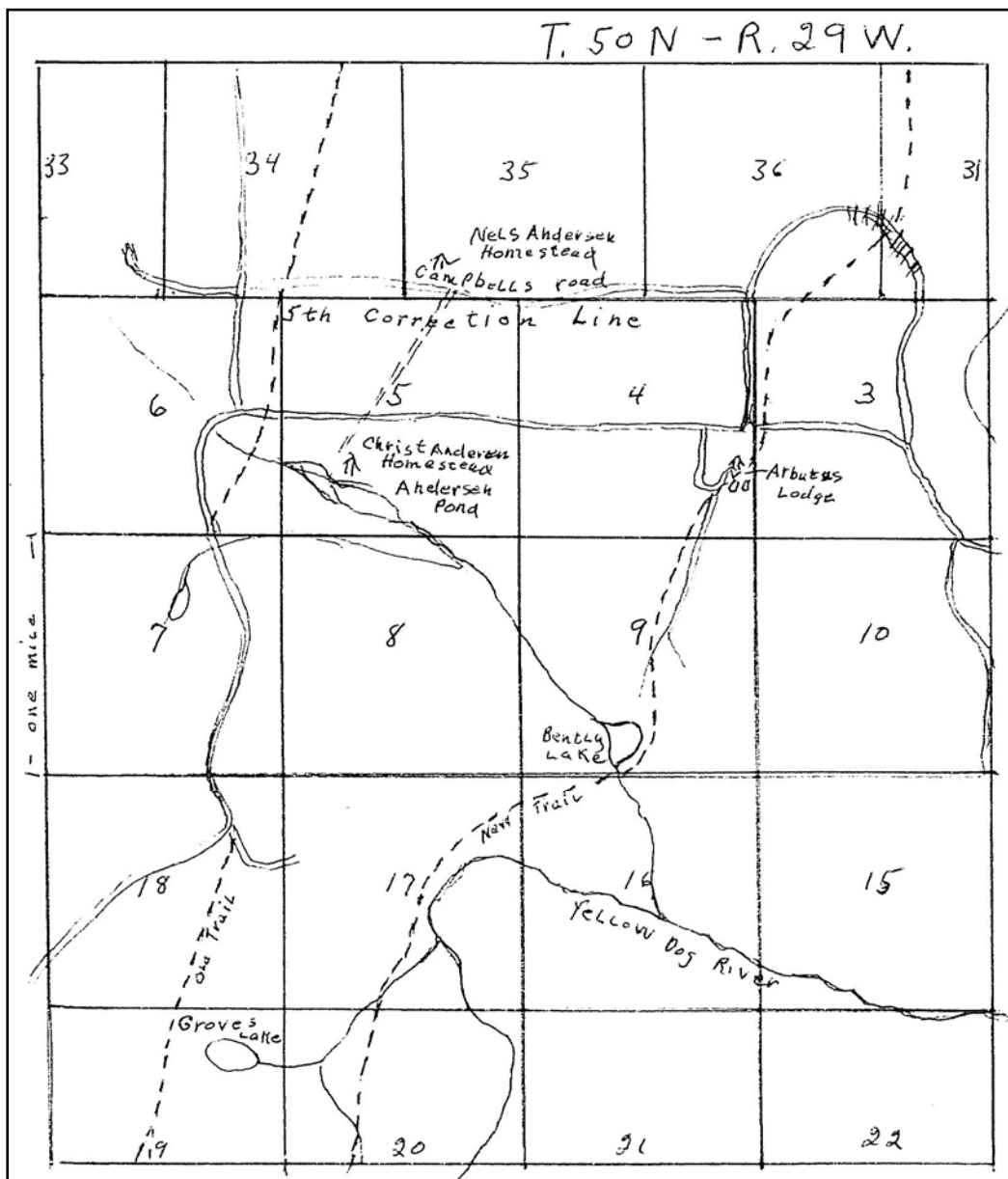


Figure 4-15. Township 50 North, Range 29 West (showing Bentley Trail). Source: C. Fred Rydholm, *Superior Heartland: A Backwoods History* (1989), 930.

4.6 Land Ownership

All of the land in Sections 11 and 12 of T50N-R29W left the public domain by the early twentieth century and was held by private owners. Since then, the land has changed hands numerous times, and the State of Michigan has acquired various tracts through tax defaults. None of the land within the two sections is owned or held in trust by the United States.

4.6.1 Land Grants and Purchases

Following the 1842 treaty, land in the cession area became part of the public domain of the United States. Land laws in effect then and subsequently allowed individuals and companies to acquire land from the United States at prices that put land ownership within reach of many Americans. The 1862 Homestead Act required only a filing fee, provided the homesteader made required improvements and lived on the land for five years. In addition, Congress used large land grants throughout the nineteenth century to support the development of transportation infrastructure. Congress granted the land to a particular transportation company, which could then sell the land to finance construction of the canal, road, or railroad it intended to build. Congress also made grants of lands to states, to be sold for the benefit of state institutions, such as public schools or colleges.

In 1852, Congress passed legislation to grant 750,000 acres of land in Michigan to whomever could build a ship canal and locks at Sault Ste. Marie. The grant would be made upon completion of the project. The St. Mary's Canal Ship Company received the grant after completing the feat in 1855. The company received 140,000 acres in the Upper Peninsula. Similarly, the Keweenaw Canal Company obtained a land grant for canal construction. It created the Keweenaw Land Association to manage its lands. And railroad companies received land grants along the Yellow Dog River.²⁰¹

The land grants and inexpensive land prices (\$1.25 per acre) made logging along the Yellow Dog River profitable. Betty Waring, who wrote a history of the Yellow Dog area, found that most of the land along the Yellow Dog was purchased in the 1860s. She identified the following individuals as among the "first investors" in the area: John Gillett, Peter White, Dan Powell, William Busch, Amos Harlow, William Wetmore, Arthur Hill, Tim Nestor, Andrew Buell, and Louis Hall. Waring also listed the companies owning timberland: Keweenaw Association; St. Mary's Falls Canal Company; Marquette, Huron and Ontonagon Railroad Company; Osage Mining Company; W.H. Sawyer Lumber Company; Cleveland Cliffs Iron Company; Marquette Railroad Company; DM&M Railroad Company; Northern Woods Lumber Company; Michigan Land & Iron Company; and Mohawk Mining Company.²⁰²

A plat book from around 1920 shows the following landowners in Sections 11 and 12 of T50N-R29W: A.H. Dakin, Lake Independence Lumber Company, S.W. Schoult, J.M. Longyear, and the State of Michigan. Cleveland-Cliffs Iron Company owned land in several neighboring sections.²⁰³

Over the last 40 years, the State of Michigan and various private owners have held the land in Sections 11 and 12. The land lies within the boundaries of the Escanaba River State Forest.²⁰⁴ (The State of Michigan established a state forestry commission in 1902, and the commission began creating forest preserves out of tax-delinquent lands.²⁰⁵) Some of the private owners have

²⁰¹ Waring, *Yellow Dog Tales and Logging Trails*, 6; Rydholm, *Superior Heartland*, 170.

²⁰² Waring, *Yellow Dog Tales and Logging Trails*, 7.

²⁰³ Plat Book of Marquette County, undated [ca. 1920], pages for T50N-R29W and T50N-R28W, MCHS.

²⁰⁴ See, for example, Michigan Department of Conservation, *County Maps* (1952), MCHS.

²⁰⁵ Karamanski, *Deep Woods Frontier*, 227.

been connected to the logging industry, such as Nekoosa Edwards Paper Company and Escanaba Paper Company (a division of the Mead Corporation). Since the 1990s, some of the land in these two sections and the surrounding area has been held as Commercial Forest Reserve land or Commercial Forest Act lands. The Commercial Forest Reserve Act of 1925 provided tax benefits to corporate landholders who practiced forestry, and the 1994 Commercial Forest Act created a voluntary program of incentives for landowners to manage lands for long-term timber production.²⁰⁶

4.6.2 History of Land Conveyances in Sections 11 and 12, T50N-R29W

According to a 2006 map, three parties currently own tracts in Sections 11 and 12, T50N-R29W, as follows:

- Kennecott Eagle Minerals Company holds title to the W½SW, SE, and N½ of Section 11 and the SENW, N½SW, SESW, and S½SE of Section 12;
- The State of Michigan holds title to the E½SW of Section 11 and the N½NW, SWNW, SWSW, and NE of Section 12;
- Longyear Realty Corporation holds title to the N½SE of Section 12.²⁰⁷

Land presently owned by Kennecott and the State of Michigan represents the consolidation over time of the original tracts in these sections, which are identified as Parcels 1-12 in Table 4-3 below. The Longyear tract, however, has belonged to the Longyear family since the early twentieth century, when the family purchased the patent of Alexander McDonald (Parcel #5).

Table 4-3. Original Ownership, Sections 11 and 12, Township 50 North, Range 29 West.

| Section | Subdivision | Patentee | Date | Certificate No. | Parcel No. |
|---------|-------------|----------------------------|------|-----------------|------------|
| 12 | W½NW | Arthur Hill | 1883 | unknown | 1 |
| 12 | NWNE | Arthur Hill | 1885 | 14306 | 2 |
| 12 | E½NW; N½SW | Lou J. LeVeque | 1901 | 19423 | 3 |
| 12 | SESW; S½SE | Clara Coughlin | 1899 | 3167 | 4 |
| 12 | S½NE; N½SE | Alexander I. McDonald | 1901 | 19470 | 5 |
| 12 | SWSW | Joseph H. Porter | 1884 | 13606 | 6 |
| 12 | NENE | Francis Palms | 1880 | unknown | 7 |
| 11 | NWSW | Kirby Bailey | 1905 | 4364 | 8 |
| 11 | SWSW; E½SW | Alex J. Beaudry | 1907 | 21035 | 9 |
| 11 | SE | Emmet Cole | 1890 | 17248 | 10 |
| 11 | NE | Daniel H. Bement | 1890 | 17247 | 11 |
| 11 | NW | Thomas Bond and Daniel Gay | 1865 | 4177 | 12 |

HRA assigned these parcel numbers for convenience.

²⁰⁶ Karamanski, *Deep Woods Frontier*, 229; “Commercial Forest Summary,” Michigan Department of Natural Resources, <http://www.michigan.gov/documents/dnr/IC4171_CommercialForestSummary_185969_7.pdf> (July 17, 2008).

²⁰⁷ See Figure 2-4, “Project Surface Ownership,” prepared by Foth & Van Dyke, February 2006. A note in the figure explains: “Property Ownership supplied from Kennecott and Coleman Engineering.”

All of the land in Sections 11 and 12 passed out of the public domain and into private ownership. The individuals who filed for homesteads in these two sections obtained patents between 1865 and 1907. Thomas Bond and Daniel Gay received the first patent, covering the northwest quarter of Section 11, in 1865. No additional lands were patented in the two sections until the 1880s, when people proved up claims in Section 12. Three parcels in Section 12, totaling 440 acres, were patented in 1899 and 1901. A patent for the east half of Section 11 was issued in 1890. The remaining 160 acres in Section 11 were patented in 1905 and 1907. Most patentees sold their parcels shortly after receipt of their patents. For example, Isaac Bearinger purchased the two patents comprising the east half of Section 11 in 1892, just two years after they were patented.

The State of Michigan acquired title to two homestead parcels in 1909 (the NWNE and W $\frac{1}{2}$ NW of Section 12 and the NENE of Section 12) because the owners failed to pay taxes. Declaring the parcels abandoned, the Auditor General and Commissioner of the State Land Office conveyed them to the State of Michigan in 1909. The state obtained more land through tax defaults in the 1930s and 1940s. Two tracts in Section 12 became delinquent for taxes in 1935 and were conveyed to the state in 1939:

- the SWSW of Section 12, Joseph H. Porter's former patent;
- the NENW portion of Lou J. LeVeque's patent in Section 12.

The state acquired the west half of Section 11 in 1941. All but 80 acres (E $\frac{1}{2}$ SW) returned to private ownership during the 1940s.

The state's most recent acquisition was through gift rather than tax forfeiture. In 1978, Longyear Realty conveyed to the state the S $\frac{1}{2}$ NE of Section 12, part of a 160-acre patent owned by the Longyear family since 1905.

The consolidation of homestead parcels in the two sections began during the first decade of the twentieth century. Homesteads in the E $\frac{1}{2}$ NW, SW, and S $\frac{1}{2}$ SE of Section 12 and the SW of Section 11 were the first parcels to be consolidated, and Lewis Jenson acquired interests in many of these lands by 1906. Jenson conveyed his interests to Lake Independence Lumber Company in 1913, and in 1926, Brunswick Lumber Company purchased the tract.

During the 1930s, the State of Michigan acquired the NENW and SWSW of Section 12, and Brunswick Lumber sold the SW of Section 11 to William Dorais. The portion of the tract that remained (the SENW, N $\frac{1}{2}$ SW, SESW, and S $\frac{1}{2}$ SE of Section 12) was owned by private individuals until 1960, when Schneider Brothers Land and Timber Co. obtained the title.

Hiawatha Land Co. recombined portions of the first consolidated tract, purchasing the W $\frac{1}{2}$ SW of Section 11 from Makela Forest Products, Inc. in 1957 and then the SENW, N $\frac{1}{2}$ SW, SESW, and S $\frac{1}{2}$ SE of Section 12, from Schneider Brothers Land and Timber Co. During this period, Charles Fredrick Rydholm bought parcels in Section 11, consolidating about 400 acres with the following purchases:

- the W $\frac{1}{2}$ NW of Section 11, bought from Richard R. Bur in 1957 (226/304);
- the NENW of Section 11, bought from Charles L. Hirwas in 1959 (234/131);
- the SE and NE (except SENE) of Section 11, bought from Alfred J. Fontaine in 1965 (258/393).

In 1970, Hiawatha Land Co. continued its consolidation effort, acquiring Rydholm's interests in the SE, NE (except SENE), W½NW, and NENW of Section 11.²⁰⁸ In 2003, Griffin Land, L.L.C. (a predecessor of Kennecott) purchased the consolidated tract. The configuration of Kennecott's current holdings was completed when Griffin Land made the following purchases:

- the SENE of Section 11, bought from Floyd E. Sommers and Betty J. Sommers in 2003;
- the SENW of Section 11, bought from Timothy G. C. Cherup and Janice Cherup in 2004.

The Longyear family has owned the N½SE of Section 12, since 1905. The tract was part of a 160-acre parcel, which also included the S½NE of the section, originally patented to Alexander McDonald in 1901. Ownership of the parcel was placed in the name of Longyear Estate, Inc. in 1928 and Longyear Realty in 1952. Longyear Realty in 1954 listed all 160 acres of the parcel, including the N½SE, under the Commercial Forest Reserve Act. In 1978, the company conveyed the S½NE portion to the State of Michigan, reserving all minerals.

4.6.3 Timber Conveyances

The Marquette County Register of Deeds holds numerous deeds and other documents relating to timber resources on tracts in Sections 11 and 12. In 1886, Thomas Bond and Ephraim W. Bond granted a "Brief of Sale" for pine timber on the NW of Section 11 to R.R. Goodell, who was given eight years to remove the timber. Two years later, Goodell conveyed the sale to F.W. Read & Co. Timber on the NW of Section 11 was again sold in 1925, when Arthur H. Dakin and Alfred W. Blom sold "all the wood, trees, timber and forest products" on the NW to C. Hjalmer Frimodig. The deed gave the seller "the right to enter upon said land to cut and remove therefrom and to have the said wood, trees, timber and forest products" until March 17, 1955.

During the mid-1930s, several parties filed timber bills of sale in the Register of Deeds. A deed conveying the SENW, N½SW, SESW and S½SE of Section 12 reserved timber sold under a contract to Schneider Brothers in 1935. According to the deed, the contract was completed by a bill of sale to G. Sherman Collins in 1937. William Dorais granted a timber bill of sale for the SE and NE of Section 11 to Theodore A. Schneider in 1935. The sale did not expire for 10 years. Schneider in turn conveyed the timber bill of sale to Santeri Luoma, adding in timber on the NW of Section 11. Luoma transferred the timber sale initially to Combined Locks Paper Co. and finally to Winter & Suess in 1936. The timber sale by that time also included the SWSW of Section 12.

In 1954, Longyear Realty filed a certificate it obtained from the State of Michigan to list its holdings (the S½NE and the N½SE of Section 12) under the state's Commercial Forest Reserve Act of 1925.

²⁰⁸ Hiawatha Land sold the consolidated tract in 1974 to Great Northern Nekoosa, which, on the same day, transferred the tract to Nekoosa Edwards Paper Corp. (304/431,438) In 1988, Nekoosa Papers, Inc. conveyed the consolidated tract to Mead Realty Group, Inc., which sold the tract to Escanaba Paper Co. in 1990.

4.6.4 Mineral Interests

Records in the Marquette County Register of Deeds often refer to minerals or ores and the right to develop them. Many deeds transferring tracts of land in the two sections contain clauses with mineral reservations, and several deeds convey mineral rights separate from the surface ownership. The first patent in the area of Sections 11 and 12 may have occurred because of an early interest in minerals. George C.S. Southworth, who claimed an interest in the NW of Section 11, asserted that the patent, dated in 1865, was one of many tracts encompassing about 10,000 acres that “had been selected by Thomas Bond and Daniel Gay in different parts of the State of Michigan according to the surface indication of mineral.”

Individuals and companies filed deeds with mineral reservations or deeds conveying mineral interests throughout the twentieth century. For example, when Lou J. LeVeque conveyed his interest in the E $\frac{1}{2}$ NW and N $\frac{1}{2}$ SW of Section 12 to James Connolly in 1905, he reserved “an undivided one half ($\frac{1}{2}$) of all ores and minerals within or upon said land, together with the right to enter upon said land, and explore for, mine, dig and carry away said undivided half ($\frac{1}{2}$) of ores and minerals.” In 1913, Lewis Jenson filed a deed that transferred “all the mineral and mining interest” that he held in the E $\frac{1}{2}$ NW, SW, and S $\frac{1}{2}$ SE of Section 12 and the SW of Section 11 to Lake Independence Timber Company. Other examples of deeds with mineral reservations or mineral deeds are evident in these two sections.

When Longyear Realty transferred the S $\frac{1}{2}$ NE of Section 12 to the State of Michigan in 1978, the company reserved “all metals, ore, minerals” in the tract. Several years later, in 1992, Longyear Realty filed a “Notice of Claim of Interest” to the minerals in the tract. When the company filed a “Memorandum of an Exploration and Mining Lease” with Kennecott Eagle Minerals Company in 2005, it included not only its current holding in the N $\frac{1}{2}$ SE but also the S $\frac{1}{2}$ NE, the subject of the mineral reservation in the 1978 deed.

4.7 Observations of Activity at the Rock Outcrop

Mineral exploration at the outcrop in the 1970s and since the mid-1990s has resulted in the presence of various scientists and other persons at the site. In addition, logging sales from state lands around the outcrop have occurred since the 1970s, bringing state foresters and logging crews to the immediate vicinity.

Dr. Allan Johnson, who conducted mineral drilling on the outcrop in 1976, visited the outcrop in August 1976 to select a drill site and again in October 1976 to do the drilling. At the time, second growth forest cover made the outcrop barely noticeable from the road. During the first visit, Dr. Johnson walked around the entire outcrop to determine how to access the drill site. He observed a deer blind on an elevated spot at the west end of the outcrop, but he saw no other evidence of human activity and saw no indications of cultural or ceremonial use of the outcrop. During the October 1976 drilling, Dr. Johnson was on the outcrop over the course of four days. He was there with Jack Van Alstine, a DNR geologist, and a two-man drilling crew. He had permission from the DNR to cut some trees in order to get the drilling crew’s water tank in. He found a rusty animal trap spiked to a pine stump near the crew’s van, which he suspected had been used to trap coyote or wolf in the 1920s or 1930s. Otherwise, he saw no evidence of human activity or cultural use. Dr. Johnson returned to the outcrop in 2006 during a field trip with the

Copper County Rock and Mineral Club. He said the outcrop area looked completely different because the area in front of the outcrop had been logged.²⁰⁹

Bruce Veneberg, who was a forester for the Michigan DNR for thirty years and is now a consulting forester, worked in the Yellow Dog Plains area from 1970 to 1974. Mr. Veneberg explains that at that time, the outcrop would not have been visible from the nearby Triple A Road because of the second-growth forest cover. He traveled along the Triple A Road for his work in the area, and he does not recall ever seeing the outcrop. He notes that the area looks quite different now because of clear-cutting around the outcrop.²¹⁰

Dean Rossell is a geologist with Kennecott Exploration Company. He started working for the company in 1990 as a contractor, and he became a full-time geologist for the company in 1995. Mr. Rossell first investigated the outcrop in 1994 and made a few visits there that year. He participated in drilling work at the outcrop in 1995, and he worked on a series of geophysical surveys in 1995 to 1996. As part of the latter work, Mr. Rossell helped to set up a survey grid that covered the outcrop and adjacent areas, which involved lugging survey equipment over the outcrop a number of times. He prepared a map of the outcrop that located the edges of rock and dirt. Mr. Rossell returned to the outcrop several times in 2000 to restart the exploration project after a hiatus from 1996 to 1999. He was involved in drilling work at the east end of the outcrop in 2001. During his many visits to the outcrop, Mr. Rossell observed logging activity, blueberry picking, and ATV activity. He remembers that some graffiti had been painted on the outcrop, which he recalls telling one of the drillers to look for as a landmark for the site. He did not see any evidence of cultural or ceremonial use of the outcrop. He did not encounter any items left as “offerings” at the outcrop.²¹¹

Andrew Ware is the site operations and explorations manager for Kennecott Eagle Minerals Company, a position he has held since 2004. Prior to that, he was a geologist with Kennecott Exploration Company. He began working on the Eagle Project in October 2002. During subsequent years, in addition to drilling work at the nearby ore body, the company drilled around but not on top of the outcrop. Mr. Ware has been to the outcrop many times and works at the proposed mine site area on a regular basis. He remembers seeing graffiti on the outcrop on his first visit, but it was painted over around 2005. During his visits, he has seen evidence of people camping, picking blueberries, and drinking beer. Logging trucks traverse the Triple A Road almost every day from April or May through December, with up to eight trucks a day passing the proposed Eagle Mine site. Mr. Ware did not see any tobacco ties, offerings, or other signs of religious or ceremonial use until very recently. He recalls that the Rainbow Gathering made some unsuccessful attempts to gather a large group at the outcrop, and at one time (around 2005-2006), they had about ten people camping on the outcrop.²¹²

²⁰⁹ Interview with Allan Johnson, 7/14/2008; field notes of Allan Johnson, October 11-15, 1976.

²¹⁰ Interview with Bruce Veneberg, 7/15/2008.

²¹¹ Interview with Dean Rossell, 6/23/2008.

²¹² Interview with Andrew Ware, 6/25/2008.

4.8 References Cited

- Bodwell, Willard Arthur. "Geologic Compilation and Nonferrous Metal Potential, Precambrian Section, Northern Michigan." MA Thesis. Department of Geology and Geological Engineering, Michigan Technological University, 1972.
- Boyum, Burton H. "Marquette Range Non-Ferrous Mineral Prospects and Mines." *Historic Resources of the Iron Range in Marquette County, Michigan, 1844-1941*. Ed. William H. Mulligan, Jr. Economic Development Corporation of the County of Marquette, 1991.
- Carter, James L. and Ernest H. Rankin, eds. *North to Lake Superior: The Journal of Charles W. Penny, 1840*. Marquette, Mich.: John M. Longyear Research Library, 1970.
- Christy, Bayard H. "The History of the Club." *The Book of Huron Mountain*. Ed. Bayard H. Christy. Huron Mountain Club, 1929.
- "Copper: Its Mining and Use by the Aborigines of the Lake Superior Region." *Bulletin of the Public Museum of the City of Milwaukee*, 10: 1 (May 29, 1929).
- Fountain, Daniel. *Michigan Gold: Mining in the Upper Peninsula*. Duluth: Lake Superior Port Cities, Inc., 1992.
- Gedicks, Al. *The New Resource Wars: Native and Environmental Struggles Against Multinational Corporations*. South Island Press, 1993.
- History of the Upper Peninsula of Michigan Containing a Full Account of Its Early Settlement; Its Growth, Development and Resources; An Extended Description of Its Iron And Copper Mines . . .*. Chicago: Western Historical Company, 1883.
- Karamanski, Theodore J. *Deep Woods Frontier: A History of Logging in Northern Michigan*. Detroit: Wayne State University Press, 1989.
- Klasner, John S., et al. "The Yellow Dog Peridotite and a Possible Buried Igneous Complex of Lower Keweenaw Age in the Northern Peninsula of Michigan." Report of Investigation 24. Geological Survey Division, Michigan Department of Natural Resources, 1979.
- Klavitter, Terry. "Logging in Marquette County." *Historic Resources of the Iron Range in Marquette County, Michigan, 1844-1941*. Ed. William H. Mulligan, Jr. Economic Development Corporation of the County of Marquette, 1991.
- LaFayette, Kenneth D. "The Way of the Pine: Forest Industries of Marquette County During the White Pine Era, 1848-1912. Unpublished manuscript, Marquette County Historical Society.
- Letters Received by the Office of Indian Affairs*. National Archives Microfilm Publication M234.
- Magnaghi, Russell M. *A Guide to the Indians of Michigan's Upper Peninsula*. Marquette, Mich.: Bell Fountain Press, 1984.
- Marquette Economic Profile [Marquette: The Superior Location]*. Economic Development Corporation of the City of Marquette, no date.
- Martin, Susan R. *Wonderful Power: The Story of Ancient Copper Working in the Lake Superior Basin*. Detroit: Wayne State University Press, 1999.
- Mayor, Archer. *Huron Mountain Club: The First Hundred Years*. Ed. Murray Dodge. Huron Mountain Club, 1988.
- Michigan Historical Museum. "Mining in Michigan: Copper Mining."
<http://www.sos.state.mi.us/history/museum/explore/museums/hismus/prehist/mining/copper.html>. Accessed August 11, 2008.

- Peters, Bernard C. *Lake Superior Place Names: From Bawating to the Montreal*. Marquette, Mich.: Northern Michigan University Press, 1996.
- Rankin, Ernest H. *A Brief History of the Marquette Iron Range*. Second Edition. Marquette County Historical Society, 1966.
- Rector, William Gerald. *Log Transportation in the Lake States Lumber Industry, 1840-1918*. Glendale, Calif.: Arthur H. Clark Company, 1953.
- Red Cliff Band of Lake Superior Chippewa. "Origins and History." <http://www.redcliffnsn.gov/Government/history.htm>. Accessed July 30, 2008.
- Rickard, T.A. *The Copper Mines of Lake Superior*. New York and London: The Engineering & Mining Journal, 1905.
- Rydholm, C. Fred. *Superior Heartland: A Backwoods History*. 2 vols. Winter Cabin Books & Services, 1989.
- Swineford, A.P. *History and Review of the Copper, Iron, Silver, Slate and Other Material Interest of the South Shore of Lake Superior*. Marquette, Mich.: The Mining Journal, 1876.
- Tanner, Helen Hornbeck, ed. *Atlas of Great Lakes Indian History*. Norman: University of Oklahoma Press, 1987.
- Treloar, Wilbert H. *A Bond of Interest* (1988). Reprinted in *Harlow's Wooden Man*, XIII: 5 (Fall 1978).
- Tremethick, Martin L. "Swamiells in Marquette County." *Historic Resources of the Iron Range in Marquette County, Michigan, 1844-1941*. Ed. William H. Mulligan, Jr. Economic Development Corporation of the County of Marquette, 1991.
- United States Geological Survey. *Minerals Yearbook*, Michigan sections, 1999-2004. <http://minerals.usgs.gov/minerals/pubs/state/mi.html>. Accessed August 12, 2008.
- Upper Peninsula Resource Conservation and Development Council. *Michigan's Upper Peninsula: Resource Conservation & Development Project Plan*. Lincoln, Neb.: U.S. Department of Agriculture, Soil Conservation Service, 1972.
- Waring, Betty A. *Yellow Dog Tales and Logging Trails to Big Bay, Michigan*. Marquette, Mich.: Lake Superior Press, 1986.

5.0 Archaeological Assessment

5.1 Introduction

The Principal Investigator for the following Phase I archaeological fieldwork, analysis, and reporting is Dr. Christopher Bergman, Ph.D., RPA (see Appendix A for his resume). He received a B.A. in Archaeology and Geology from the American University of Beirut and a Ph.D. in Prehistoric Archaeology from the University of London. Dr. Bergman has over 30 years of experience in archaeology, with 20 years of experience in North American cultural resource management, including National Historic Preservation Act (NHPA) Section 106 reviews.

He has authored over 50 journal and peer-reviewed papers and over 200 cultural resource reports and related documents, is listed in the Register of Professional Archaeologists (RPA), is a member of the Society for American Archaeology, and is an elected member of the Ohio Archaeological Council's Native American Affairs Committee. In 1995, Dr. Bergman was a co-recipient with the Federal Energy Regulatory Commission of Pennsylvania's first Annual Historic Preservation Archaeological Award for Outstanding Achievement upon completion of Transcontinental Gas Pipe Line Corporation's Sandts Eddy Archaeological Project. In 1997, the Sandts Eddy project was one of only four projects nationwide selected for inclusion in the Secretary of Interior's Annual Report to the U.S. Congress as an outstanding contribution to research in the Federal Archaeology Program. In 1999, Dr. Bergman received a second citation in the Secretary of the Interior's Annual Report to U.S. Congress for his work on the eighteenth and nineteenth century Susan Furnace site in Cherokee County, South Carolina.

Dr. Bergman is listed as an approved archaeological consultant in the State of Michigan with credentials vetted by the Office of the State Archaeologist (OSA). Since 1989, he has completed numerous Section 106 reviews in Michigan including, in 2007, a Phase I survey of the 24-mile Jamestown Pipeline and related facilities for DTE Energy.

In 2004, Kennecott Eagle Minerals Company (Kennecott) requested Dr. Bergman to identify and evaluate archaeological resources within the footprint of the mining project that will be disturbed during construction. In 2004 and 2005, he conducted a Phase I archaeological survey of the potentially affected area. In June 2008, Dr. Bergman revisited the project area to assess and analyze certain assertions made by Mr. James Paquette, a Negaunee-based amateur archaeologist, regarding the purported presence of previously unidentified archaeological resources.

Based on an extensive review, including multiple site visits, Dr. Bergman found no evidence of significant prehistoric or historic-era utilization within the construction footprint. It is Dr. Bergman's opinion that no archaeological sites, potentially eligible or eligible for listing in the National Register of Historic Places (NRHP), exist within the area to be impacted during construction of the project.

5.2 Area of Potential Effects for Archaeological Resources

For purposes of this study, Dr. Bergman has considered the APE for archaeological resources to be the construction footprint for the entire mining project that is being permitted under Part 632, which is Michigan's non-ferrous mining statute.²¹³ This involves the areas that will be directly impacted by ground-disturbing activities related to the placement of the mine portal, ore crushing and handling facilities, ore development rock stockpile, water treatment and water storage ponds, office and maintenance buildings, access roads, and utility facilities. The archaeological APE is contained within the study area described in the September 2005 report entitled *Phase I Archaeological Survey of ca. 73 acres for Kennecott Minerals Company, Eagle Project, Marquette County, Michigan* that appears as Appendix H1 of the *Mine Permit Application's Environmental Impact Assessment* (Leary and Bergman 2005; see Appendix E).

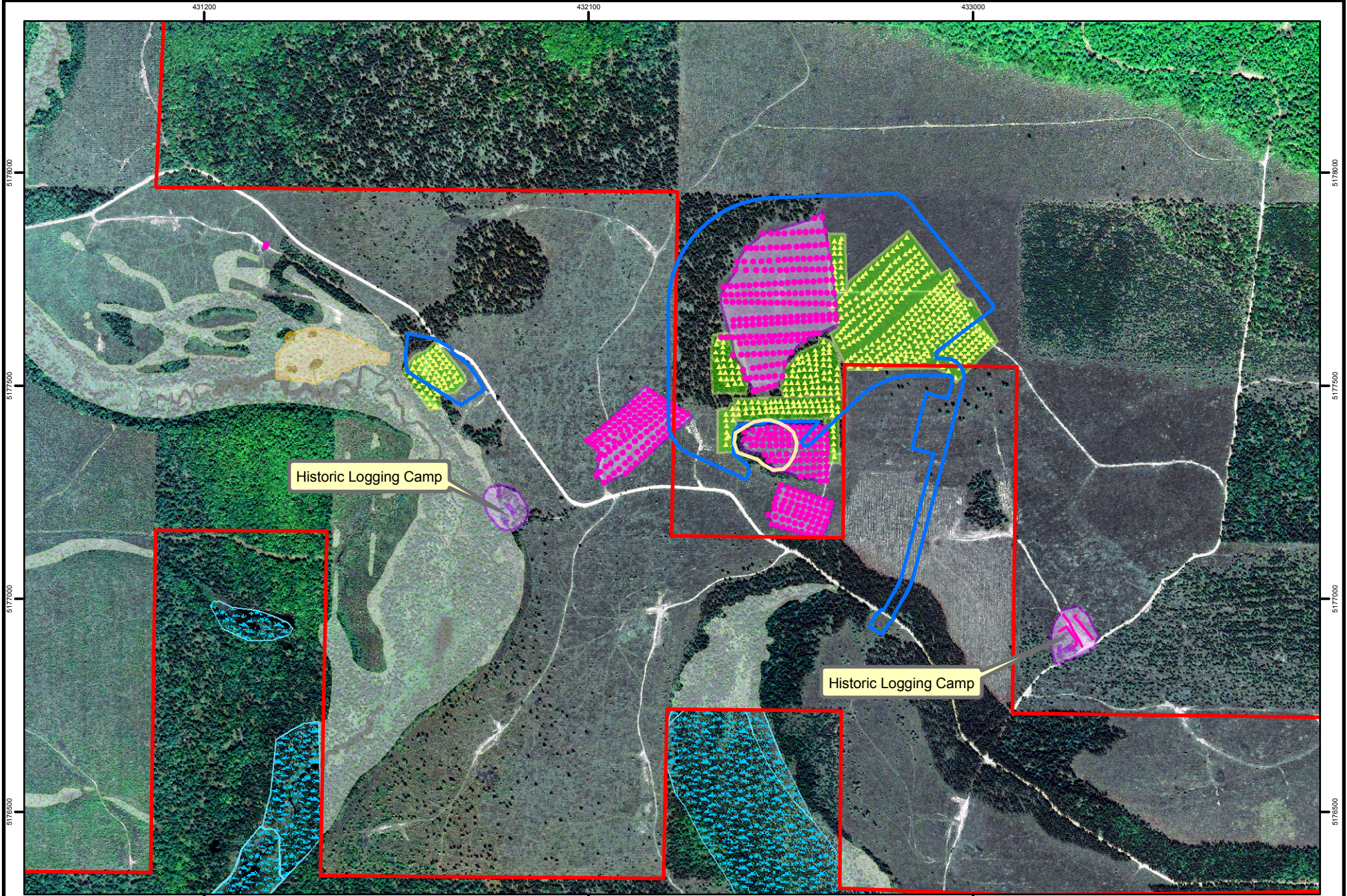
Additional description of the APE is provided as Appendix H2 of the Environmental Impact Assessment in a technical memorandum entitled "Comparison of Expanded Mine Footprint with Archaeological Surveys" (Bergman 2006; see Appendix E). This document provides detailed mapping of the 2004 and 2005 cultural resource surveys superimposed on the construction footprint (Figure 5-1). Appendix E of this report contains copies of the Phase 1 Report and the Technical Memorandum.

5.3 Research Methods

The research methods applied to the study of the archaeological APE are summarized in detail in the Phase I report (Leary and Bergman 2005 Appendix E). The basic methods applied during the investigation involved the following:

- consideration of the project land requirements;
- development of a research design;
- development of environmental and cultural contexts;
- archival research at the Michigan State Historic Preservation Office (SHPO) and Michigan Office of the State Archaeologist (OSA) to review previous cultural resource investigations, archaeological and historical site files, and NRHP listings;
- development of a site location model to guide the field investigations;
- field survey using pedestrian reconnaissance and shovel testing at 15-meter intervals per OSA guidance (Dean Anderson, personal communication with Christopher Bergman, 2004);
- analysis of results of background research and field survey;
- preparation of archaeological site forms; and
- preparation of technical report and memorandum.

²¹³ Kennecott's position is that the undertaking is limited to effects related to the underground injection gallery that is being permitted by the Environmental Protection Agency. Assuming this is indeed the appropriate undertaking, the Area of Potential Effects (APE) for archaeological resources is very limited.



NOTES

1. Surface Property Boundary, Ore Body, Wetland boundary (Wetland and Coastal Resources), 2004 Archeological Survey and Orthophotography supplied by Kennecott via Golder Associates Inc., August, 2005.
2. 2005 Archeological Survey supplied by Kennecott via Golder Associates Inc., October, 2005.
3. Horizontal datum based on NAD 83/94. Horizontal coordinates based on UTM Zone 16.
4. US Fish and Wildlife Service Wetlands downloaded from USFWS website.
5. Site Location - Project Site within Sections 11 & 12, T50N, R29W, Town of Michigamme, Marquette County, Michigan.

LEGEND

- Eagle Ore Body
- Location of Surface Facilities
- Kennecott Surface Ownership
- WCR Wetland Boundary
- US Fish and Wildlife Service Wetlands Inventory Map
- Outcrop
- 2004 Archeological Survey and Test Sites
- 2005 Archeological Survey and Test Sites



| Foth & Van Dyke | | | |
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| APPROVED BY: SVD1 | | DATE: FEB. '06 | |
| APPROVED BY: | | DATE: | |

**Kennecott
Eagle Minerals**

FIGURE 3-13
ARCHEOLOGICAL SURVEY AREAS

Scale: Meters Date: FEBRUARY, 2006

Prepared by: **Foth & Van Dyke** | By: DAT | 04W018

Figure 5-1. Map of Comparing Archaeological Survey Areas and Construction Footprint.

5.3.1 Cultural Overview

The cultural overview that provides a context for evaluating trends in local prehistory and history is detailed in Appendix B of the Phase I report (see Appendix E). A brief summary of the cultural history of the area follows.

The Upper Peninsula of Michigan has a long history of human activity and occupation. As climatic conditions ameliorated at the end of the last Ice Age, prehistoric Paleo-Indian peoples visited the region, as evidenced by archaeological finds well to the south of the archaeological APE, such as Silver Lake. Later, during the Archaic Period, the region's mineral resources were first recognized when the exploitation of native copper occurred at locations such as Isle Royale. Native Americans participating in the Old Copper Complex used copper for the manufacture of awls, axe blades, docketed spear points, and fish hooks, as well as ornaments.

As the prehistoric period drew to a close, new natural resource procurement strategies developed to include harvesting of wild rice and, along the southern portion of the Upper Peninsula, use of deep water fisheries in the Mackinac Straits. During the historic period, interest in the natural resources of the Upper Peninsula is evidenced by mining operations, a robust logging industry, and the growth of recreational camps and sporting areas. Indeed, background research for the archaeological APE historic context identified logging and recreational facilities in the form of logging camps, recreation camps, and hunting and fishing locations, as well as nineteenth and early twentieth century road systems, such as the Triple A Highway, supporting these activities.

5.3.2 Previous Investigations

Previous cultural resource investigations in the project region have been somewhat limited, and almost non-existent in the area of the archaeological APE. Approximately 5.5 miles to the south and southeast of the archaeological APE, the well-known research of Dr. John Anderton (unpublished 2004), Mr. James Paquette, Dr. Marla Buckmaster and others in the Silver Lake Basin has recovered evidence for Paleo-Indian and Archaic activity. These finds occurred when the reservoir was drawn down, exposing older shorelines.

For the present study, archaeologists reviewed nine volumes of cultural resource reports (Leary and Bergman 2005) at the SHPO and OSA. Of particular significance in terms of expected site location results for the region were two surveys conducted in 1993 by Dr. Clark Dobbs, and separately by Mr. Norman Haywood, which considered over 100 acres of Marquette County forest land. These investigations failed to identify any cultural resources, suggesting that some regional settings may evidence little in the way of prehistoric and historic-era activity.

Of even greater importance to the consideration of cultural resources within the archaeological APE are discussions Dr. Bergman had with Dr. Anderton at Northern Michigan University in 2004. At that time, Dr. Anderton was developing a predictive model for prehistoric site location in the Yellow Dog Plains. A review of Dr. Anderton's mapping revealed that his model predicted site location along narrow stretches of high ground adjacent to floodplain and wetland areas, such as the Salmon Trout River. With one exception, specifically Work Area J of the archaeological APE (see Figure 5-1 above; also see Leary and Bergman 2005, Figure 1-2, for the locations of the 2004 and 2005 Work Areas), these high probability zones fall well to the south and west of the archaeological APE.

5.3.3 Previously Recorded Sites

Background research at the OSA in 2004 identified 14 previously documented sites. These sites lie at a distance between one and five miles from the archaeological APE, and none occur within it. Table 5-1 summarizes information on the sites.

Table 5-1. Archaeological Sites Recorded at the OSA within One to Five Miles from the Archaeological APE (from Leary and Bergman 2005:16).

| State Trinomial Number | Site Type | Site Description | NRHP Status |
|------------------------|---|---|--------------|
| 20MQ35 | Early Archaic | Agate Basin Projectile Point | Not Assessed |
| 20MQ37 | Unspecified Prehistoric; 1930s-era Historic | Surface lithic scatter, WPA-related highway construction | Not Assessed |
| 20MQ40 | Early Archaic | Subsurface scatter of lithic materials, Scottsbluff and Cody traditions | Not Assessed |
| 20MQ41 | Late Archaic | Shoreline lithic scatter with hearth feature | Not Assessed |
| 20MQ69 | Paleo-Indian, Early Archaic, and Late Archaic | Eroded beach lithic scatter | Not Assessed |
| 20MQ74 | Unspecified Prehistoric | Possible hearth feature | Not eligible |
| 20MQ76 | Unspecified Historic | Cemetery | Not Assessed |
| 20MQ87 | Unspecified Prehistoric | Surface lithic scatter | Not Assessed |
| 20MQ127 | Late 19th / early 20th century Historic | Mining pit | Not Assessed |
| 20MQ131 | Unspecified Prehistoric | Shoreline lithic scatter with copper awl and hearth feature | Not Assessed |
| 20MQ154 | Ca. 1920-1940 Historic | Historic refuse dump | Not Assessed |
| 20MQ160 | Ca. 1916-1964 | Hunting camp / cabin | Not Assessed |
| 20MQ161 | 20th century Historic | Swedish-American hunting camp | Not Assessed |
| 20MQ162 | Ca. 1910-1950 Historic | Logging / hunting camp | Not Assessed |

The previously recorded sites at the OSA fall outside the one-mile buffer generally used to assess proximity of known cultural resources in relation to a given APE. As such, this buffer was expanded significantly to cover a five-mile radius due to the complete lack of previously recorded cultural resources in the project vicinity. The data above suggest that, if prehistoric materials are encountered, they may date to the Paleo-Indian and Archaic temporal periods as identified for the Silver Lake shoreline sites. However, this generalized observation may not hold true given the fact that the archaeological APE and the Silver Lake Basin, 5.5 miles to the south, represent entirely different environmental and geomorphic settings. The significance of this statement is two-fold. First, differences in environmental settings influenced where prehistoric activities took place. Second, the geomorphic setting not only influences site location, for example a camp on a high spot by a river, but also the extent of site preservation. Thus, the relative proximity of one location to another is not necessarily important, but rather the degree to which they share a common environmental setting or landform type. Finally, historic-era activity may be generally categorized by the contexts identified under Section 5.3.1 above, specifically, resource extraction or recreation.

5.3.4 Site Location Model and Expected Results

Based on the previously recorded sites identified during research at the OSA, the known prehistoric locations in this area of Marquette County, especially those in the Silver Lake Basin, occurred in close proximity to water sources and not as frequently in the uplands. The site location model developed by Dr. Anderton also suggests that close proximity to water sources was critical for site location in the Yellow Dog Plains. Thus, the likelihood of encountering prehistoric materials during a field investigation in the uplands, as is the case for the archaeological APE, would be considered to be low, but it remained possible that more ephemeral occupations or isolated finds could be identified.

Any historic-era resources encountered would most likely be related to natural resource extraction or recreation, the former almost certainly involving logging. In support of this assertion, a 1939 aerial photograph included with the Cultural Overview in Appendix B of the original Phase I report (Leary and Bergman 2005) clearly showed logging activity within the vicinity of the archaeological APE, as well as two camps situated to the southwest and southeast of the APE. Therefore, any historic-era cultural resources that would be identified during a site detection survey would most likely date to the late nineteenth or twentieth centuries.

5.4 Field Survey

Intensive Phase I site detection field surveys were completed for the proposed project in June 2004 and July 2005. The fieldwork was conducted using guidance offered by Mr. Dean Anderson of the OSA and Dr. Anderton. These methods included surface inspection where ground visibility was 75 percent or better. In areas where ground surface visibility was less than 75 percent, shallow shovel tests excavated at 15-meter intervals and hand screened through 1/4-inch (6-millimeter) hardware cloth were utilized. An exception to this occurred in Work Area D during the 2004 investigation where, due to negative results, the interval between transects of shovel tests was expanded to 30 meters, while the shovel tests within transects remained separated by 15 meters. In 2005, the shovel test interval was expanded to 30 meters along transect YY in Work Area I to identify the boundary of the survey area. The shovel tests were 50 centimeters in diameter and excavated at least 10 centimeters into sterile subsoil.

The methods for recording field data included the completion of field forms with the sample locus type, soil profiles if excavated, and materials recovered, as well as hand-drawn sketch maps of the survey areas. The mapping was further enhanced by the use of a sub-meter accurate Trimble TDS1 Global Positioning Satellite (GPS) with a Trimble Pro XRS receiver. The beginning and ending sample loci of each transect, permanent features of the landscape such as roads or natural landmarks, and cultural resources were mapped with the GPS unit.

Both the survey sampling strategy and the data recoding methods generally exceed the standards generally applied to Phase I studies in the Upper Peninsula of Michigan (John Anderton and Dean Anderson, personal communications, 2004).

5.4.1 Field Investigations, Year 2004

The June 2004 survey focused upon Work Areas A, B, C and D located to the north of the Triple A Highway (see Figure 5-1 in Leary and Bergman 2005; Appendix E). The areas totaled approximately 34 acres. The results are summarized in Table 5-2.

Table 5-2. Archaeological Survey Results for Work Areas A-D (from Leary and Bergman 2005: Figure 5-1).

| Sample Locus Type | Number | Percentage |
|---------------------------|--------|------------|
| Disturbed | 59 | 12.6 |
| Negative Shovel Test | 361 | 77.0 |
| Pedestrian Survey | 33 | 7.0 |
| Slope (>13 percent grade) | 16 | 3.4 |
| Total | 469 | 100.0 |

The vast majority of the sample loci investigated in 2004 consisted of negative shovel tests and these accounted for 77.0 percent of the sample loci. In terms of frequency, the shovel tests were numerically followed by surface-inspected sample loci that were visibly disturbed. These disturbed areas were generally the vestiges of logging activities and consisted of timber piles, deflated ruts and furrows, and piles of earth. The investigation of the ca. 34 acres did not identify any archaeological resources in the APE.

In addition to the investigation of the ca. 34 acres, a larger 199-acre area (outside the APE) was examined in 2004 by a casual or “windshield” inspection that utilized historical mapping and aerial photography to focus upon areas that were easily accessible. These generally consisted of access roads, game trails, and clear cuts. These efforts located three previously unrecorded archaeological sites including two sets of historic-era foundations associated with logging camps (20MQ229 and 20MQ230) and a small prehistoric lithic scatter consisting of three brown quartzite flakes found in a pre-existing road bed (20MQ228). These sites are situated outside the APE for archaeological resources as defined in Section 5.2, above.

5.4.2 Field Investigations, Year 2005

The July 2005 survey focused upon Work Areas D (Extensions 1 and 2), E, F, G, H, and I, located to the north of the Triple A Highway, and Area J, located just to the south of the highway (see Figure 6-1 in Leary and Bergman 2005; Appendix E). The areas surveyed in 2005 totaled approximately 39 acres. The results are summarized in Table 5-3.

Table 5-3. Archaeological Survey Results for Work Areas D (Extensions 1 & 2) – I (from Leary and Bergman 2005: Figure 6-1).

| Sample Locus Type | Number | Percentage |
|---------------------------|--------|------------|
| Disturbed | 68 | 12.0 |
| Negative Shovel Test | 448 | 78.9 |
| Pedestrian Survey | 40 | 7.0 |
| Slope (>13 percent grade) | 12 | 2.1 |
| Total | 568 | 100.0 |

A comparison of the results between Years 2004 and 2005 shows a similar pattern in the frequency of sample locus type. The most frequent sample locus was a negative shovel test that accounted for nearly 79 percent (n=448) of the total of 568. Disturbed areas were the second most common type and, as noted above, these were generally the vestiges of logging activities and consisted of timber piles, deflated ruts and furrows, and piles of earth. The investigation of the ca. 39 acres did not identify any archaeological resources in the APE.

An overview of the field efforts for both years is provided in Table 5-4.

Table 5-4. Archaeological Survey Results for All Work Areas.

| Sample Locus Type | 2004/2005 Number | 2004/2005 Percentage |
|---------------------------|------------------|----------------------|
| Disturbed | 127 | 12.3 |
| Negative Shovel Test | 809 | 78.0 |
| Pedestrian Survey | 73 | 7.1 |
| Slope (>13 percent grade) | 28 | 2.7 |
| Total | 1037 | 100.0 |

Over 800 negative shovel tests were excavated across the ca. 73 acres investigated in the two field seasons. This paucity of finds may reflect a low level of prehistoric activities in the uplands, although it must at least partly reflect the effects of at least a century of intensive logging within the archaeological APE. This assertion is supported by the fact that two historical logging camps were located immediately adjacent to the archaeological APE (20MQ229 and 20MQ230). It is interesting to note that the only archaeological resources identified fall outside the archaeological APE, a fact perhaps indicative of the profound degree of disturbance due to past logging.

5.4.3 Field Investigations and Agency Consultation, Years 2007- 2008

Subsequent to the field surveys of 2004 and 2005, Dean Anderson of the OSA sent a letter on May 10, 2006, to the Michigan Department of Environmental Quality stating that “based upon the results of the Phase I archaeological survey, it is the opinion of the Office of State Archaeologist that the project will not affect archaeological resources within the proposed construction footprint” (see Appendix D).²¹⁴

Upon completion of the report review and receipt of the OSA comments mentioned above, Dr. Bergman learned in January 2007 of the discovery of a purported cultural pit feature, identified by Mr. Paquette and given the state site number 20MQ251. The pit feature was formally recorded on a Michigan Archaeological Site Form in December 2006 and was described as “an obvious cultural pit feature that was located in a natural cut in the bedrock in the western area of the site.” (Paquette 2006:2) According to the site form, the pit was historic-era in origin, based on sheet metal fragments associated with the feature.

On July 19, 2007, Mr. Anderson offered comment in a letter (see Appendix D) outlining his agency’s view of the Section 106 process for the proposed project, as well as the status and recommendations for further investigations at 20MQ251. Mr. Anderson’s July 2007 letter stated that, as of the date of the letter, it was the OSA’s “understanding that the Eagle Project does not fall under the purview of the NHPA.” Further elaborating on this point, he indicated that Kennecott completed the 2004 and 2005 field surveys voluntarily and that “the archaeological survey of the project had been carried out in a manner consistent with the standards we would expect of any survey conducted for the purpose of meeting section 106 requirements.”

The July 2007 OSA letter discussed the pit feature on the bedrock outcrop, situated within the original Phase I survey Work Area A. Based on a review of the data supplied in the site form, Mr. Anderson suggested that the pit was, indeed, of human origin, but concluded that “the

²¹⁴ Letter from Dean Anderson, Historical Archaeologist, OSA, to Joe Maki, DEQ, May 10, 2006.

function of the pit or the reason it was dug is not clear.” The assignment of the number 20MQ251 was to provide a unique identifier, allowing a record to be maintained at the OSA, and carries no implication of nature, age, or significance for this resource.

After receiving the site form, the OSA continued consultation with Kennecott and suggested that a professional investigation of the feature be conducted to determine its origin and age, as well as its context. To help answer these questions, Kennecott agreed to initiate field investigations during June 2007. However, during a telephone conversation, Kennecott pointed out to Mr. Anderson that, in fact, the bedrock outcrop lies outside the construction footprint and, consequently, is outside the APE for archaeological resources. Thus, the project would not affect 20MQ251, obviating the need for further field investigation or other treatment measures. It should be noted that, contrary to KBIC criticisms directed at Kennecott for abandoning the field investigation at 20MQ251, an archaeological excavation is ultimately a destructive process that removes a site or its contents, albeit in a scientific manner. Avoidance is the preferred option due to the fact that it preserves a given resource *in situ*. Based on Kennecott’s commitment to avoid the pit feature, Mr. Anderson concluded, “as circumstances now stand, we believe the question of whether the Eagle Project will affect 20MQ251 is resolved.”

While consultation surrounding the need for investigation of 20MQ251 was being conducted between Kennecott and the OSA, a report concerning the project archaeological APE, dated June 2007, was prepared by Mr. Paquette. The report, entitled *Preliminary Surface Cultural Resource Assessment of the Eagle Rock Project Area, Marquette County, Michigan*, provides an assessment undertaken for portions of the APE by Mr. Paquette, supported by other non-professionals from the local community. The assessment represents a non-systematic reconnaissance of the APE that does not meet the OSA standards for Phase I survey in Michigan. Nonetheless, the results may be broadly compared with the systematic and detailed archaeological study described above.

Consideration of Mr. Paquette’s 2007 Assessment shows that there is, not surprisingly, complete agreement with the 2004 and 2005 studies in terms of recording the overall logging-related disturbance to the APE. Three quotations from the 2007 Assessment demonstrate agreement in this regard:

... we encountered heavily disturbed ground surfaces from the previous commercial logging activities (i.e. deep furrows and ruts, skidding trails, earth and brush piles, etc.) (Paquette 2007:6)

Although these highly disturbed surface areas make it difficult at best to discern the presence of any possible cultural features (Paquette 2007:7)

... it would be fruitless to continue the search for surface cultural features in the deforested clear-cut areas in light of the overall destruction (Paquette 2007:10).

The amount of disturbance documented in 2004 and 2005, and verified by Mr. Paquette’s 2007 Assessment, clearly indicates that any depositional context for archaeological materials has been severely compromised across large portions of the APE.

Although there are clear misunderstandings in Mr. Paquette’s 2007 Assessment as to what constitutes significance under the four evaluation criteria for listing in the NRHP, it does identify a number of “suspected surface cultural features.” Equivocation in regard to what exactly was identified appears throughout the document as illustrated by the following quotations:

Other than two “suspicious” surface features (ER1) that were located by Ms. Cohen early in the day, no additional cultural features were found during the course of the walkover survey on May 17 (Paquette 2007:13)

. . . we photographed this probable cultural artifact in situ (Paquette 2007:16).

. . . we located another quartz flake or small cobble core Again we marked the location of the probable cultural artifact with a GPS unit (Paquette 2007:17).

In the case of the “probable” quartz flakes, the hesitancy of the author to assign them a cultural origin is understandable. Single examples of prehistoric tools made from non-chert rocks can be notoriously difficult to identify, even for qualified professionals. With respect to the “suspicious surface features,” it is Dr. Bergman’s opinion that the author of the 2007 Assessment failed to consider his own observation as to the degree of extensive disturbance resulting from at least a century of commercial logging that included creation of pits, ruts, and furrows.

With regard to the significance of the findings presented in the 2007 Assessment, the equivocal cultural origin for the features or artifacts identified makes it impossible to assess their NRHP eligibility status. Clearly, “a small lithic scatter of suspected prehistoric cultural material, consisting of two small quartz flakes” does not constitute a potentially eligible cultural resource under Criterion D of the NRHP. Criterion D requires an archaeological resource to yield information important to regional history or prehistory.

Finally, even if these “suspected” quartz artifacts are the product of a prehistoric knapping episode, they represent nothing more than further corroboration of the results of the more intensive, systematic field surveys conducted in 2004 and 2005. Specifically, they evidence no more than a low level of prehistoric activity in the archaeological APE.

Beyond the review of the report, Kennecott requested that Dr. Bergman review Mr. Paquette’s findings in the field. In June 2008, Dr. Bergman examined the purported resources documented in the report, entitled *Preliminary Surface Cultural Resource Assessment of the Eagle Rock Project Area, Marquette County, Michigan*. Mr. Paquette’s 2007 Assessment identified six resources that may be characterized as “archaeo-historic.” Prior to the 2008 field inspection, the coordinates supplied for these resources were loaded into a sub-meter accurate Trimble GeoXT GPS unit for navigation in the field. The discussion that follows presents the results of Dr. Bergman’s field inspection of each archaeological resource as identified in an October 15, 2007 letter from Ms. Susan J. LaFernier, Keweenaw Bay Indian Community President, to the Michigan Office of Geological Survey, as well as Tribal Historic Preservation Officer Ms. Summer Cohen’s 2007 document, entitled *Assessment of Migi zii wa sin*.

- 1. Cultural Pit Feature (20MQ251).** The cultural pit feature was located in the area specified by the 2007 Assessment. The June 2008 inspection indicated that the feature could be a pit and, given its generally non-eroded condition, probably of modern or even recent origin; one rusted metal fragment was observed nearby. This feature was not located during the 2004 and 2005 Phase I survey of Work Area A, even though shovel tests were excavated in areas adjacent to it in the same natural cut in the bedrock. One highly significant observation concerns the state of the feature in June 2008. Judging by the photographs attached to the Michigan Archaeological Site Form as Figures 4 and 5, it appears that some removal of leaf litter and branches (and possibly even soil) had taken place between November 2006 and June 2008, thus enhancing the appearance of the depth of the pit.

The origin and purpose of the feature were not evident during the inspection and, in fact, cannot be determined without formal archaeological investigation as discussed with Mr. Anderson of the OSA. Even then, these questions may not be answerable, and it could turn out that the pit is simply the result of a tree fall, a common occurrence on the outcrop. Indeed, during the 2008 inspection, Dr. Bergman noted similar patterning of ground disturbance clearly related to tree falls. Regardless of the origin and nature of the pit, Kennecott has no plans to conduct surficial ground-disturbing activities on the bedrock outcrop, and there will be no project effects on 20MQ251, as is clearly stated in the July 19, 2007 OSA letter.

One final note concerns the placement of various objects, such as small cloth pouches tied to tree branches, in the area of this feature on the bedrock outcrop. During the two-year, albeit non-continuous, field seasons in 2004 and 2005, no such materials were ever seen at this location by the archaeological field team led by Dr. Bergman. Indeed, reference to the newsletter piece titled “Eagle Rock as U.P. Pilgrimage Site” by Jon Saari, Upper Peninsula Environmental Coalition President, shows that members of the general public have been recently encouraged to travel to the rock outcrop and leave offerings (Upper Peninsula Environmental Coalition Newsletter, Winter 2007; see also Op-Ed article “Pilgrimage to Eagle Rock” by Sue Ellen Kingsley in KeweenawNOW, [www.keweenawnow.com/ views/kingsley_eagle_rock_05_07](http://www.keweenawnow.com/views/kingsley_eagle_rock_05_07) posted on May 27, 2007).

2. **Two shallow semi-circular depressions at UTM coordinate (NAD27) 16 432616E 517738N.** In his report, Mr. Paquette equivocates on the cultural origins of these depressions and calls them “suspicious” (Paquette 2007:13). The area of the depressions was inspected in the 2005 Work Area H, adjacent to the 2004 Work Area D that was recently clear cut, and it was found to also be pitted and rutted. Thus, the exact location of the “suspicious” depressions could not be identified with certainty, but it is Dr. Bergman’s opinion that the depressions are most likely nothing more than the vestiges of a century of commercial logging.
3. **A find spot of a quartz flake at UTM coordinate (NAD27) 16 431707E 5177332N.** Mr. Paquette also equivocates on this resource and calls the quartz flake “a probable cultural artifact” (Paquette 2007:16). The area of this resource was inspected within the 2005 Work Area J, but obviously the specific quartz object could not be located. The find spot is identified as being located in a roadway, a disturbed context according to Mr. Paquette (2007:16). This isolated and disturbed resource would not meet Criterion D of the NRHP, which specifies that a site must be able to make a contribution to understanding history or prehistory to be eligible for the NRHP.
4. **A find spot of a quartz flake or cobble core at UTM coordinate (NAD27) 16 431723E 5177325N.** Again, Mr. Paquette equivocates on this resource and calls it “a probable cultural artifact” (Paquette 2007:17). The area of this resource was inspected within the 2005 Work Area J, but the specific quartz object was not located. The find spot, as shown in Figure 13 of Paquette’s assessment report (2007), appears to be deflated with numerous other pebbles on the surface. Indeed, it is not possible to tell which quartz object is the “probable” artifact, as two are shown on either side of the GPS unit. Given the setting of the find, with other rocks of a similar nature, it is possible that the specimen is nothing more than a natural piece of shatter, but this cannot be determined by an examination of

the photograph comprising Figure 13. Nonetheless, this isolated and deflated resource would not meet Criterion D of the NRHP, which specifies that to be eligible the site must be able to make a contribution to understanding history or prehistory.

5. **Remnants of a man-made trail worn into the face of the slope at UTM coordinates (NAD 27) 16 431648E 5117729N and NAD27 16 431759E 5177204N.** The trail was located as specified in the 2007 Assessment, but it is unclear whether it is man-made or a game trail or both. Regardless of its nature, there is no evidence of a historic-era origin for the trail, and it is outside of the construction footprint and archaeological APE. This unlikely resource would not meet Criterion D of the NRHP, which specifies that a site must be able to make a contribution to understanding history or prehistory to be eligible for the NRHP.
6. **A large man-made rock pile and several depressions in the side of a nearby slope at UTM coordinate (NAD 27) 16 431667E 5177282N.** The rock pile was examined in the field during the 2008 field visit, and its origins and purpose could not be determined with available information. Regardless of its origin, the rock pile is outside of the construction footprint and archaeological APE. This resource appears to contain very limited archaeological information and would not meet Criterion D of the NRHP, which specifies that a site must be able to make a contribution to understanding history or prehistory to be eligible for the NRHP.

5.5 Conclusions Regarding National Register of Historic Places Eligibility

The results of the Year 2004, Year 2005, and Year 2008 field investigations failed to identify any cultural resources of an archaeological character within the construction footprint. Thus, the field work identified no archaeological resources within the APE that warrant an assessment of NRHP eligibility. In addition, over the two-year period encompassing the intensive 2004 and 2005 field seasons, no other cultural activity or the material remains of such activity were observed by the field team in the area of the bedrock outcrop suggesting its active use for any purpose.

The robust sampling strategy applied during both seasons, including 1037 total sample loci and 809 negative shovel tests, clearly demonstrates that no archaeological resources, potentially eligible or eligible to the NRHP, exist within the APE, which encompasses the proposed construction footprint. This conclusion is further reinforced by two separate lines of evidence: the predictive model for prehistoric site location of Dr. Anderton for the Yellow Dog Plains, and historical and recent ground disturbance from commercial logging in the APE. First, discussions with Dr. Anderton, as well as consideration of his site location model, show that the archaeological APE falls almost entirely outside his zones of high probability for locating prehistoric occupations. The archaeological APE is generally situated in the uplands with the exception of Work Area J, which is sited on the terrace edge overlooking a tributary to the Salmon Trout River. According to Dr. Anderton, near-water settings are generally preferred for prehistoric site location in this portion of the Yellow Dog Plains. His model is entirely supported by the results of the 2004 and 2005 field surveys, and coincidentally by Mr. Paquette's 2007 Assessment, which collectively recovered a total of only five prehistoric flakes (three in 2004 and two "probable" flakes in 2007). Interestingly enough, these resources occurred in close

proximity to the same terrace edge identified as a high probability zone. It must be emphasized, however, that the area of 20MQ228 has been previously disturbed, as has the area where Mr. Paquette recovered the two “probable” quartz flakes.

Second and importantly, large-scale ground disturbance has taken place within the archaeological APE related to at least a century of logging. Indeed, the most recent episodes of logging activity are evidenced by clear cut areas, furrows and rutting, and push piles of earth and cut timber. This disturbance contributed to over 12 percent of the archaeological APE being characterized as disturbed by visual inspection alone, a fact wholly supported by Mr. Paquette’s 2007 Assessment.

Before concluding the discussion regarding prehistoric utilization of the APE, comments concerning the presence of other cultural resources or activity must be considered. In a November 27, 2007 letter written by Dr. Eleanor Andrews to Ms. LaFernier, the former stated that there was evidence of prehistoric copper mining in the proposed construction footprint. Dr. Andrews indicates that during a visit by her son to the bedrock outcrop, there were “depressions in the area **that may** [Dr. Bergman’s emphasis] have been prehistoric copper mining sites.” This comment, including the phrase “that may,” is clearly speculative in nature, the “academic persons” who apparently support this belief are not identified, and it does not consider the 809 negative shovel tests excavated in 2004 and 2005 that did not yield a single piece of copper or, indeed, any artifacts. The entire archaeological APE is pitted and rutted, as determined by both Dr. Bergman and Mr. Paquette, and the depressions Dr. Andrews notes may be nothing other than the residue of commercial logging. Additionally, discussions with Mr. Andrew Ware, Kennecott’s Project Geologist, in 2004, suggested that surface or near surface deposits of native copper did not exist in the APE. Dr. Andrews’ conclusion that because prehistoric Native Americans near Baraga found copper, they also did so in the APE is offered without any supporting evidence.

Finally, in a letter dated November 14, 2007, to the US Environmental Protection Agency (EPA), Region 5, Mr. Cecil E. Pavlat Sr., Cultural Specialist with the Sault Ste. Marie Tribe of Chippewa Indians, suggests that it “is **highly likely** [Dr. Bergman’s emphasis] that a burial site(s) ... exists within the area in question.” Similar concerns are voiced by Giiwegiizhigookway Martin, LVD THPO, who states in an April 30, 2008 letter to the EPA Region 5, that “the LVD is concerned that **the possibility** [Dr. Bergman’s’ emphasis] of disturbing burials is likely.”

As indicated above with the copper mining discussion, Mr. Pavlat’s “highly likely” statement is speculative and no further evidence is offered in the letter to support it. An intensive archaeological investigation, spanning two field seasons and several visits, resulted in over 800 negative shovel test pits being excavated without identifying any archaeological resources, including human interments.

In terms of the expected results identified in Section 5.3.4 above, both the 2004 and 2005 survey, as well as Mr. Paquette’s 2007 Assessment, identified only a low level of possible prehistoric activity as predicted by the background research and the work of Dr. Anderton. The presence of two historical logging camps (20MQ229 and 20MQ230) is wholly in keeping with historic-era utilization of the general region. Although situated just outside the archaeological APE, as is the nineteenth and twentieth century Triple A Highway used to access them, these

camps were undoubtedly involved in timber harvesting within it which, in turn, contributed to the amount of disturbance noted during the 2004 and 2005 surveys.

5.6 References Cited

Anderton, John

2004 (unpublished) *Paleoindian Geoarchaeology* in Marquette County, Michigan.

Bergman, Christopher

2006 Technical Memorandum: Comparison of Expanded Mine Footprint with Archaeological Surveys." Technical Memorandum to Scott Miller of Golder Associates, January 30, 2006. Included in *Kennecott Eagle Mine Permit Application Environmental Impact Assessment*, Appendix H2, submitted to Michigan Department of Environmental Quality.

Cohen, Summer Sky

2007 (Unpublished) *Assessment of Migi zii wa sin (Eagle Rock)*. Report prepared by Keweenaw Bay Indian Community. On file, Environmental Protection Agency Region 5, Chigago, IL.

Dobbs, Clark A.

1993 *Archaeological Survey Along the Dead River, Marquette County, Michigan*. Institute for Minnesota Archaeology, Reports of Investigations No. 263.

Haywood, Norman

1993 *Cultural Resources Report for the Proposed US-41 Bridge Replacement over the Peshekee River, Marquette County, Michigan*. Report submitted to the Michigan of Transportation, 3/D Environmental Services, Inc. Cincinnati, Ohio.

Kingsley, Sue Ellen

2007 Pilgrimage to Eagle Rock. Op-Ed article in KeweenawNOW, www.keweenawnow.com/views/kingsley_eagle_rock_07_07, posted on May 27, 2007

Leary, Christopher G. and Christopher A. Bergman

2005 *Phase I Archaeological Survey of ca. 73 Acres for Kennecott Minerals Eagle Project, Marquette County, Michigan*. Report prepared for Golder Associates, Inc. *Kennecott Eagle Mine Permit Application Environmental Impact Assessment*, Appendix H1, submitted to Michigan Department of Environmental Quality in 2006.

Paquette, James

2006 Michigan Archaeological Site form for 20MQ251. On file, Michigan Office of the State Archaeologist, Lansing.

2007 *Preliminary Surface Cultural Resource Assessment of the Eagle Rock Project Area, Marquette County, Michigan*. Report prepared for the Keweenaw Bay Indian Community, Tribal Historic Preservation Office.

Saari, Jon, President, Upper Peninsula Environmental Coalition

2007 Eagle Rock as U.P. Pilgrimage Site. Upper Peninsula Environmental Coalition Newsletter, Winter 2007.

6.0 Traditional Cultural Properties

6.1 Introduction

This section of the report discusses whether traditional cultural properties eligible for listing in the National Register of Historic Places occur in the vicinity of the Eagle Project. *National Register Bulletin 38* describes eligible traditional cultural properties as places that are associated with the “cultural practices or beliefs of a living community that (a) are rooted in that community’s history, and (b) are important in maintaining the continuing cultural identity of the community.”²¹⁵ According to *Bulletin 38*, in other words, eligible traditional cultural properties are places that are deeply imbedded in the culture history of a community and play a prominent role in maintaining the cultural identity of the people from that community. This investigation focuses on the rock outcrop located in the project area because KBIC has asserted that it is a National Register-eligible traditional cultural property.

To determine whether the rock outcrop or any other property in the Eagle Project area is eligible for listing in the National Register of Historic Places, Dr. Paul Driben, Professor of Anthropology at Lakehead University in Thunder Bay, Ontario, and Dr. Gail Thompson, Senior Associate Archaeologist and specialist in National Historic Preservation Act (NHPA) Section 106 review at Historical Research Associates, Inc., in Seattle, examined information about the relationship between Ojibwe [Chippewa] culture and the Eagle Project area, and the use of the area by Native Americans. Their resumes are included in Appendix A.

Dr. Thompson received her Ph.D. in anthropology from the University of Washington, where her dissertation research contributed to understanding the development of the ethnographic settlement and land use patterns in a portion of the southern Northwest Coast. She has conducted and managed numerous projects in cultural resource regulatory compliance during the past 30 years, including National Historic Preservation Act Section 106 review. She has managed compliance projects on a wide range of cultural resources for a variety of project types, including mines. Dr. Thompson has consulted with American Indian and Alaska Native groups and has trained staff members of government agencies and industry in understanding cultural and communication differences between native and non-native groups, advising on the improvement of tribal relations.

Dr. Thompson considered the importance of traditional cultural properties and practices even before they were formally recognized in the Section 106 review process. This work included participating in drafting cultural measures for the North Slope Borough Coastal Management Plan and Zoning Ordinance and considering the potential impacts of coal exploration near the village of Wainwright in Alaska. In Washington, Dr. Thompson prepared a National Register of Historic Places eligibility determination for Snoqualmie Falls, one of the first traditional cultural properties recognized in the state. She also prepared documentation for Juniper Point, a legendary site of the Yakama Nation located in the hills above the Columbia River, as a National

²¹⁵ Patricia L. Parker and Thomas F. King, *National Register Bulletin 38*, “Guidelines for Evaluating and Documenting Traditional Cultural Properties,” revised edition (Washington, D.C.: U.S. Department of the Interior, National Park Service 1998), p.1.

Register-eligible property type for a potential multiple-property district. Dr. Thompson also has provided expert research and testimony in federal, state, and local courts on matters, including treaty rights, archaeological sites, and traditional cultural properties.

The circumstances of Dr. Driben's career as an ethnologist²¹⁶ make him equally well qualified to undertake this work. Although Dr. Driben has conducted fieldwork among Indian, Inuit, and Métis peoples, Ojibwe have been his principal teachers. During the past 40 years, he has undertaken fieldwork with the Northern Ojibwe, the Plains Ojibwe, the Southeastern Ojibwe, and the Southwestern Chippewa, which together comprise the Ojibwe nation. Altogether Dr. Driben has carried out field research in 20 Ojibwe communities, focusing his attention, among other things, on analyzing the social, economic, and spiritual aspects of living off the land, and preparing cultural atlases that display Ojibwe land use and occupancy patterns.

At the same time, for almost 25 years, Dr. Driben also has been called upon to act as an expert in court cases that deal with the treaty and aboriginal rights of Great Lakes Indians, in both Canada and the United States, for federal, provincial, and state governments, as well as for Ojibwe communities, Indian organizations, and private companies, and this has provided him with the opportunity to study the letters, diaries, narratives, legislative papers, historical maps, and other first-hand accounts that comprise the documentary record of Ojibwe culture history.

Drs. Driben and Thompson conducted their work with respect to the authorities summarized in Section 2 above, including the criteria for evaluating properties for listing in the National Register of Historic Places (36 CFR Part 60.4). They also considered *National Register Bulletin* 15 ("How to Apply the National Register Criteria for Evaluation"),²¹⁷ *National Register Bulletin* 38 ("Guidelines for Evaluating and Documenting Traditional Cultural Properties"), and the *Secretary of the Interior's Guidelines for Archaeology and Historic Preservation* (48 FR 44716, issued 1983, revised 2001), which discuss the use of historic contexts and provide guidance for identifying resources and assessing their National Register eligibility.

Due to the subtle character of some Native American traditional cultural properties, the existence of which often can escape the untrained eye, and in accord with recommended practice,²¹⁸ the authors conducted their investigation with an open-minded consideration of the documents that KBIC and other tribes provided to the Environmental Protection Agency (EPA) as part of the consultation process, including the KBIC Tribal Historic Preservation Officer's report titled *Assessment of Migi zii wa sin (Eagle Rock)*, documents submitted on behalf of KBIC and other tribes to the State of Michigan as part of the state permitting process, and KBIC members' sworn testimony as part of the Michigan Department of Environmental Quality (DEQ) contested case hearing regarding Kennecott's state permits. Drs. Driben and Thompson also paid careful attention to numerous sources in the ethnohistoric, ethnographic, and historic records,

²¹⁶ Ethnologists study contemporary cultures and those of the recent past. Paul Driben and Harvey H. Herstein, *Portrait of Humankind: An Introduction to Human Biology and Prehistoric Cultures* (Scarborough, Ontario: Prentice-Hall Canada Inc., 1994), p. 9.

²¹⁷ National Register of Historic Places Staff (finalized by Patrick W. Andrus, edited by Rebecca H. Shrimpton), *National Register Bulletin* 15, "How to Apply the National Register Criteria for Evaluation" (Washington, D.C.: U.S. Department of the Interior National Park Service, 2002).

²¹⁸ Parker and King, *Guidelines for Evaluating and Documenting Traditional Cultural Properties*, p. 20.

which contain a wide variety of information about traditional Ojibwe culture. Their methods consisted of examining and analyzing information in each of the sources to determine whether the Area of Potential Effects (APE) vicinity contains any places that have a special historical significance in traditional Ojibwe culture, and could be eligible for listing in the National Register. The authors visited the project area in June 2008 to observe the rock outcrop and its setting.

As a result of their research, Drs. Driben and Thompson conclude that no National Register-eligible traditional cultural properties are present in the APE vicinity. They also conclude that the ethnohistoric, ethnographic, and historic records do not support the view that the rock outcrop located there is eligible for listing in the National Register.

These conclusions are rooted in Dr. Thompson's Section 106 experience, and in Dr. Driben's ethnographic and ethnohistoric experience, including what he has learned about Ojibwe culture during more than 40 years in the field, and from studying the documentary record of Ojibwe culture history, including the portion that highlights the traditional cultural and religious practices of the Ojibwe who reside in the vicinity of the proposed project.

The following subsections of the report describe the details of the investigation. Section 6.2 defines the Area of Potential Effects; Section 6.3 describes the relationship between the Ojibwe and the land, their spiritual life, and the character of the Midewiwin Society, as this cultural context is important in assessing National Register eligibility; Section 6.4 provides information about the sources that the authors used to investigate Ojibwe use of the project vicinity and the results of their research; and Section 6.5 contains an analysis of traditional cultural properties, focusing on whether the results of the investigation support KBIC's assertions regarding the eligibility of the rock outcrop at the project site for listing in the National Register. The conclusions are provided in Section 6.6, followed by references cited in Section 6.7.

6.2 Area of Potential Effects

The Area of Potential Effects for traditional cultural properties consists of the proposed mine site, located in parts of Sections 11 and 12, T50N-R29W, and the immediate vicinity of the project.²¹⁹ The main surface facility is planned for locations to the north, east, and west of the rock outcrop, and the stormwater basin is to be located about one-half mile farther to the west, near the Salmon Trout River. The ore body, which is located underground and west of the main surface facilities, is also included. The APE consists of a level portion of the Yellow Dog Plains, encompassing the rock outcrop and bordered by a tributary to the Salmon Trout River on the west. The dirt-surfaced Triple A Road and some spur roads run through the APE.

²¹⁹ Kennecott applied to EPA for an Underground Injection Control Permit to handle the injection of treated water, which EPA considers an undertaking that is subject to review under Section 106 of the National Historic Preservation Act of 1966, as amended. Although Kennecott believes that the undertaking and the Area of Potential Effects are limited to the footprint of the underground injection gallery (letter from Kennecott to EPA, May 20, 2008), the company asked qualified professional archaeologists, historians, and anthropologists to conduct historic properties studies of the project's ground-disturbance area for archaeology and a somewhat larger area for traditional cultural properties.

6.3 Ojibwe Relationship with the Land

The people whom the Lake Superior Ojibwe consider their ancestors were big game hunters, and for roughly 9000 years, while Europeans were developing agriculture and then industrialization, these prehistoric people and their descendants devoted themselves to improving their capacity to live off the land. Their early historical counterparts, who were organized into comparatively small, nomadic, autonomous bands, each led by a headman whose authority resided in his family connections, the force of his personality, and the caliber of his spiritual and political skills,²²⁰ built on this cultural legacy. By the time the Ojibwe encountered Europeans in the seventeenth century, they already possessed a way of life that drew its strength from the ability of people to secure sustenance from the plants and animals in a vast homeland in the heart of the continent in a manner that conferred dignity upon both the pursuers and the pursued.

6.3.1 The Annual Round

The foundation of traditional Ojibwe life was the annual round, a yearly cycle that Ojibwe throughout the Great Lakes region followed in early historical times. During the cycle, band members harvested natural resources at their seasonal climax, and then left the resources to regenerate, making it possible for the Ojibwe to depend on the proceeds indefinitely. Among Ojibwe who relied for the most part on foraging (hunting, fishing, and gathering) for a livelihood, this was accomplished by means of a strategy in which several extended families, typically including between 20 and 40 people,²²¹ congregated in spring at the sugarbush (maple), and then at customary lakeshore and river-mouth fishing stations to take spring spawning walleye and pike at the lower reaches of the rivers and streams that served as highways to and from the interior.

A group of this sort typically remained in the vicinity until fall, hunting and fishing as required, collecting the plants they needed for food and medicine, visiting and receiving visitors from elsewhere, and performing the ceremonies that held them together as a people. After taking whitefish and lake trout in the fall, band members dispersed in small family groups, usually containing from 5 to 15 people, who traveled back to their winter hunting grounds in the interior to pursue big game such as moose, caribou, deer, and bear, forming and reforming themselves in concert with the ebb and flow of the seasons.²²² Although Ojibwe who lived where corn, beans,

²²⁰ Barbara A. Leitch, *A Concise Dictionary of Indian Tribes of North America* (Algonac, Michigan: Reference Publications Inc., 1979), p. 320. Cf. Henry Rowe Schoolcraft, *Narrative of an Expedition through the Upper Mississippi to Itasca Lake, the Actual Source of this River; Embracing an Exploratory Trip through the St. Croix and Burntwood (or Broule) Rivers; in 1832* (East Lansing, Michigan: Michigan State University Press, 1993), p. 154.

²²¹ Edward S. Rogers and J. Garth Taylor, "Northern Ojibwa," in June Helm, ed., *Handbook of American Indians*, Volume 6, Subarctic (Washington: Smithsonian Institution, 1981), p. 233.

²²² A. Irving Hallowell, *The Ojibwa of Berens River, Manitoba: Ethnography into History*, edited with a preface and after word by Jennifer S. H. Brown (Toronto: Harcourt Brace Jovanovich College Publishers, 1992), pp. 43-44. Cf. Charles E. Cleland, *Rites of Conquest: The History and Culture of Michigan's Native Americans* (Ann Arbor: University of Michigan Press, 1992), pp. 45-50; Frances Densmore, *Chippewa Customs*, reprint of 1929 edition (St. Paul: Minnesota Historical Society Press, 1979), pp. 119-123; Paul Driben and Robert H. Trudeau, *When Freedom is Lost: The Dark Side of the Relationship between Government and the Fort Hope Band* (Toronto: University of Toronto Press, 1983), p. 14; and Edward S. Rogers, "Cultural Adaptations: The Northern Ojibwa of the Boreal Forest 1670-1980," in A. Theodore Steegmann, Jr., *Boreal Forest Adaptations: The Northern Algonkians* (New York: Plenum Press, 1983), pp. 92-99.

and squash were cultivated resided in more substantial settlements, they likewise resorted to the interior in winter in search of big game.

The English fur trader Alexander Henry (1739-1824) wrote about the cycle in the middle of the eighteenth century, during the heyday of the fur trade, on a yearlong sojourn with the Wawatam family in what is now western Michigan. The Ojibwe elder Wawatam and his extended family²²³ took Henry in tow on about June 9, 1763, at the rendezvous at Fort Michilimackinac, and then departed for Mackinac Island. Their next stop was east of the Straits of Mackinac, 12 miles distant, in St. Martin Bay, where they arrived toward the end of June, providing for themselves by fishing and hunting waterfowl until they resorted to St. Martin Island, where they fished for sturgeon in the surrounding water until the end of August.²²⁴ They then left for Wawatam's "intended wintering-ground" in the interior of the Lower Peninsula via Fort Michilimackinac and L'Arbre Croche. From there, they made their way south along the east shore of Lake Michigan to the mouth of the Big Sable River, eventually moving about 70 miles inland in December 1763. They stayed until March 1764, when they left for Wawatam's sugarbush on the west shore of Michigan, "where we were joined," Henry recalled, "by several lodges of Indians, most of whom were of the family to which I belonged, and had wintered near us."²²⁵

6.3.2 Cultural Identity and Living off the Land

Living in this fashion had a profound impact on Ojibwe identity. Among eighteenth and nineteenth century Ojibwe, a man's cultural identity was based on his ability to live off the land, and a woman's on her capacity to process what was captured. As Henry R. Schoolcraft (1793-1864) put it in the middle of the nineteenth century:

The duties and labours of Indian life are generally believed to be equally, and not, as has been generally thought, unequally divided between the male and the female. This division [of labor] is also the most natural possible, and such as must ever result from the condition of man, as a mere hunter. It is the duty of the male to provide food, and of the female to prepare it. This arrangement carries with it to the share of the male, all that relates to external concerns, and all that pertains to the internal to the care of the female. To the man belongs not only the business of hunting, for this is an *employment* and not a *pastime*, but [also] the care of the territory and keeping off intruders and enemies, and the preparation of canoes for travel, and of arms and implements for war. The duties of cooking and dressing meats and fowl, and whatever else the chase affords, carries on the other hand to the share of the hunter's wife, [as well as] the entire care and controul [sic] of the lodge.²²⁶

The details of living off the land as a moral and ethical endeavor likewise had to be mastered, with boys and girls schooled in its intricacies by their elders, who taught them that, above all,

²²³ The Wawatam family consisted of Wawatam and his wife, their son and his wife and infant child, and the older couple's thirteen-year-old daughter.

²²⁴ Alexander Henry, *Travels and Adventures in Canada and the Indian Territories between the years 1760 and 1776 in two parts* (New York: I. Riley, 1809), pp. 125-132.

²²⁵ Henry, *Travels and Adventures in Canada*, p. 149.

²²⁶ Henry R. Schoolcraft, *The Indian in His Wigwam, or Characteristics of the Red Race of America* (New York: W. A. Graham, 1848), p. 74. Cf. Ruth Landes, *The Ojibwa Woman* (New York: AMS Press, 1969 reprint of 1938 edition), pp. 130 -136.

they must respect what the land provided. The elders relied on the spoken word to make the point, which they affirmed to countless generations of young listeners via myths, legends, and folktales that called attention to the spiritual, as well as the economic dimensions of foraging. As Overholt and Callicott have explained:

Ojibwa narratives certainly reflect and affirm a fundamentally economic relationship between human persons and animal, plant, and mineral ... [resources]. Animals, plants, and minerals are not, however, rightless resources, as is the case in Western economic assumptions. They are as if were trading partners with human beings [which is to say, persons in their own right,] and are pictured as profiting, from their own point of view, from exchange with human beings. But the narratives also consistently disclose another dimension of the relationship. Fair exchange is not enough. Human beings must assume appropriate attitudes toward the non-human members of their polymorphous community. For one thing, humans must not be arrogant. In order to maintain good relations with non-human beings, they must be humble. Indeed, they must assume the attitude of the recipient of a blessing. Game animals, for example, are pictured as pitying a hunter and freely giving themselves to him. Above all, non-human beings must be *respected*. The Ojibwa complex of attitudes and behavioral rules in relation to non-human beings deserves, therefore, to be called an environmental *ethic*, even if we insist upon the most rigorous criterion for an ethic, *viz.*, that it transcend enlightened self-interest and involve such selfless sentiments as respect, affection, and admiration.²²⁷

6.3.3 Ojibwe Spirituality and Nanahbozhoo

The respect, affection, and admiration the Ojibwe have for the other-than-human persons they live among is a function of their spiritual life. The Ojibwe are animists, which means that they believe in spirits, or more exactly, that all objects are either inanimate or animate, and that what distinguishes animate objects is that they possess a *manidou*, or spirit, although renderings such as spirit or god do not capture the essence of the Ojibwe term. It was *manidou* who determined whether an Ojibwe would perish or survive, and to enter their “world was to step *into*, not out of, the *real* world,” a world in which “*manitos* [*manidous*] were conceived of as beings who might normally be indifferent to human welfare, but were vulnerable to the appeal of a human being who lay weak and helpless before them.”²²⁸

Although Nanahbozhoo is not a god or even one of the five entities that might be considered a super *manidou* among the Ojibwe,²²⁹ he occupies a special place in Ojibwe cosmology. Nanahbozhoo is a trickster. Although tricksters are not part of the Judeo-Christian tradition, they are widespread in other religious traditions. In Native American lore, tricksters appear in many forms, including Coyote among the Crow, Wakdjunkaga among the Winnebago, and Hare among the Algonquin. Whatever his name, the trickster alternately scandalizes, disgusts, amuses, disrupts, chastises, and humiliates (or is humiliated by) the animal-like proto-people of ancient times, transforming their world in typically bizarre and outrageous ways. As a result of these encounters, tricksters like Nanahbozhoo learn, grow, and change until they are finally

²²⁷ Thomas W. Overholt and J. Baird Callicott, *Clothed-in-Fur and other Tales, An Introduction to an Ojibwa World View* (Maryland: University Press of America, 1982), p. 155.

²²⁸ Selwyn Dewdney, *The Sacred Scrolls of the Southern Ojibway* (Toronto: University of Toronto Press, 1975), pp. 37-38.

²²⁹ These are Misshipeshu (the Great Lynx), the Thunderbird, the Sacred Bear, the Great Turtle, and the Windigo (a cannibalistic monster).

transformed into culture-heroes. But until then, tricksters keep changing their shape, identity, and sometimes even their sex, all the while inflicting huge damage on those around them, and suffering innumerable blows, defeats, and indignities as a result of their often ribald, practical jokes.

Nanahbozhoo conforms to the pattern, emerging as a culture hero of the Ojibwe only after dozens of entertaining encounters that are recited by elders in a sequence of tales that is known as the Nanahbozhoo cycle, which begins with Nanahbozhoo's conception and ends when Nanahbozhoo acquires parents, the greatest gift among Ojibwe.²³⁰ In the meantime, Ojibwe²³¹ elders say that Nanahbozhoo rendered the emerging world suitable for humankind: enlisting muskrat to dive beneath the water to gather the soil to make the earth,²³² and teaching the Indians how to make fire, how to make stone tools, how to build canoes, how to hunt, how to make nets to catch fish, how to plant corn, beans, and squash, how to make maple sugar, how to fashion rock paintings, how to paint their faces for war, and what plants to use for medicine.²³³ These and other exploits are recited by elders in winter, when the spirits of the forest are asleep; in summer, Nanahbozhoo stories are not told, lest the tales offend these now eavesdropping spirits.

Ojibwe elders also say that Nanahbozhoo interceded on behalf of the Ojibwe with the Great Spirit (*kitchi manidou*) to alleviate suffering and death; the result was the Midewiwin, the Grand Medicine Society, a mystical, fraternal religious institution whose members employ invocation and exorcism to cure sickness and prolong life via medicinal plants, and magical incantations and spells.²³⁴ Elders say that, after their ancestors acquired the Midewiwin, they migrated to the shores of the Upper Great Lakes from the great salt sea in the east,²³⁵ each major stopping point

²³⁰ Victor Barnouw, *Wisconsin Chippewa Myths & Tales and their Relation to Chippewa Life* (Madison: University of Wisconsin Press, 1977), pp. 43-45.

²³¹ The cosmological myths of the Ojibwe are similar to those of the Odawa (Ottawa) and Potawatomi, a trioka who refer to themselves collectively as Anishinaabe, and who some scholars say trace their roots from a large, prehistoric, proto-Anishinaabe population whose descendants occupied the Great Lakes country when Europeans first penetrated the continent. Theresa S. Smith, *The Island of the Anishnaabeg: Thunderers and Water Monsters in the Traditional Ojibwe Life-World* (Moscow, Idaho: University of Idaho Press, 1995), p. 4. Other scholars say that it is more likely the Odawa and Potawatomi were close military and political allies of the Ojibwe rather than components of a hypothetical, prehistoric population. Theresa M. Schenck, "The Voice of the Crane Echoes Afar": *The Sociopolitical Organization of the Lake Superior Ojibwa, 1640-1855* (New York: Garland Publishing, Inc., 1997), *passim*. Although the term Anishinaabe has been translated as "original people," "true people," or "common people," nineteenth century Ojibwe historian William Warren maintained that a more appropriate rendering was "spontaneous man." See William W. Warren, *History of the Ojibway People*, reprint of 1885 edition (St. Paul: Minnesota Historical Society Press, 1984), pp. 56-57. For a discussion of the origin of the word Anishinaabe see Dennis Jones, "The Etymology of Anishinaabe" (*Oshkaabewis Native Journal*, 1995, Volume 2, Number 1), pp. 43-48.

²³² Peter Jones, *History of the Ojibway Indians*, reprint of 1861 edition (Freeport, New York: Books for Libraries Press, 1970), pp. 34-35.

²³³ Ella Elizabeth Clark, *Indian Legends of Canada* (Toronto: McClelland and Stewart Limited, 1960), p. 6.

²³⁴ Ake Hultkrantz, translated by Monica Setterwall, *The Religions of the American Indians* (Berkeley: University of California Press, 1979), pp. 122-123.

²³⁵ See, for example, Warren, *History of the Ojibway People*, p. 76; and Edmund J. Danziger, Jr., *The Chippewas of Lake Superior* (Norman: University of Oklahoma Press, 1979), p. 7.

on the voyage marked by the reflection of the sun's rays bouncing off the back of a great *Megis* (sea-shell).²³⁶

6.3.4 *The Midewiwin or Great Medicine Society*

Like Nanahbozhoo, the Midewiwin also plays a special, although not a defining role, in Ojibwe cultural life—in this case, a revitalization movement among the Ojibwe and other Great Lakes Indians in the eighteenth and nineteenth centuries that was intended to resurrect their culture in light of the negative changes that had taken place since contact with Europeans.²³⁷ The primary purpose of the institution, which contains aboriginal and Christian elements,²³⁸ was (and is) to promote health and realize life beyond death.²³⁹ Membership in the Midewiwin is exclusive, which means that only members are allowed to learn the rites and rituals that are used to cure illness and achieve eternal life. A person typically is encouraged to join the society in a vision or dream, after which he or she contacts a member who arranges for the initiate to be instructed in the details of the Midewiwin, which can take months or years, and requires substantial payments along the way, restricting membership as a result. The culmination of the initiation process is a day-long ceremony held in a specially constructed lodge or *midewegun* (Figure 6-1), after which the initiate is regarded as full-fledged member. Although it is possible for Mide (as initiates are called) to pass through eight degrees, most do not go beyond the fourth degree because of the time and expense involved.²⁴⁰

²³⁶ Edward Benton-Banai, *The Mishomis Book: The Voice of the Ojibway* (St. Paul, Minnesota: Little Red Schoolhouse, 1988), p. 99. See also Dewdney, *The Sacred Scrolls of the Southern Ojibway*, p. 53.

²³⁷ Another movement of this sort, which flourished among the northern Ojibwe, the Waubinowin, or Society of the Dawn, was reputed to be associated with sorcery and evil. "Some said that the society had been formed long ago by members of the third Order of the Midewewin who had refused to abide by the Midewewin's code. Since they were thus believed to support evil, these members were outcast; and they then formed their own society. Others said that the society had its origins in sorcerers who had once intimidated the Anishnabeg. Still others pointed out that since the term 'waubunoh' meant dawn, the society might have been borrowed from an eastern tribe ... [or] refer to the society's practice of conducting its rituals during the night and concluding them at dawn." Basil Johnston, *Ojibway Ceremonies* (Toronto: McClelland and Stewart, 1982), p. 115.

²³⁸ Cf. Harold Hickerson, "Notes on the Post-Contact Origin of the Midewewin" (*Ethnohistory*, Volume 9, Number 4, 1963), pp. 404-423, and Vescey, *Traditional Ojibwa Religion and Its Historical Changes*, p. 27 ff.

²³⁹ See Dewdney, *The Sacred Scrolls of the Southern Ojibway*, pp. 3 ff.

²⁴⁰ Howard Dorsey Papp, *The Ojibwe Midewiwin: A Structural Analysis* (Unpublished Ph.D. Thesis, University of Minnesota, 1996), p. 6.

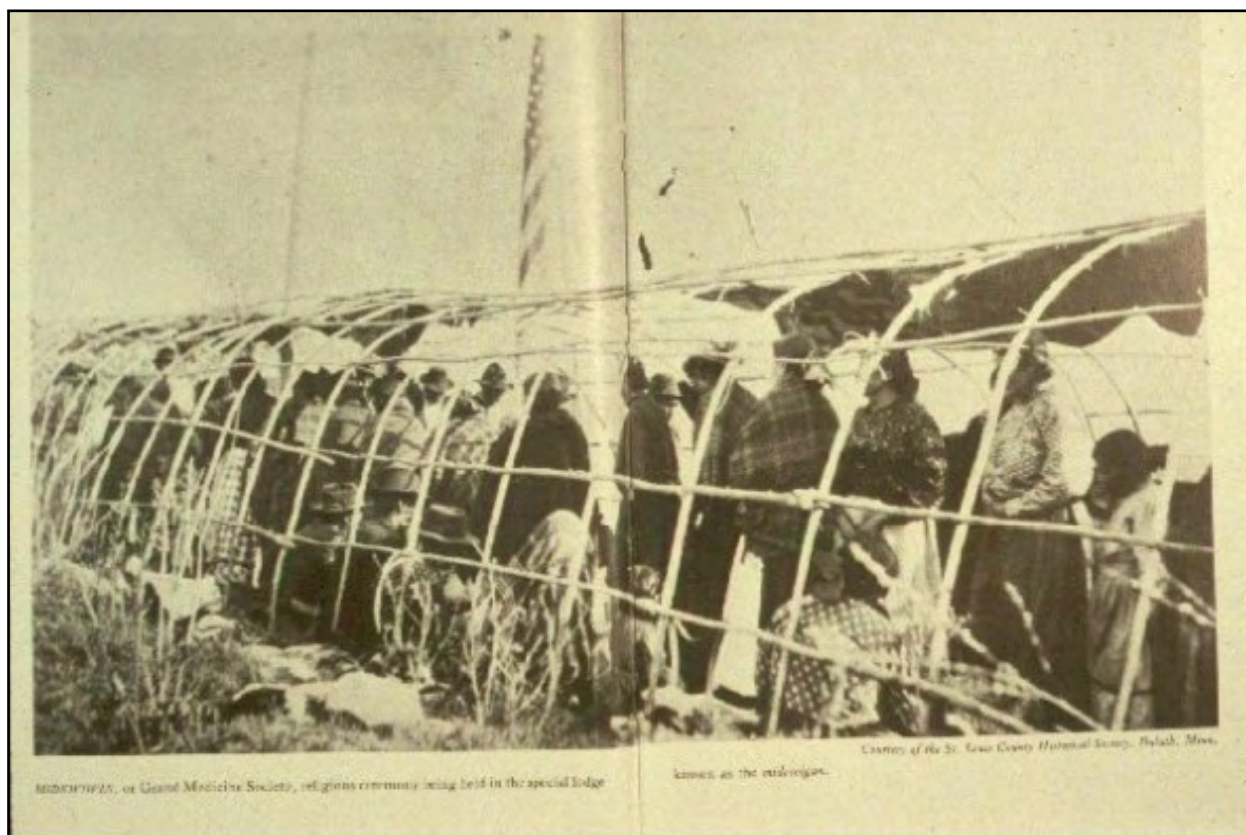


Figure 6-1. View of the Interior of a Midewegun Lodge. *Source:* T.G. Roufs, *The Anishinabe of the Minnesota Chippewa Tribe*, pp. 10-11.

6.4 Research Sources and Results

The following paragraphs discuss the kinds of sources that are used to gather information about traditional cultural properties, the sources that the authors used in the present investigation, and the results of their research.

6.4.1 Sources of Information

Although Native American traditional cultural properties are well known in their communities, they are not necessarily well documented.²⁴¹ To identify these properties and evaluate their eligibility for listing in the National Register, anthropologists must consult a variety of sources. These include archaeological site reports; ethnographic accounts, in which aspects of a community's culture are described; ethnohistoric accounts, which include information from early encounters with Indians; oral traditions and histories, which are mythical and personal representations of the past; interviews with elders and community members

²⁴¹ Parker and King, *Guidelines for Evaluating and Documenting Traditional Cultural Properties*, p. 2.

knowledgeable about their traditions; technical reports by commentators in various fields; testimony presented in court; and other available sources.

Each of these sources of information has limitations. For example, because oral tradition consists of formal statements about important cultural events that took place in mythic times, as is the case with the Nanahbozhoo cycle, such statements are not concerned with establishing objective truth.²⁴² Oral history also has strengths and weaknesses, calling attention to personal observations that represent the cumulative cultural wisdom of the observers, but in a manner not necessarily consistent with western scientific knowledge.²⁴³ And individual elders' recollections of the past, based on their own experience, suffer from the fact that the more temporally remote an event, the more likely the telling has changed over time.

In any event, the goal of ethnology is not to uncritically project what contemporary members of a culture say about their history on to an assumed aboriginal past,²⁴⁴ but rather to reach conclusions about culture "sufficiently comprehensive to preclude, or almost to preclude, their being based solely on first hand information."²⁴⁵ As already mentioned, to achieve that goal, a wide array of sources must be consulted, keeping in mind that some information comes from accounts with biases that may or may not be stated; other accounts may have been recorded considerably later than an event occurred, where time has altered memories or perceptions of the event; and individuals who give interviews or testimony may have more or less traditional knowledge about particular topics. This means that ethnologists must carefully weigh the relevance and value of each source, reconciling differences in the information to reach effective conclusions about traditional cultural properties.

The authors sought out and examined sources of potential information about traditional cultural properties in the APE vicinity with the above mentioned considerations in mind. These included the materials that KBIC and other tribes provided to EPA as part of the consultation process; materials KBIC provided to the state as part of the state permitting process; and other detailed information about Ojibwe culture, the project, and the area in general.

Sources from the EPA consultation process included:

- *Assessment of Migi zii wa sin or Eagle Rock*, including a list of references and appended letters from Tribal members and others, prepared by KBIC Tribal Historic Preservation Officer (THPO) Summer Cohen;
- *Archaeological Site Form for 20MQ251 and Preliminary Surface Cultural Resources Assessment* report, prepared for KBIC by James R. Paquette;

²⁴² Joan Lovisek, "Transmission Difficulties: The Use and Abuse of Oral History in Aboriginal Claims," in H. C. Wolfart, ed., *Papers of the Thirty-Third Algonquian Conference* (Winnipeg: University of Manitoba Press, 2002), pp. 264-265.

²⁴³ Donald J. Auger and Paul Driben, *Grand Portage Chippewa: Stories and Experiences of Grand Portage Band Members* (Grand Portage, Minnesota: Grand Portage Tribal Council, Sugarloaf Interpretive Center Association, and the National Park Service, 2000), *passim*.

²⁴⁴ S. Barry Cottam, *Aboriginal Peoples and Archives: A Brief History of Aboriginal and European Relations in Canada* (Ottawa: National Archives of Canada, 1997), p. 1. See also Lovisek "Transmission Difficulties," pp. 251-270.

²⁴⁵ Claude Lévi-Strauss, *Structural Anthropology* (New York: Basic Books, Inc., 1963), p. 352.

- Letters to EPA from Lac Vieux Desert and Sault Ste. Marie Tribes; and
- Report submitted to EPA regarding “Eagle Rock” by Grand Portage Tribe of Chippewas.

The authors also considered other sources related to Native American cultural concerns about the project, including:

- KBIC Comments on Eagle Mine Project Permitting submitted to Michigan Office Geological Survey and Department of Natural Resources (October 15, 2007);
- Sworn testimony of KBIC members and representatives (Jason Allen Ayers, Doreen Blaker, Summer Sky Cohen, Jerry Lee Curtis, Harlan Downwind, Susan La Fernier, and Dale Francis Goodreau) as part of the Michigan Department of Environmental Quality’s contested case hearing on Kennecott’s mining and groundwater discharge permits; and
- Great Lakes Indian Fish and Wildlife Commission comments, appending a copy of the report titled *Cultural and Economic Importance of Natural Resources Near the White Pine Mine to The Lake Superior Ojibwa*, submitted to Michigan DEQ/DNR (October 17, 2007) and later to EPA (October 22, 2007).

In addition, the authors examined a large body of ethnohistoric, ethnographic, historic, and cartographic information about the area under consideration and the region in which it is located.

While it is desirable to conduct interviews with individuals who might provide information about potential traditional cultural properties, the authors did not contact KBIC in view of the Tribe’s stated opposition to the project and resistance to consulting with Kennecott. As Section 3 shows, Kennecott made several attempts beginning in early 2005 to consult with KBIC about its cultural concerns. In a letter to Jon Cherry of Kennecott dated June 24, 2005, then KBIC Tribal Council President Susan LaFernier broke off consultation with Kennecott. KBIC also did not respond to a letter from Mr. Cherry on October 31, 2007, requesting more information about KBIC’s cultural concerns. In addition, KBIC is currently participating in a DEQ contested case hearing and two other lawsuits to challenge permits issued by the State of Michigan for the Eagle Project and the Surface Use Lease for state land in Section 12.

6.4.2 Research Results

The authors’ investigation into the use of the APE vicinity revealed no historical information about traditional Ojibwe cultural use of the rock outcrop or of any other portion of the APE vicinity.

6.4.2.1 Archaeological Investigation

Dr. Christopher Bergman’s Phase I archaeological survey for the Eagle Project revealed no information related to traditional cultural use of the rock outcrop or other places in the APE, and revealed no National Register-eligible properties (see Section 5 above). His investigation and the archaeological assessment conducted for KBIC identified a handful of isolated potential quartz flakes, which could not be placed into a prehistoric context. The investigation for KBIC identified a pit (20MQ251) near the summit of the rock outcrop, a human or game trail on the rock outcrop, and two shallow semicircular depressions in the APE outside the rock outcrop. Dr. Bergman did not find that the pit or the depressions were related to traditional cultural activity, and the Office of the State Archaeologist concluded that the project will not affect the pit because Kennecott will not conduct any surface activities on the rock outcrop.

In addition, Dr. Bergman noted that, during the 2004 and 2005 non-continuous field seasons, the archaeological field team observed no cultural activity or material remains in the vicinity of the rock outcrop that suggested the area had been actively used for spiritual or ceremonial purposes. Dr. Bergman pointed out that various objects, such as tobacco ties near the top of the rock outcrop, appeared only after his 2005 work in the project area began;²⁴⁶ he did not observe any such objects previously.

6.4.2.2 Ethnohistoric, Ethnographic, and Historic Sources

Research into a wide variety of ethnohistoric, ethnographic, and historic sources also failed to generate any information about traditional Ojibwe cultural use of the rock outcrop or other places in the APE vicinity. It is precisely in these sources where researchers would normally expect to find such information.

The APE vicinity is not mentioned in the *Jesuit Relations*, the voluminous record of encounters between Jesuits and Indian nations written by Jesuit missionaries in the seventeenth and eighteenth centuries.²⁴⁷ Nor is the area singled out for special attention by nineteenth century authorities such as treaty commissioner Thomas L. McKenny, who wrote a detailed account of the events that led to the signing of the Treaty of Fond du Lac in August 1826 by the ancestors of KBIC and others;²⁴⁸ pioneer ethnologist Henry R. Schoolcraft (1793-1864), who served as Indian Agent for Michigan Territory from 1822 to 1841 and wrote prodigiously about Native Americans and their important places;²⁴⁹ Roman Catholic missionary Father Frederic Baraga (1797-1868), who established the St. Francis Xavier Mission at L'Anse in 1843 and later served as first Bishop of Marquette;²⁵⁰ Methodist missionary John H. Pitezal (1814-1906), whose autobiography describes the cultural and geographic landscape he encountered during the nine years he ministered to the L'Anse Ojibwe and other Lake Superior bands in the middle of the nineteenth century;²⁵¹ William W. Warren, a nineteenth century scholar with a European father and an Ojibwe mother who recorded the oral traditions of the Ojibwe in the Upper Mississippi

²⁴⁶ A tobacco tie is a small pouch containing loose tobacco that Ojibwe affix to a tree or a stick as a sign of thanks and/or respect.

²⁴⁷ Paul Driben, "The Work of the International Committee for the study of the Lake Superior Jesuit Diaries and Mission Papers" (*Thunder Bay Historical Museum Society Papers & Records*, Volume XXVII, 1999), p. 33.

²⁴⁸ See Thomas L. McKenny, *Sketches of a Tour to the Lakes, of the Character and Customs of the Chippeway Indians, and of the Incidents Connected with the Treaty of Fond du Lac* (Barre, MA: Imprint Society, 1972).

²⁴⁹ See, for example, Schoolcraft, *Narrative of an Expedition*, Henry Rowe Schoolcraft, *Personal Memoirs of a Residence of Thirty Years with the Indian Tribes of the American Frontiers: With Brief Notices of Passing Events, Facts and Opinions A. D. 1812 to A. D. 1842*, reprint of 1851 edition (New York: AMS Press, Inc., 1978), and Henry Rowe Schoolcraft, *The American Indians, their History, Condition and Prospects, from Original Notes and Manuscripts*, new revised edition (Buffalo: George H. Derby and Co., 1851).

²⁵⁰ See, for example, Bernard J. Lambert, *Shepherd of the Wilderness: A Biography of Bishop Frederic Baraga* (Chicago: Franciscan Herald Press, 1967), and Regis M. Walling and Reverend N. Daniel Rupp, eds., and Joseph Gregorich and Reverend Paul Prud'homme, S.J., translators, *The Diary of Bishop Frederic Baraga, First Bishop of Marquette, Michigan* (Detroit: Wayne State University Press, 2001), and Chrysostom P. Verwyst, *Life and Labors of Rt. Rev. Frederic Baraga* (Milwaukee: M. H. Wiltzius & Co., 1900).

²⁵¹ See, for example, Reverend John H. Pietzel, *Lights and Shades of Missionary Life: Containing Travels, Sketches, Incidents, and Missionary Efforts, During Nine Years Pent in the Region of Lake Superior* (Cincinnati: Western Book Concern, 1860).

and Lake Superior regions in the middle of the century;²⁵² Johann Georg Kohl (1808-1888), a nineteenth century German travel writer, historian, and geographer, who likewise conducted fieldwork among the Lake Superior Ojibwe in middle of the century;²⁵³ Dwight Kelton, who wrote two books about Indian place names in the region towards the end of the century;²⁵⁴ and Homer H. Kidder, who recorded *Ojibwa Narratives of Charles and Charlotte Kawbawgam and Jacques LePique, 1893-1895*, which includes a list of Ojibwe place names.²⁵⁵

Nor is the rock outcrop or the APE vicinity mentioned in the principal works of twentieth century students of the Ojibwe, such as Vernon Kinietz and Charles Cleland, whose books *The Indians of the Western Great Lakes, 1650-1760*, and *Rites of Conquest* both focus on Michigan Indians, or in Edmund Danziger's *The Chippewas of Lake Superior*, which likewise contains detailed historical and ethnographic information on Michigan Indians.²⁵⁶ Classic ethnographies such as Frances Densmore's *Chippewa Customs*, which contains voluminous, detailed information about Ojibwe life in the Great Lakes region, make no mention of the APE vicinity either. The same is true of Ojibwe scholar Eddie Benton-Banai's *The Mishomis Book*, which represents "the words passed down from grandfathers and grandmothers"²⁵⁷ in the sacred way of the Midewiwin.

The rock outcrop and the rest of the APE vicinity also are not mentioned in McClurken and Nesper's *Cultural and Economic Importance of Natural Resources Near the White Pine Mine to the Lake Superior Ojibwa*, which surveyed the "historical documentation that discusses the relationship between natural resources and the Ojibwa peoples on the south shore of Lake Superior within boundaries of the 1842 treaty cession."²⁵⁸ This study was undertaken in 1998 on behalf of the Great Lakes Indian Fish and Wildlife Commission (GLFWC) to better understand the traditional Ojibwe use of Great Lakes and inland natural resources. As part of the study, because of their intimate knowledge of the landscape, five KBIC elders were asked to identify "traditional and historical use of both on and off-reservation resources." None of the elders mentioned either the outcrop or any other portion of the APE as an important cultural place.²⁵⁹

²⁵² See Warren, *History of the Ojibway People*.

²⁵³ See Johann Georg Kohl, *Kitchi-Gami: Life Among The Lake Superior Ojibway*, reprint of 1860 edition (St. Paul: Minnesota: Minnesota Historical Society Press, 1985).

²⁵⁴ See Dwight H. Kelton, *Indian Names of Places Near the Great Lakes* (Detroit: SN, 1888), and Dwight H. Kelton, *Indian Names and History of the Sault Ste. Marie Canal* (Detroit: SN, 1889).

²⁵⁵ Arthur P. Bourgeois, ed., *Ojibwa Narratives of Charles and Charlotte Kawbawgam and Jacques LePique, 1893-1895*, recorded with notes by Homer H. Kidder, (Detroit: Wayne State University Press, 1994).

²⁵⁶ See Cleland, *Rites of Conquest*, Danziger, *The Chippewas of Lake Superior*, Densmore, *Chippewa Customs*, and Vernon W. Kinietz, *Indian Tribes of the Western Great Lakes, 1615-1760*, reprint of 1940 edition (Ann Arbor: University of Michigan Museum of Anthropology, 1965). Also see Margaret Beattie Bogue, *Around the Shores of Lake Superior: A Guide to Historic Sites*, 2nd edition (Madison: University of Wisconsin Press, 2007).

²⁵⁷ Benton-Banai, *The Mishomis Book*, p. iii.

²⁵⁸ James M. McClurken and Larry Nesper, *Cultural and Economic Importance of Natural Resources Near the White Pine Mine to the Lake Superior Ojibwa* (A Report for the Great Lakes Indian Fish and Wildlife Commission, June 1998), p. ii.

²⁵⁹ McClurken and Nesper, *Cultural and Economic Importance of Natural Resources*, p. 72, and pp. 105-114.

In another project sponsored by GLIFWC, which the Commission mentioned in its comments to the State of Michigan and subsequently to EPA, researchers worked with tribal elders to identify and map the names of places and important features of the landscape in the 1842 ceded territory.²⁶⁰ Although the map attached to the comments shows Ojibwe names for the Salmon Trout River (*Maazhmegosikaa-ziibi*) and the Yellow Dog River (*Ozaawasimong-ziibi*), the upper reaches of which are located in the project vicinity, there is no mention of the rock outcrop.

In 2007, GLIFWC published *GIDAKIIMINAAN (Our Earth): An Anishinaabe Atlas of the 1836 (Upper Michigan), 1837, and 1842 Treaty Ceded Territories*, a “language atlas [that] includes 30 individual maps depicting the Ojibwe language name for geographic place names in the 1836, 1837, and 1842 ceded territories of Minnesota, Wisconsin, and Michigan.”²⁶¹ According to GLIFWC, the “sole purpose [of the atlas] is to illustrate the names that native peoples of the region gave to natural features of the Great Lakes Region.”²⁶² The atlas page for the area that includes the Eagle Project site is shown in Figure 6-2a, and the atlas page that includes the Marquette area is shown in Figure 6-2b. These maps identify three mineral formations in Marquette County, namely, Miskwaabikaasing (place of the red-copper-colored rock), Doodooshi-wajiw (Sugarloaf, or woman’s breast mountain), and Ashkikomaani-neyaashi (Lead Point [which is also referred to as Mishi-bizhiwasin, the Great Lynx’s rock]).²⁶³ The Yellow Dog River (*Ozaawasimong-ziibi*) and the Salmon Trout River (*Maazhamegosikaa-ziibi*) also are named and shown in the atlas, as are a place nearby on Lake Superior, *Ozaawasimong-neyaashi* (Yellow Dog Point), and two places just inland, *Ne-adoopikaang* (the point where there is an alder forest) and *Gichi-wiikwedong-zaaga’igan* (great bay island lake).²⁶⁴ The rock outcrop is not named or illustrated in any way in the atlas.

²⁶⁰ Ann McCammon Soltis, *Letter from Ann McCammon Soltis, Director, Intergovernmental Affairs, Great Lakes Indian Fish and Wildlife Commission, to DEQ/DNR Kennebec Comments, Office of Geological Survey*, October 17, 2007, p. 2 (copy of letter provided to Ross Micham, EPA Region 5, October 22, 2007).

²⁶¹ GLIFWC, *GIDAKIIMINAAN (Our Earth): An Anishinaabe Atlas of the 1836 (Upper Michigan), 1837, and 1842 Treaty Ceded Territories* (Odanah, WI: the Great Lakes Indian Fish & Wildlife Commission Press, 2007), p. 1.

²⁶² GLIFWC, *GIDAKIIMINAAN*, p. 1.

²⁶³ GLIFWC, *GIDAKIIMINAAN*, p. 12.

²⁶⁴ GLIFWC, *GIDAKIIMIKNAAN*, p. 11.



Figure 6-2b. GLIFWC Ojibwe Place Name Map Covering an Area that Includes the City of Marquette.

The authors also reviewed historical sources that identify and describe places in Michigan's Upper Peninsula that are important to the Ojibwe, and none of these mention the rock outcrop either. For example, although Bela Hubbard, who accompanied Douglas Houghton on his 1840 visit to Upper Peninsula, mentions both the Salmon Trout River (Mane ge ma que se wnuk) and the Yellow Dog River (Choau gar was go me non), he does not mention the rock outcrop.²⁶⁵ The same is true of Homer Kidder's late nineteenth century Ojibwe informants, Kawbawgam and Jacques Le Pique, who likewise mention the Salmon Trout River (Maw shah may go see koog Sibi) and the Yellow Dog River (Shaw zha wah gum e nong Sibi), and also Sugar Loaf Mountain (Do-do-so-ak-i-nong), but not the rock outcrop.²⁶⁶ Another scholar who compiled a list of important Ojibwe place names in the Upper Peninsula almost 100 years ago, Father William F. Gagnieur, S.J., also made no mention of the outcrop,²⁶⁷ which is likewise the case with the list of Ojibwe names compiled in the late nineteenth century by Father Chrysostom Verwyst.²⁶⁸ Dr. Bernard Peters, who has written widely about Ojibwe place names in Michigan's Upper Peninsula, also lists Ojibwe names for the Salmon Trout River, the Yellow Dog River, and Sugar Loaf Mountain, but he does not mention the rock outcrop.²⁶⁹

6.4.2.3 Historical Maps

The authors also found no mention of the rock outcrop on historical maps that display cultural features of the landscape in the APE vicinity. These sources include prominent works such as Wilbert Hinsdale's *Archaeology Atlas of Michigan*,²⁷⁰ which displays "trails, waterways and portages, mounds and earthworks, villages and campsites, burial grounds and garden beds in prehistoric times,"²⁷¹ and Helen Tanner's *Atlas of Great Lakes Indian History*,²⁷² which shows (among other things) culture areas, villages, resource use areas, and historically important sites for many tribes, including the Ojibwe, from approximately 1600 to 1900.²⁷³

The authors also examined maps prepared by J. William Trygg in the mid-1950s for information about traditional Ojibwe use of the APE vicinity:

²⁶⁵ See Bela Hubbard and Bernard C. Peters, *Lake Superior Journal: Bela Hubbard's Account of the 1840 Houghton Expedition* (Marquette, Michigan: The Northern Michigan University Press, 1983).

²⁶⁶ Bourgeois, *Ojibwa Narratives of Charles and Charlotte Kawbawgam and Jacques LePique, 1893-1895*, p. 155.

²⁶⁷ See William F. Gagnieur, S.J., "Indian Place Names in the Upper Peninsula and Their Interpretation" (*Michigan History*, Volume 2, 1918), pp. 526-555, and William F. Gagnieur, S.J., "Some Place Names in the Upper Peninsula of Michigan and Elsewhere" (*Michigan History*, Volume 3, 1919), pp. 412-419.

²⁶⁸ Chrysostom P. Verwyst, "Geographical Names in Wisconsin, Minnesota, and Michigan, Having a Chippewa Origin" (*Collections of the State Historical Society of Wisconsin*, Volume 12, 1892), pp. 390-398.

²⁶⁹ See Bernard C. Peters, *Lake Superior Place Names: From Bawating to the Montreal* (Marquette, Michigan: The Northern Michigan University Press, 1996), p. 56.

²⁷⁰ Wilbert B. Hinsdale, *Archaeology Atlas of Michigan*, Michigan Handbook Series, No. 4 (Ann Arbor, University of Michigan Press, 1931).

²⁷¹ Alfred L. Kroeber, "Review of Archaeology Atlas of Michigan," (*American Anthropologist*, Volume 35, Number 1, 1933), p. 181.

²⁷² Helen Hornbeck Tanner, ed., *Atlas of Great Lakes Indian History* (Norman: University of Oklahoma Press, 1987).

²⁷³ Tanner, *Atlas of Great Lakes Indian History*, p. 2.

These maps were developed by J. William Trygg as a result of his employment as an appraiser for several Indian Tribes in their suits against the United States for adjustments of the amounts paid them for their lands when ceded to the government. The lands were valued as of the date of the cession and were not surveyed until after the cession, but before development was legally permitted. Inasmuch as the surveyors were required to furnish a plat (map) of each 6-mile square township with the section lines run in a grid at 1-mile intervals along with a written record describing the areas as they passed over it, their records were the prime source of information for preparing the Composite Maps.²⁷⁴

Although the Trygg maps are useful in identifying places that played prominent roles in Ojibwe culture history, the map that displays the APE vicinity shows no cultural activities, Indian trails, or the rock outcrop in that area (see Figure 6-3).

In addition, as discussed in Section 4 above, historian Dr. Emily Greenwald found no mention of the rock outcrop in historical records before the 1970s, and none of the records from the 1970s or later identify the outcrop as “Eagle Rock” or “Migi zii wa sin.”

Summer Cohen, the KBIC THPO, also researched the documentary record, and she, too, was unable to find any information on traditional cultural use of the rock outcrop or the rest of the APE vicinity.²⁷⁵

²⁷⁴ <http://www.trygglandoffice.com/maps.html>.

²⁷⁵ Summer Cohen, “Telephone Deposition of Summer Cohen” (Taken in the matter of The Petitions of the Keweenaw Bay Indian Community, Huron Mountain Club, National Wildlife Federation, and Yellow Dog Watershed Environmental Preserve, Inc., on permits issued to Kennecott Eagle Minerals Company, April 2008), p. 30.

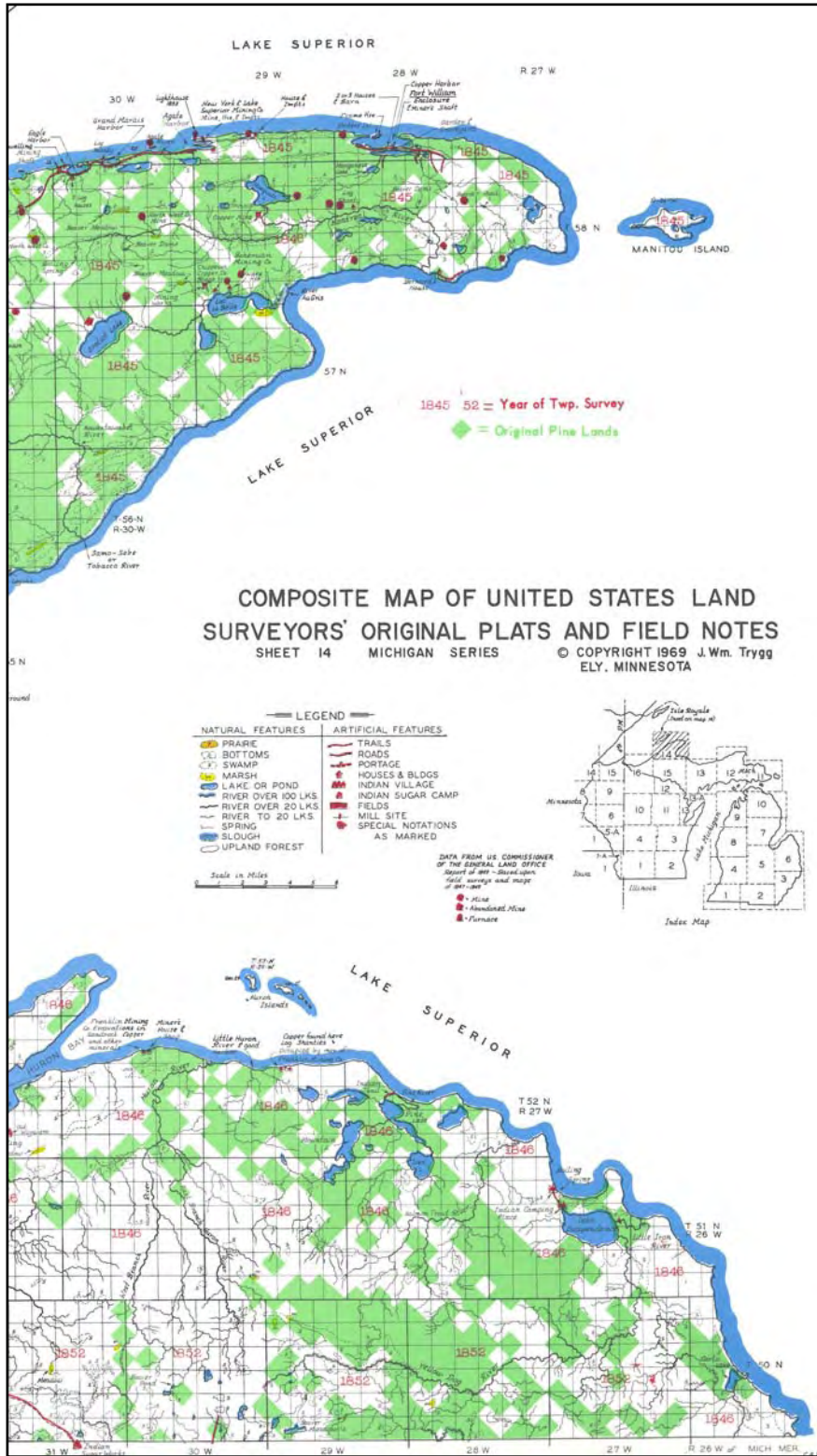


Figure 6-3. Trygg Map of Project Vicinity.

6.5 Traditional Cultural Properties

The purpose of the research reported here is to identify traditional cultural places in the APE vicinity that are eligible for listing in the National Register of Historic Places. Although the authors' research did not identify any such places, KBIC and some other tribes have asserted that the rock outcrop at the project site is eligible for listing in the National Register. The authors have examined these assertions with respect to the National Register criteria in light of the ethnohistoric, ethnographic, and historic records, and conclude that the rock outcrop is not eligible.

6.5.1 Foraging

KBIC spokespersons have said that the Yellow Dog Plains and the APE vicinity are important because band members hunt and gather there and, in fact, throughout the territory their ancestors ceded to the United States under the terms of the 1842 Treaty of La Pointe. Lac Vieux Desert's THPO made similar comments to EPA.²⁷⁶ Figure 6-4 is a map of the 1842 ceded territory.²⁷⁷ Foraging on the Yellow Dog Plains, however, does not establish an important historical relationship with the APE vicinity. Instead, the relationship they describe is indistinguishable from relationships with other areas in the ceded territory where band members forage. For example, in her assessment, Ms. Cohen states,

Tribal members of the Keweenaw Bay Indian Community have reported several medicinal plants which are harvested or harvestable on the Yellow Dog Plains and at Eagle Rock. Among the most common would be the blueberries (miinan). Tribal members have also stated that they have hunted for deer (waawaashkeshi), partridge (beni), and fish (giigoonh) in the Yellow Dog Plains.²⁷⁸

KBIC members testified similarly at the state contested case hearing.²⁷⁹

In fact, the KBIC accounts suggest that tribal members range widely in the Yellow Dog Plains and beyond, moving in accord with the availability of berries, birds, and deer, which are broadly distributed throughout the ceded territory, and vary in their concentration depending on a wide variety of factors including demographic patterns, commercial endeavors, and other prevailing socio-economic and environmental conditions. In addition, Ojibwe people have begun foraging more broadly throughout the ceded territory, feeling encouraged to do so by recent court decisions.

²⁷⁶ Giiwegiizhigookway Martin, *Letter from Giiwegiizhigookway Martin, Tribal Historic Preservation Officer, Lac Vieux Desert Band of Lake Superior Chippewa Indians to Ross Micham, UIC Branch, US EPA Region 5*, 30 April 2008, p. 2.

²⁷⁷ KBIC submitted this map as an exhibit at the contested case hearing.

²⁷⁸ Summer Cohen, *Assessment of Migi zii wa sin (Eagle Rock)* (unpublished report, 2007), p.8.

²⁷⁹ For example, Susan LaFernier, Past President of the Keweenaw Bay Indian Community Tribal Council, recently testified that she has "been gathering on the Yellow Dog Plains since I was a little girl with my parents. We gather blueberries," she said, "we gather raspberries, thimbleberries along the way. It's a wonderful road to travel. It's been well traveled. And I can remember from since I was just a little girl." Ms. LaFernier also testified that she had seen people hunting for deer and partridge in the Yellow Dog Plains. Susan LaFernier, "Testimony" (Presented in the matter of *The Petitions of the Keweenaw Bay Indian Community, Huron Mountain Club, National Wildlife Federation, and Yellow Dog Watershed Environmental Preserve, Inc., on permits issued to Kennecott Eagle Minerals Company*, May 2008), p.25.

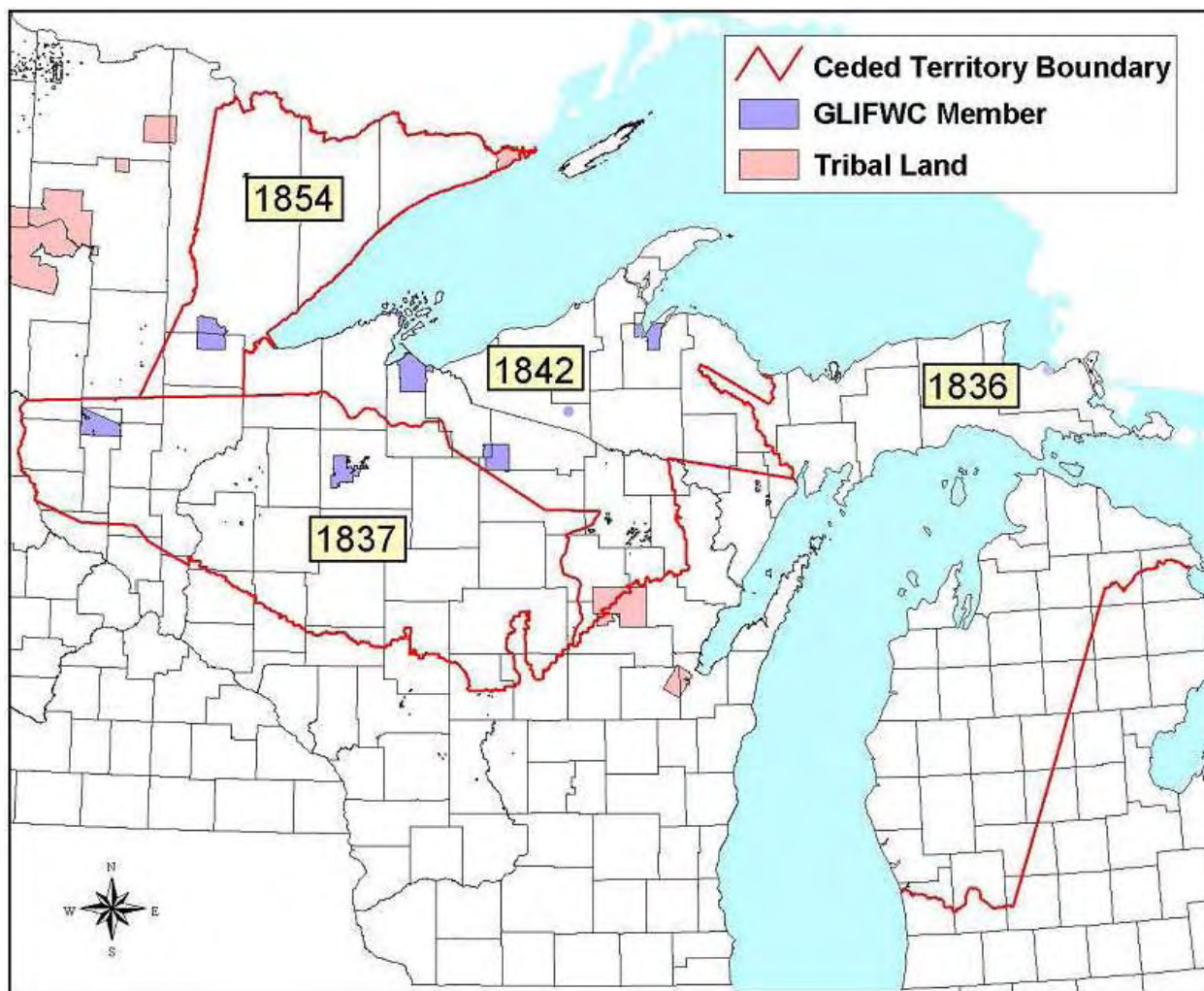


Figure 6-4. Map of 1842 Treaty Ceded Area.

The cultural atlases that Dr. Driben has prepared for Ojibwe communities indicate as much. In sharp contrast to the period in the not-too-distant past when extended families tended to forage inside established and well known family trapping territories, contemporary Ojibwe consider the treaty area as a whole to be their home range and act accordingly, distributing themselves more broadly over the landscape. According to a recent report prepared for the Great Lakes Indian Fish and Wildlife Commission, this is currently the case for deer and bear hunters in the Keweenaw Bay Indian Community.²⁸⁰ These hunters are no longer restricting their movements to the immediate vicinity of the reservation, which they were in the habit of doing during the twentieth century. Although they are few in numbers, deer and bear hunters from KBIC are now traveling more widely than they did in the recent past.

²⁸⁰ See Miles Falck, *Results of the 2001 Off-Reservation Waawaashkeshi (Deer) and Makwa (Bear) Harvest in the Ceded Territories of Michigan* (Great Lakes Indian Fish and Wildlife Commission, Administrative Report 02-02, May 21, 2002), *passim*.

6.5.2 Assessment of the National Register Eligibility of the Rock Outcrop

KBIC documents and testimony assert that the rock outcrop, which representatives refer to as “Eagle Rock” and “Migi zii wa sin,” is a traditional cultural property eligible for listing in the National Register of Historic Places. The remainder of this section describes the rock outcrop, presents KBIC assertions about its traditional cultural importance, and analyzes the information to determine whether the rock outcrop meets the criteria for listing in the National Register.

6.5.2.1 Description of the Rock Outcrop

The rock outcrop is situated in the southwest quarter of the northwest quarter of Section 12, T50N-R29W. Located in the generally level Yellow Dog Plains in the watershed between the upper reaches of the Salmon Trout and Yellow Dog Rivers, the outcrop is described in geological terms as an erosionally-resistant knob of peridotite protruding above the surface of soil and vegetation-covered glacial till. The outcrop rises about 50 feet above the surrounding plain at its highest point. It covers about 5.36 acres. The outcrop trends northwest-southeast, with the former portion dropping off steeply and the latter portion sloping gently to the plain. Vegetation on the outcrop consists mostly of jack pine with a few white pine and red pine, and with commonly associated shrubs and ground cover.

6.5.2.2 KBIC Assertions about the Importance of the Rock Outcrop

KBIC spokespersons have asserted that the rock outcrop has a special, traditional cultural value for four reasons: because it has a spirit, because it is a place where ceremonies are held, because it is associated with the Midewiwin, and because it is associated with the trickster Nanahbozhoo.

Association with a Spirit

In the KBIC assessment report provided to EPA, KBIC THPO Summer Cohen said,

In general Ojibwa people look at the world differently than the Europeans. Not every thing in the European world view is considered to be an animate object, whereas in the Ojibwa world view, many of those European inanimate objects are viewed to be animated, or to have a spirit; trees, animals, the earth, mountains. Migi zii wa sin is one of those places that is viewed by the Ojibwa as animate, having a spirit, not just the surface, the entire area.²⁸¹

Susan LaFernier used almost exactly the same words when she wrote,

It must be kept in mind that, in general, Ojibwa people have a different view of the world than the European’s point of view. Very few natural objects in the European world view are considered to be animate objects, whereas in the Ojibwa world view many of those European inanimate objects are viewed to be animated, in other words to have a spirit, including trees, animals, the earth and mountains. Migi zii wa sin is one of those places that is viewed by the Ojibwa as animate, as having a spirit, and not just the surface, but the entire area surrounding Migi zii wa sin.²⁸²

Association with Ceremonies

It has also been suggested that the rock outcrop is a place where important traditional cultural ceremonies are held. KBIC’s THPO, Summer Cohen, says that band members “have reported

²⁸¹ Cohen, *Assessment of Migi zii wa sin*, p. 8.

²⁸² Susan LaFernier, *Letter from Susan LaFernier, President, Keweenaw Bay Tribal Council to Steve Wilson, Office of Geological Survey*, 15 October 2007, p. 2.

using the area known as Migi zii wa sin as a place for traditional ceremonial activities.”²⁸³ In the letters attached to the assessment report, Gerry Mantila, Chairwoman of the KBIC Cultural Committee, says that “[o]n May 4, 2006, members of the Cultural Committee along with other Community members took part in an Ojibwa traditional sunrise ceremony and fast”;²⁸⁴ Harlan Downwind’s letter says, “[s]igns point to ceremonial ground used for fasting, our Mide religious ceremonies and renewal fasts”;²⁸⁵ and Beverly Lussier says, “[t]he reason I travel to this area is to pick blueberries and at the highest point of Eagle Rock, for traditional ceremonies.”²⁸⁶

Another letter attached to the KBIC assessment report also mentions ceremonial activities: Rob Dudley describes a trip he made with a KBIC band member to a rock outcrop in the 1970s, which he refers to in the letter as “Eagle Rock,” where the two performed a religious ceremony.²⁸⁷ And in her testimony at DEQ’s contested case hearing, Summer Cohen stated that “Eagle Rock is a place where people go to pray, offer—make offerings to the spirits” and “...some go there to fast, some just to make offerings, others have used that area for harvesting medicinal plants.”²⁸⁸

Susan LaFernier also testified that the outcrop “is a place of worship for our members. It has been for a long, long time. It is a sacred place. It has its own spirit.... It’s a place where many tribal members over hundreds of years have, I believe, done their ceremonies. They’ve done their fasts. They feast there. They pray there.”²⁸⁹ Harlan Downwind, a member of the Midewiwin society from Brainerd, Minnesota, reported likewise: “[I]n my understanding it’s a place for vision and fasting and that’s what we do there.... [T]here’s certain places on the Earth that are marked ... Eagle Rock being one.... They’re marked in a certain way by The Great Spirit and certain things that are there for us to recognize as Anishinaabe people. That’s why we say it’s a recognizable prayer site.”²⁹⁰ And Doreen Blaker said, “There’s certain areas where there’s spiritual significance and areas where we and our ancestors, our people in the past have fasted and went on vision quests. There’s, like I said, many different times of year and a number of days that you will go on things like that and they would look for places of significance and

²⁸³ Cohen, *Assessment of Migi zii wa sin*, p. 8.

²⁸⁴ Gerry Mantila, *Letter from Gerry Mantila, Chairwoman, KBIC Cultural Committee, to Susan LaFernier, President, Keweenaw Bay Indian Community*, 5 May 2006, p. 1; see also Doreen Blaker, “Testimony” (Presented in the matter of *The Petitions of the Keweenaw Bay Indian Community, Huron Mountain Club, National Wildlife Federation, and Yellow Dog Watershed Environmental Preserve, Inc., on permits issued to Kennecott Eagle Minerals Company*, May 2008), pp. 1512-1513.

²⁸⁵ Harlan Downwind, *Letter from Harlan Downwind, Mide Priest, Ojibwa Cultural Spiritual Advisor, to Susan LaFernier, President Keweenaw Bay Indian Community*, 20 April 2006, p.1.

²⁸⁶ Beverly Lussier, *Letter from Beverly Lussier To Whom It May Concern, Keweenaw Bay Indian Community*, 5 December 2007, p.1.

²⁸⁷ Rob Dudley, *Letter to Susan LaFernier, President, Keweenaw Bay Indian Tribal Community*, 27 November 2006, p.1.

²⁸⁸ Cohen, “Testimony,” p. 24 and p. 27.

²⁸⁹ LaFernier, “Testimony,” p. 28.

²⁹⁰ Harlan Downwind, “Testimony” (Presented in the matter of *The Petitions of the Keweenaw Bay Indian Community, Huron Mountain Club, National Wildlife Federation, and Yellow Dog Watershed Environmental Preserve, Inc., on permits issued to Kennecott Eagle Minerals Company*, May 2008), pp. 1531-1532.

people would usually be brought there for those purposes of fasting or looking for a vision. And the area's well known to, you know, our people."²⁹¹

In addition, KBIC invited three members of the Grand Medicine Society—Harlan Downwind, Eddie Benton-Banai, and Dorothy Sam—to visit the rock outcrop in 2006 to determine whether it was an important place. The three Midé concluded that the outcrop was a sacred site, “a very sacred place to be used for traditional ceremonies” according to Dorothy Sam.²⁹² Harlan Downwind noted: “Signs point to ceremonial ground used for fasting, our Mide religious ceremonies and renewal fasts.”²⁹³

Summer Cohen wrote about the Midés' visit in her *Assessment of Migi zii wa sin*:

Harlan Downwind, Eddie Benton and Dorothy Sam, Medi priests and priestess, respectively, are all educators and leaders in Ojibwa Traditional and religious culture and have widespread influence throughout the United States and Canada. They have all been sources of information on Ojibwa culture and spiritual beliefs for many years and for many bands of Ojibwa people and other tribes. All of these individuals, along with several others, have made the journey to Migi zii wa sin (Eagle Rock) in order to make a determination as to its significance. Each person examined the area and listened to local people who had used the site and through memory of oral tradition have made determinations regarding the sites [*sic*] cultural use and how it should be cared for. Each has stated that this is indeed a sacred place....²⁹⁴

Susan LaFernier, then president of the KBIC Tribal Council, used almost the same language when she described the circumstances of the officials' visit and the results of their investigation:

In June 2007, the Community's Tribal Historic Preservation Office (KBIC THPO), in response to reports from tribal members reporting cultural and sacred sites located in the area of Migi zii wa sin, conducted a surface walkover of the Migi zii wa sin and surrounding area to identify any significant cultural, historical and religious features in this area....

Following the walk over in June, 2007, KBIC THPO consulted with Ojibwa traditional and religious educators and leaders who have been sources of information on Ojibwa cultural and spiritual beliefs for many years and for many bands of Ojibwa people concerning the cultural, religious and historical features of the Migi zii wa sin and conducted a second walk over of Migi zii wa sin in order to make a determination as to its significance. Each person examined the area and listened to tribal members who had used the site and through memory of oral tradition. Their

²⁹¹ Blaker, “Testimony,” pp. 1509-1510. Others echoed these opinions. Dale Francis Goodreau testified that Eagle Rock is “the same thing” as a church “a spiritual gathering area,” Dale Francis Goodreau, “Testimony” (Presented in the matter of *The Petitions of the Keweenaw Bay Indian Community, Huron Mountain Club, National Wildlife Federation, and Yellow Dog Watershed Environmental Preserve, Inc., on permits issued to Kennecott Eagle Minerals Company*, May 2008), p. 38, and Jerry Lee Curtis said that Eagle Rock is “sacred grounds. By way of sacred grounds, I would say our ancestors going back probably to time immemorial ... praying, having different ceremonies there.” Jerry Lee Curtis, “Testimony” (Presented in the matter of *The Petitions of the Keweenaw Bay Indian Community, Huron Mountain Club, National Wildlife Federation, and Yellow Dog Watershed Environmental Preserve, Inc., on permits issued to Kennecott Eagle Minerals Company*, May 2008), p. 1480.

²⁹² Dorothy Sam, *Letter from Dorothy Sam, Mide Priestess, to Susan LaFernier, President Keweenaw Bay Indian Community Tribal Council*, 27 April 2006.

²⁹³ Harlan Downwind, *Letter from Harlan Downwind, Mide Priest, to Susan LaFernier, President, Keweenaw Bay Indian Community Tribal Council*, 20 April 2006.

²⁹⁴ Cohen, *Assessment of Migi zii wa sin*, pp. 8-9.

conclusions that were reported to, and documented by, the KBIC THPO was that Migi zii wa sin is indeed a sacred place and must not be destroyed or damaged in any way.²⁹⁵

Association with the Midewiwin

It has also been suggested that the rock outcrop is associated with the Great Migration that followed the acquisition of the Midewiwin, and with the establishment of the Mide lodge on the L'Anse Reservation. In her assessment report, Ms. Cohen said that:

...history tells us that the Ojibwa followed a route from the eastern Atlantic seaboard along the Great lakes and through the Upper Peninsula. At each stopping place, the Mide wiwin society would build their Mide Lodge and hold their sacred ceremonies. There is a place on the L'Anse Reservation where the Mide Lodge was built. This is important because from this site, oral tradition tells us that in the distance to the east, can be seen the silhouette of both an otter and a turtle, these are distant mountain tops. Between these mountains further to the east stand two high spots which are significant to the Ojibwa people. Migi zii was sin is one of these places.²⁹⁶

Ms. LaFerner mentions a similar oral tradition in a letter she wrote to the Michigan DEQ on October 15, 2007, using almost the same language as Ms. Cohen, except that Ms. LaFerner mentions one high spot rather than two.²⁹⁷

Association with Nanahbozhoo

None of the consultation materials that the Ojibwe tribes provided to EPA discuss an association between the rock outcrop and Nanahbozhoo. However, KBIC suggested such an association in the DEQ contested case hearing. In his testimony, Harlan Downwind claimed that there are markings on the outcrop which reveal that the great trickster, Nanahbozhoo, had visited the place in the remote past.²⁹⁸ Mr. Downwind went on to say, "Like I said earlier that there's certain places on the Earth that are marked, I guess, and like I said, like there be one—being one, Eagle Rock being one, the mountain in Saskatchewan that I've been to and Dreamer's Rock in Canada. They're marked in a certain way by The Great Spirit and certain things that are there for us to recognize as Anishinaabe people. That's why we say it's a recognizable prayer site."²⁹⁹

²⁹⁵ LaFerner, *Letter to Wilson*, pp. 2-3.

²⁹⁶ Cohen, *Assessment of Migi zii wa sin*, p. 8; see also Cohen, "Testimony," pp. 25-26. In a letter to EPA dated April 30, 2008, Giiwegiizhigookway Martin, LVD's THPO, states that, "[a]ccording to Anishinaabe oral tradition and recorded by Federal Government officials, it is known that this area falls within what we know as the route of the great migration, which is summarized in the assessment document, submitted to the EPA by the KBIC THPO." Martin, *Letter to Ross Micham*, 30 April 2008, p. 2.

²⁹⁷ LaFerner, *Letter to Wilson*, p.2.

²⁹⁸ Downwind, "Testimony," pp. 1526-1527. Doreen Blaker testified likewise. "There's markings – I guess we want to say that – specify why an area, why it's sacred to our people and at the top is what we call or what I've been told is nanaboozho's footprint, which it's the indent in the rock.... [O]n there is his footprint and it's considered a sacred area. It is a sacred area. There are certain spirits that watch over the area and they're up there." Blaker, Testimony, pp. 1514-1515. Beverly Lussier, an Ojibwe Elder from L'Anse, also said that "Eagle Rock is a sacred site." Beverly Lussier, *Letter from Beverly Lussier to Whom It May Concern*, 5 December 2007.

²⁹⁹ Downwind, "Testimony," p. 1532. Since then, the Grand Portage Tribe has provided a document likening the importance of the rock outcrop to Mt. McKay, which is located just west of Thunder Bay, Ontario. The Tribe asserted that Mt. McKay is important because the Ojibwe consider the tops of high mountains with steep sides to be home to the Thunderbirds, which lay their eggs and hatch their young there. The Tribe also says that local Ojibwe regularly hold powwows near Mt. McKay, which is considered to be a sacred place where the thunderbirds are in residence when clouds obscure the top. Grand Portage Tribe of Chippewa Indians, *Report Regarding Eagle Rock* (no date, supplied to EPA in July 2008), p. 1.

Harlan Downwind implied that the outcrop is as deeply embedded in the collective cultural memory of the Ojibwe as Dreamer's Rock, a famous rock outcrop in southeastern Ontario well known among the Ojibwe for use in the vision quest.

6.5.2.3 Analysis of National Register Eligibility

As discussed in Section 2, above, the National Register of Historic Places is the nation's official list of cultural resources worthy of preservation. Properties listed in the National Register include districts, sites, buildings, structures, and objects that retain integrity and are significant in American history, architecture, archaeology, engineering, and culture. The criteria for evaluating the eligibility of properties for listing appear in 36 CFR 60.4:

The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

- (a) that are associated with events that have made a significant contribution to the broad patterns of our history; or
- (b) that are associated with the lives of persons significant in our past; or
- (c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that present a significant and distinguishable entity whose components may lack individual distinction; or
- (d) that have yielded or may be likely to yield information important in prehistory or history.

Ordinarily cemeteries, birthplaces or graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past 50 years shall not be considered eligible for the National Register. However, such properties will qualify if they are integral parts of districts that do meet the criteria or if they fall within the following categories:

- (a) A religious property deriving primary significance from architectural or artistic distinction or historical importance; or
- (b) A building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event; or
- (c) A birthplace or grave of a historical figure of outstanding importance if there is no appropriate site or building directly associated with his productive life; or
- (d) A cemetery which derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events; or
- (e) A reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same associations has survived; or
- (f) A property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own exceptional significance; or
- (g) A property achieving significance within the past 50 years if it is of exceptional importance.

In analyzing the National Register of Historic Places eligibility of the outcrop, Drs. Driben and Thompson confirmed that it is a geographic place. The authors also considered the outcrop's integrity—that is, whether relevant physical features of the outcrop are capable of conveying its significance. In applying the National Register criteria for evaluation, the authors referred to the criteria considerations. Criteria considerations (a) and (g) are relevant in applying the National Register criteria to the rock outcrop. If the rock outcrop possesses integrity and meets one of the

four National Register criteria for evaluation, it might qualify under criteria consideration (a) because its primary significance would derive from its historical importance. However, if the rock outcrop's significance was achieved within the past 50 years, it would need to be of exceptional importance to meet criteria consideration (g).³⁰⁰

The assertions of KBIC representatives about the traditional cultural importance of the rock outcrop involve the presence of a spirit, the conduct of ceremonies there, the rock outcrop's association with the Midewiwin, and its association with the trickster Nanahbozhoo. Beyond the fact that the rock outcrop is a place, these assertions and the integrity of the outcrop need careful analysis to reach a proper conclusion about the traditional cultural importance of the place.³⁰¹

Integrity

National Register Bulletin 15 explains that integrity is the capability of a property to convey its significance, based on the property's physical features and how they relate to its significance. These physical features include location, design, setting, materials, workmanship, feeling, and association.³⁰² Because many of the features relate to buildings or structures, *National Register Bulletin 38* emphasizes the integrity of association (or relationship)³⁰³ and condition for traditional cultural properties.³⁰⁴

The outcrop's integrity of association is discussed below in the context of whether it meets any of the eligibility criteria. The outcrop's integrity of condition is ambiguous. As discussed in Section 4, considerable activity on and around the rock outcrop—including logging, mineral exploration, and recreational activities, all of which have increased in the last 30 years—has altered the setting. Further, the authors are not aware of KBIC or other tribes expressing concern historically about any of these activities. The ambiguity of the outcrop's integrity of condition makes it advisable to consider first whether the outcrop meets any of the four National Register criteria.

Eligibility Criteria

Although the contents of several documents and statements prepared by and on behalf of KBIC imply that at least one of the above mentioned four National Register eligibility criteria has been satisfied, the ethnohistoric, ethnographic, and historic records discussed in Section 6.3 above do not support such a conclusion. Nor does the information provided by KBIC and other tribes as part of the EPA consultation process and the state permitting process, support National Register eligibility of the rock outcrop.

- *Criterion A – Association with Events That Have Made a Significant Contribution to the Broad Patterns of Our History*

³⁰⁰ National Register Staff, *How to Apply the National Register Criteria for Evaluation*, pp. 27 and pp. 41-43, and Parker and King, *Guidelines for Evaluating and Documenting Traditional Cultural Properties*, pp.14-15and pp. 17-18.

³⁰¹ Parker and King, *Guidelines for Evaluating and Documenting Traditional Cultural Properties*, pp. 9-10.

³⁰² National Register Staff, *How to Apply the National Register Criteria for Evaluation*, p. 44.

³⁰³ Integrity of association or relationship means that the property has an integral relationship to traditional cultural practices or beliefs. Parker and King, *Guidelines for Evaluating and Documenting Traditional Cultural Properties*, p. 11

³⁰⁴ Parker and King, *Guidelines for Evaluating and Documenting Traditional Cultural Properties*, p. 12.

As applied to traditional cultural properties, Criterion A may refer to individual events or a series of events established through ethnographic, ethnohistoric, and folkloric studies. The word “our” covers the group for whom the property is culturally important, and the word “history” refers to traditional oral history as well as recorded history.³⁰⁵ Examples include natural features associated with oral traditions about the establishment of an ethnic group.

Analysis of the Importance of the Rock Outcrop Because it Possesses a Spirit

As discussed above, KBIC representatives have asserted that part of the rock outcrop’s importance is that the Ojibwe maintain it possesses a spirit. It should be noted that the presence of a spirit in and of itself does not render a rock formation sacred from an Ojibwe point of view. Spirits are ubiquitous in Ojibwe cosmology. Since all rocks have spirits or souls, the fact that the outcrop possesses a spirit does not make the location unique or exemplary from an Ojibwe point of view. As already mentioned, the Ojibwe world is one in which spirits are omnipresent.³⁰⁶

Analysis of the Importance of the Rock Outcrop Because it is a Ceremonial Site

The ethnohistoric, ethnographic, and historic records do not corroborate the claim that the ancestors of KBIC have long used the outcrop for cultural or ceremonial purposes.³⁰⁷ While research indicates that rock formations are mentioned in the ethnohistoric, ethnographic, and historic literature³⁰⁸—including Sugar Loaf Mountain in Marquette County, which Schoolcraft and Baraga both identified as Totosh, meaning breast, over a hundred years ago³⁰⁹—there is no mention of the rock outcrop under consideration or of ceremonies being undertaken in the vicinity.

In fact, the letters attached to the KBIC THPO’s assessment report recount ceremonial activities at the rock outcrop almost exclusively within the past five years, which is since Kennecott’s mineral discovery.³¹⁰ The same is true of the testimony offered by KBIC representatives at the DEQ contested case hearing challenging Kennecott’s state permits.³¹¹ The only exception is a letter by Rob Dudley that describes cultural activities going back to the mid-1970s. However, careful examination of the contents shows that the letter does not refer to the rock outcrop in the APE vicinity. The letter, which is referred to in Dr. Eleanor Andrews’

³⁰⁵ Parker and King, *Guidelines for Evaluating and Documenting Traditional Cultural Properties*, pp. 12-13.

³⁰⁶ Dewdney, *The Sacred Scrolls of the Southern Ojibway*, pp. 37-38.

³⁰⁷ Traditional Ojibwe ceremonies such as the sunrise ceremony, the offering of tobacco, and the vision quest, which KBIC band members have said they have recently performed at the rock outcrop, are performed in a wide variety of venues. Cf. Johnston, *Ojibway Ceremonies*, *passim*.

³⁰⁸ See, for example, George Copway, *Indian Life and Indian History, by an Indian Author, Embracing the Traditions of the North American Indians Regarding themselves, Particularly of that most important of all the Tribes, the Ojibways* (Boston: Albert Colby and Company, 1858), *passim*, Jones, *History of the Ojibway Indians*, *passim*, Kohl, *Kitchi-Gami: Life Among The Lake Superior Ojibway*, *passim*, Schoolcraft, *Personal Memoirs of a Residence of Thirty Years with the Indian Tribes of the American Frontiers*, *passim*, and Warren, *History of the Ojibway People*, *passim*.

³⁰⁹ Peters, *Lake Superior Place Names*, p. 63 and p. 68.

³¹⁰ Cohen, *Assessment of Migi zii wa sin*.

³¹¹ For example, Ms. LaFernier testified that the first time she went to the rock outcrop to pray was in 2005 or 2006, “Testimony,” p. 160; Ms. Cohen testified that she first visited the rock outcrop in 2005, “Testimony,” p. 14; and Ms. Blaker testified that the first time she attended a ceremony there was in approximately 2004, “Testimony,” p. 1519.

letter,³¹² describes a trip Mr. Dudley made with a KBIC band member to a rock outcrop, which he referred to as Eagle Rock, where the two performed a religious ceremony. As Mr. Dudley put it:

Beaver and I were driving up Three Rivers Road in my jeep. At the base of the mountain there was a stream that you had to drive around to the left side of the road that went to the top of the mountain (power lines, I think). Just before the top of the mountain on the right side of the road, at the base of the outcropping bluff, there was an old path.³¹³

The letter does not describe the rock outcrop in the APE vicinity. The outcrop is not a mountain or at the top of a mountain, is not bordered by a stream, and has no power lines or road to the top. This letter presents a good example of the need for cautious analysis in using individual recollections in identifying, documenting, and evaluating traditional cultural properties.

Analysis of the Importance of the Rock Outcrop Because it is Associated with the Midewiwin

Although the KBIC assessment report and testimony assert that the rock outcrop is associated with the Midewiwin, the ethnographic information does not support this claim. Without in any way meaning to challenge the religious authority of Harlan Downwind, Eddie Benton-Banai, or Dorothy Sam, the independent ethnological evidence that is required to support the contention that the outcrop has long served the Ojibwe as a sacred site “for Mide religious ceremonies and renewal fasts”³¹⁴ is absent. One thing lacking is substance in the anecdotal information on which the collective opinion is based, which must be assessed along with other evidence in a manner “sufficiently comprehensive to preclude, or almost to preclude, their being based solely on first hand information.”³¹⁵

As mentioned above, KBIC’s Susan LaFernier and Summer Cohen asserted that the rock outcrop could be seen from the site of the former *midewegun* at Baraga, or some place on the reservation, between two peaks that local Ojibwe call the Otter and the Turtle. However, the significance of the juxtaposition is not explained. In any event, Midewiwin ceremonies are focused inside the *midewegun* lodge rather than outside. While the rituals and paraphernalia involved in the Midewiwin are highly symbolic, the symbols employed are associated with the accoutrements of the institution, rather than with the external environment. The only stone singled out for special attention is the Midewiwin stone, “a rounded stone, about the size of a human head which is placed on the earth near the center of the lodge towards the eastern doorway,”³¹⁶ which simultaneously represents life and death. No other stones are mentioned in connection with the Midewiwin. Nor is there any information in the considerable literature on

³¹² Eleanor L. Andrews, *Letter to Susan LaFernier, President, Keweenaw Bay Indian Tribal Community*, 27 November 2007, p. 1.

³¹³ Rob Dudley, *Letter to Susan LaFernier, President, Keweenaw Bay Indian Tribal Community*, 27 November 2006, p.1.

³¹⁴ Downwind, *Letter to Susan LaFernier*, 20 April 2006.

³¹⁵ Lévi-Strauss, *Structural Anthropology*, p. 352.

³¹⁶ Papp, *The Ojibwe Midewiwin*, pp. 238-239.

the Midewiwin that calls attention to a connection between rock outcrops and the institution.³¹⁷ Under the circumstances, the evidence of a functional connection between the outcrop and the Midewiwin is tenuous and cannot support a conclusion of eligibility.³¹⁸

Dr. Charles Smythe of the Smithsonian Institution came to much the same conclusion in his *Assessment of Request for the Repatriation of the Ontonagon Boulder by the Keweenaw Bay Indian Community*.³¹⁹ In that case, KBIC likewise suggested that there was a longstanding association between the Midewiwin and a mineral formation, the Ontonagon boulder, a 1.5-ton copper boulder that had been removed from the South Fork of the Ontonagon River in 1843 and acquired by the Smithsonian Institution 17 years later.³²⁰ Based on his research into the ethnohistoric, ethnographic, and historic records, Dr. Smythe concluded that the information did not support the proposition. As he said:

The Jesuit Relations journals and letters (Thwaites 1896-1901) were searched for references to Mide lodges and the Ontonagon boulder, following the suggestion by Mr. Benton-Benaise [sic]. This would be a most likely source since the reports are for the earliest years of contact, 1610-1791. All relevant key words and terms were searched for using the index, but there was no mention of a medicine lodge associated with the Ontonagon boulder. In addition, published sources about Midewiwin scrolls (Hoffman 1891; Dewdney 1975) were reviewed for information about migration scrolls that included a depiction of the boulder, without result. A similar outcome obtained when contact was made with curators at the Glenbow Museum [in Calgary, Alberta] and

³¹⁷ See, for example, Ansen Balikci, "Note sur le midewiwin" (*Anthropologica*, Volume 2, 1956), pp. 165-217; Victor Barnouw, "Reminiscences of a Chippewa Mide Priest" (*Wisconsin Archaeologist*, Volume 35, Number 4, 1954), pp. 83-112; Sister Bernard Coleman, "The Religion of the Ojibwa of Northern Minnesota" (*Primitive Man*, now *Anthropological Quarterly*, Volume 10, Numbers 3 and 4, 1937), pp. 33-57; Robert C. Dailey, "The Midewiwin, Ontario's First Medical Society" (*Ontario History*, Volume 50, Number 3, 1958), pp. 133-138; Densmore, *Chippewa Customs*, pp. 1-204; Dewdney, *The Sacred Scrolls of the Southern Ojibway*; A. Irving Hallowell, "Some Empirical Aspects of Northern Saukteaux Religion" (*American Anthropologist*, Volume 36 Number 3, 1934), pp. 389-404; A. Irving Hallowell, "The Passing of the Midewiwin in the Lake Winnipeg Region" (*American Anthropologist*, Volume 38, Number 1, 1936), pp. 32-51; Harold Hickerson, "Notes on the Post-Contact Origin of the Midewiwin;" Harold Hickerson, *The Chippewa and their Neighbors: A Study in Ethnohistory* (New York: Holt, Rinehart and Winston, 1970); *passim*; Harold Hickerson, "The Sociohistorical Significance of Two Chippewa Ceremonials" (*American Anthropologist*, Volume 65, Number 1, 1967), pp. 67-85; Walter James Hoffman, "The Midewiwin; or 'Grand Medicine Society' of the Ojibwa," in *Bulletin of the Bureau of American Ethnology, Seventh Annual Report, 1885-1886* (Washington, DC: Government Printing Office, 1891), pp. 143-300; Basil H. Johnson, *Ojibwa Heritage* (New York: Columbia University Press, 1976), pp. 80-93; Johnson, *Ojibwa Ceremonies*; L. J. Lafleur, "On the Mide of the Ojibway" (*American Anthropologist*, Volume 42, Number 4, 1940), pp. 706-708; Ruth Landes, *Ojibwa Sociology*, Columbia Contributions to Anthropology, Volume XXIX (New York: Columbia University Press, 1937); Ruth Landes, *Ojibwa Religion and the Midewiwin* (Madison: University of Wisconsin Press, 1968), p. 4; Jean-Louis Michon, "La Grande Medecine des Ojibways" (*Societe Suisse des Americanistes, Bulletin*, 1964), pp. 27:33-34, 28: 13-14; Jean-Louis Michon, "La Grande Medecine des Ojibways" (*Societe Suisse des Americanistes, Bulletin*, 1972), pp. 37-72; Papp, *The Ojibwe Midewiwin*; Vivian J. Rohrl "A Chippewa Funeral" (*Wisconsin Archaeologist*, Volume 48, Number 2, 1967), pp. 137-140; S. C. Simms, "The Metawin Society of the Bungees or Swampy Indians of Lake Winnipeg," (*Journal of American Folklore*), Volume 19, 1906), pp. 330-333; Vecsey, *Traditional Ojibwa Religion and its Historical Changes*, pp. 174-190; and Newton H. Winchell, ed., *The Aborigines of Minnesota* (St. Paul: Minnesota Historical Society, 1911).

³¹⁸ From a physical standpoint, because the rock outcrop is distant from the Reservation (even at its closest point, the Reservation is 20 miles away from the rock outcrop), and there are intervening features, it is unlikely that the outcrop can be seen from the Reservation.

³¹⁹ Charles W. Smythe, *Assessment of Request for the Repatriation of the Ontonagon Boulder by the Keweenaw Bay Indian Community* (A Report prepared by the Repatriation Office, National Museum of Natural History, Smithsonian Institution, January 31, 2000).

³²⁰ Smythe, *Assessment of Request*, p. i.

the Manitoba Museum. Attempts to locate information describing the association of the Ontonagon boulder with the Mide Lodge, such as through explorers' narratives, published anthropological sources, and the unpublished notes of an Ojibwa scholar (Hallowell) have been unsuccessful.³²¹

It is also worthwhile to note that while KBIC's assessment report and the LVD letter mention the Great Migration passing through Michigan's Upper Peninsula, the rock outcrop or the APE vicinity are not mentioned in the ethnohistoric, ethnographic, or historic materials that discuss this mythological period in Ojibwe culture history.³²²

As mentioned in his testimony, Harlan Downwind intimated that the rock outcrop is as deeply embedded in the collective cultural memory of the Ojibwe as Dreamer's Rock,³²³ and the Grand Portage Band has implied that the rock outcrop is as important as Mt. McKay, the home of the thunderbirds. The independent evidence that is required to corroborate these claims is lacking, and this differentiates the two sites from the outcrop under consideration from an ethnological point of view. There is no question about the role that Dreamer's Rock has played in Ojibwe culture history. The documentary record makes it clear that Ojibwe have told stories about and visited Dreamer's Rock on a regular and recurrent basis since time out of mind, transforming a noteworthy feature of the landscape into a cultural and spiritual icon.³²⁴ The same is true of Mt. McKay, a place well known in the documentary record as the home of thunderbirds.³²⁵

However, in sharp contrast to Dreamer's Rock and Mt. McKay, there is no evidence in the ethnohistoric, ethnographic, or historic records that indicates that the rock outcrop at the project site is an important legendary site, or that Ojibwe have historically visited the rock outcrop on a regular and recurrent basis. In other words, while it is possible to verify that Dreamer's Rock and Mt. McKay have served the Ojibwe since time out of mind, the same cannot be said of the rock outcrop at the project area.

³²¹ Smythe, *Assessment of Request*, pp. 11-12.

³²² Cohen, *Assessment of Migi zii wa sin*, p. 8; Martin, Letter to Ross Micham, 30 April 2008.

³²³ Downwind, "Testimony," p. 1532.

³²⁴ See, for example, John Robert Columbo, *Mysteries of Ontario* (Toronto: Dundurn Press, Ltd., 1999), p. 142; Brigit Dawes, "An interview with Drew Hayden Taylor" (*Contemporary Literature*, Volume XLIV, Number 1, 2003), pp. 1-18; Vernon Kinietz, *Chippewa Village: The Story of Katikitegon* (Bloomfield Hills: Cranbrook Institute of Science, Bulletin Number 25, 1947) p. 126; Patrick Macklem, *Indigenous Difference and the Constitution of Canada* (Toronto: University of Toronto Press, 2001), p. 286; Brad Olsen, *Sacred Places North America, 108 Destinations*, second edition (Canada: CCC Publishing, 2008), p. 300; Ontario Division of Mines, *Geoscience Report* (Toronto: Ontario Division of Mines, 1976), p. 5; Mary Ellen Perkins, *Discover Your Heritage: A Guide to Provincial Plaques in Ontario* (Toronto: Ontario Heritage Foundation, 1989), p. 150; Theresa S. Smith, Blake Debassige, Shirley Cheechoo, James Simon Mishibinjima, and Leland Bell, "Beyond the Woodlands: Four Manitoulin Painters Speak their Minds" (*American Indian Quarterly*, Volume 18, Number 1, 1994, p. 11 ff, and Pamela Williamson and John A. Roberts, *First Nations Peoples*, second edition, (Toronto: Emond Montgomery Publications, 2004), p. 5.

³²⁵ See, for example, Bogue, *Around the Shores of Lake Superior*, p. 150; Mark Hall, *Thunderbirds: America's Living Legends of Giant Birds* (New York: Paraview Press, 2004), p. 61; David D. Kemp, "Thunder Bay," *The Canadian Encyclopedia* (Edmonton: Hurtig Publishers, 1988), p. 61; Hubert M. Limbrick, *Tales of the tom-tom: from the /and of the Sleeping Giant* (Thunder Bay, ON: Central News Co., 1970); and Susan Stanich and Janet Blix, *Insiders' Guide to the Lake Superior Region* (Duluth, MN: Duluth News-Tribune, 1996), p. 375.

In fact, the available evidence indicates that any cultural and religious notoriety the site has achieved is recent. As already mentioned, it is only within the past few years that the record shows the rock outcrop has been used for ceremonial purposes.³²⁶ One KBIC member testified at the DEQ contested case hearing that she had never heard of the rock outcrop referred to as “Eagle Rock” or as “Migi zii wa sin” before 2004.³²⁷ And Sections 4 and 5 above report that a number of individuals who have conducted forestry, geological, and archaeological work at the rock outcrop and its vicinity in the 1970s, the 1990s, and since 2000 observed no cultural activities nor any evidence of them such as tobacco ties or other offerings, except since 2005.

■ *Criterion B – Association with the Lives of Persons Significant in Our Past*

Criterion B is understood to be related to legendary figures or cultural heroes as well as individual persons, and “our” refers to the community that regards a property as traditionally important.³²⁸

Analysis of the Importance of the Rock Outcrop Because it is Associated with Nanahbozhoo

While KBIC did not mention an association of the rock outcrop with Nanahbozhoo in the documents submitted to EPA, Harlan Downwind has claimed in testimony that there are markings on the rock outcrop that reveal that the great trickster, Nanahbozhoo, had visited the place in the remote past. However, these markings were not identified, their significance not described, and their historical importance unstated.³²⁹ Although Nanahbozhoo is widely known in the ethnohistoric, ethnographic, and historic literature and is associated with specific places, the rock outcrop is not mentioned as one of these places. Under the circumstances, there is no evidence to support a historical association between the outcrop and Nanahbozhoo.

■ *Criterion C – Embodiment of Distinctive Characteristics of a Type, Period, or Method of Construction; or Representation of a Master’s Work; or Possession of High Artistic Values; or a Significant and Distinguishable Entity Whose Components May Lack Individual Distinction*

This criterion typically applies to constructed properties such as buildings or structures. Components of the criterion could apply to non-constructed properties if they included features such as petroglyphs (carved stone representations) or pictographs (painted stone representations), or if there were a group of natural features, such as rock outcrops or groves of trees, that lacked

³²⁶ By contrast, as discussed in Section 4, the rock outcrop has been a point of interest for mineral exploration for over 30 years.

³²⁷ Blaker, “Testimony,” pp. 1519-1520. Ms. Blaker testified that the rock outcrop had been known previously as “mazhaamegosikaa zibii”. “Testimony,” p. 1520. But, as discussed in Section 6.4.2.2 above, GLIFWC’s map of Ojibwe place names compiled by Ojibwe elders, including KBIC elders, indicates that “mazhaamegosikaa zibii” is the name for the Salmon Trout River, not the rock outcrop.

³²⁸ Parker and King, *Guidelines for Evaluating and Documenting Traditional Cultural Properties*, p. 13.

³²⁹ Downwind, “Testimony,” pp. 1526-1527. Doreen Blaker testified likewise. “There’s markings – I guess we want to say that – specify why an area, why it’s sacred to our people and at the top is what we call or what I’ve been told is nanaboozho’s footprint, which it’s the indent in the rock.... [O]n there is his footprint and it’s consider a sacred area. It is a sacred area. There are certain spirits that watch over the area and they’re up there” Blaker, Testimony, pp. 1514-1515. Beverly Lussier, an Ojibwe Elder from L’Anse, also said that “Eagle Rock is a sacred site” Beverly Lussier, *Letter from Beverly Lussier to Whom It May Concern*, 5 December 2007.

individual distinction but together made up a larger entity that figures importantly in traditional culture. Criterion C does not apply to the rock outcrop located in the project APE.

■ *Criterion D – Capability to Contribute Information Important in Prehistory or History*

Criterion D most often applies to archaeological sites. Regarding its application to traditional cultural properties, *National Register Bulletin 38* explains that “[p]roperties that have traditional cultural significance often have already yielded, or have the potential to yield, important information through ethnographic, archeological, sociological, folkloric, or other studies.”³³⁰ Drs. Driben and Thompson found no information on the rock outcrop in ethnohistoric, ethnographic, and historic sources; Dr. Greenwald found no mention of it in historical sources; and Dr. Bergman found no important archaeological information in a survey area that included the rock outcrop. KBIC materials including the assessment report with its appended archaeological site form, statements, and letters, as well as sworn testimony in the contested case hearing regarding issuance of the mine permits, have provided no indication that study of the rock outcrop could provide information important in prehistory or history. The authors conclude that the rock outcrop does not meet Criterion D.

The authors consequently conclude that the rock outcrop does not meet any of the four National Register evaluation criteria. Further discussion of the rock outcrop’s integrity is thus inappropriate since the rock outcrop is not eligible for listing in the National Register of Historic Places.

6.6 Conclusion

The authors conclude that there are no properties eligible for listing in the National Register of Historic Places in the APE vicinity. As *Bulletin 38* cautions,

In considering the eligibility of a property that contains no observable evidence of human activity...the documentary or oral evidence for the association of the property with traditional events, activities or observances should be carefully weighed and assessed. The National Register discourages the nomination of natural features without sound documentation of their historical or cultural significance.³³¹

Based on a careful examination of the ethnohistoric, ethnographic, and historic evidence as well as the information provided by the Ojibwe, the authors conclude that the rock outcrop is not eligible for listing in the National Register as a traditional cultural property.

³³⁰ Parker and King, *Guidelines for Evaluating and Documenting Traditional Cultural Properties*, p. 14.

³³¹ Parker and King, *Guidelines for Evaluating and Documenting Traditional Cultural Properties*, p. 11.

6.7 References Cited

- Andrews, Eleanor L. *Letter from Dr. Eleanor L. Andrews to Susan LaFernier, President, Keweenaw Bay Indian Tribal Community*. 27 November 2007.
- Auger, Donald J., and Paul Driben. *Grand Portage Chippewa: Stories and Experiences of Grand Portage Band Members*. Grand Portage, Minnesota: Grand Portage Tribal Council, Sugarloaf Interpretive Center Association, and the National Park Service, 2000.
- Balikei, Ansen. "Note sur le midewiwin." *Anthropologica*. (Volume 2, 1956), pp. 165-217.
- Barnouw, Victor. "Reminiscences of a Chippewa Mide Priest." *Wisconsin Archaeologist* (Volume 35, Number 4, 1954), pp. 83-112.
- _____. *Wisconsin Chippewa Myths & Tales and their Relation to Chippewa Life*. Madison: University of Wisconsin Press, 1977.
- Benton-Banai, Edward. *The Mishomis Book: The Voice of the Ojibway*. St. Paul, Minnesota: Little Red Schoolhouse, 1988.
- Blaker, Doreen. "Testimony." Presented in the matter of *The Petitions of the Keweenaw Bay Indian Community, Huron Mountain Club, National Wildlife Federation, and Yellow Dog Watershed Environmental Preserve, Inc., on permits issued to Kennecott Eagle Minerals Company*, May 2008.
- Bogue, Margaret Beattie. *Around the Shores of Lake Superior: A Guide to Historic Sites*. 2nd edition. Madison: University of Wisconsin Press, 2007.
- Bourgeois, Arthur P., ed. *Ojibwa Narratives of Charles and Charlotte Kawbawgam and Jacques LePique, 1893-1895*, recorded with notes by Homer H. Kidder. Detroit: Wayne State University Press, 1994.
- Clark, Ella Elizabeth. *Indian Legends of Canada*. Toronto: McClelland and Stewart Limited, 1960.
- Cleland, Charles E. *Rites of Conquest: The History and Culture of Michigan's Native Americans*. Ann Arbor: University of Michigan Press, 1992.
- Cohen, Summer. *Assessment of Migi zii wa sin (Eagle Rock)*. Unpublished report, 2007.
- _____. "Telephone Deposition of Summer Cohen." Taken in the matter of *The Petitions of the Keweenaw Bay Indian Community, Huron Mountain Club, National Wildlife Federation, and Yellow Dog Watershed Environmental Preserve, Inc., on permits issued to Kennecott Eagle Minerals Company*, April 2008.
- Coleman, Sister Bernard. "The Religion of the Ojibwa of Northern Minnesota." *Primitive Man*, now *Anthropological Quarterly*. (Volume 10, numbers 3 and 4, 1937), pp. 33-57.
- Columbo, John Robert. *Mysteries of Ontario*. Toronto: Dundurn Press, Ltd., 1999.
- Copway, George. *Indian Life and Indian History, by an Indian Author, Embracing the Traditions of the North American Indians Regarding themselves, Particularly of that most important of all the Tribes, the Ojibways*. Boston: Albert Colby and Company, 1858.
- Cottam, S. Barry. *Aboriginal Peoples and Archives: A brief History of Aboriginal and European Relations in Canada*. Ottawa: National Archives of Canada, 1997.
- Curtis, Jerry Lee. "Testimony." Presented in the matter of *The Petitions of the Keweenaw Bay Indian Community, Huron Mountain Club, National Wildlife Federation, and Yellow Dog Watershed Environmental Preserve, Inc., on permits issued to Kennecott Eagle Minerals Company*, May 2008.
- Dailey, Robert C. "The Midewiwin, Ontario's First Medical Society." *Ontario History*. (Volume 50, Number 3, 1958), pp. 133-138.

- Danziger, Jr., Edmund J. *The Chippewas of Lake Superior*. Norman: University of Oklahoma Press, 1979.
- Dawes, Brigit. "An interview with Drew Hayden Taylor." *Contemporary Literature*. (Volume XLIV, Number 1, 2003), pp. 1-18.
- Densmore, Frances. *Chippewa Customs*. Reprint of 1929 edition. St. Paul: Minnesota Historical Society Press, 1979.
- Selwyn Dewdney, *The Sacred Scrolls of the Southern Ojibway* (Toronto: University of Toronto Press, 1975).
- Downwind, Harlan. "Testimony." Presented in the matter of *The Petitions of the Keweenaw Bay Indian Community, Huron Mountain Club, National Wildlife Federation, and Yellow Dog Watershed Environmental Preserve, Inc., on permits issued to Kennecott Eagle Minerals Company*, May 2008.
- _____. *Letter from Harlan Downwind, Mide Priest, to Susan LaFernier, President, Keweenaw Bay Indian Community Tribal Council*, 20 April 2006.
- Driben, Paul. "The Work of the International Committee for the study of the Lake Superior Jesuit Diaries and Mission Papers." *Thunder bay Historical Museum Society Papers & Records*. (Volume XXVII, 1999), pp. 33-39.
- Driben, Paul, and Harvey H. Herstein. *Portrait of Humankind: An Introduction to Human Biology and Prehistoric Cultures*. Scarborough, Ontario: Prentice-Hall Canada Inc., 1994.
- Driben, Paul, and Robert H. Trudeau. *When Freedom is Lost: The Dark Side of the Relationship between Government and the Fort Hope Band*. Toronto: University of Toronto Press, 1983.
- Dudley, Rob. *Letter from Rob Dudley to Susan LaFernier, President, Keweenaw Bay Indian Tribal Community*, 27 November 2007.
- Falck, Miles. *Results of the 2001 Off-Reservation Waawaashkeshi (Deer) and Makwa (Bear) Harvest in the Ceded Territories of Michigan*. Great Lakes Indian Fish and Wildlife Commission, Administrative Report 02-02, May 21, 2002.
- Gagnieur, S. J., William F. "Indian Place Names in the Upper Peninsula and Their Interpretation." *Michigan History*. (Volume 2, 1918), pp. 526-555.
- _____. "Some Place Names in the Upper Peninsula of Michigan and Elsewhere." *Michigan History*. (Volume 3, 1919), pp. 412-419.
- Gilman, Rhoda R. "The Fur Trade in the Upper Mississippi Valley, 1630-1850." *Wisconsin Magazine of History*. (Volume 58, 1974), pp. 3-18.
- Goodreau, Dale Frances. "Testimony." Presented in the matter of *The Petitions of the Keweenaw Bay Indian Community, Huron Mountain Club, National Wildlife Federation, and Yellow Dog Watershed Environmental Preserve, Inc., on permits issued to Kennecott Eagle Minerals Company*, May 2008.
- Grand Portage Tribe of Chippewas. *Report regarding Eagle Rock*. (no date, provided to USEPA Region 5 in July 2008).
- GLIFWC, *GIDAKIIMINAAN (Our Earth)*. *An Anishinaabe Atlas of the 1836 (Upper Michigan), 1837, and 1842 Treaty Ceded Territories*. Odanah, WI: The Great Lakes Indian Fish & Wildlife Commission Press, 2007.
- Hall, Mark. *Thunderbirds: America's Living Legends of Giant Birds*. New York: Paraview Press, 2004.
- Hallowell, A. Irving. "Some Empirical Aspects of Northern Saulteaux Religion." *American Anthropologist*. (Volume 36, Number 3, 1934), pp. 389-404.

- _____. "The Passing of the Midewiwin in the Lake Winnipeg Region." *American Anthropologist*. (Volume 38, Number 1, 1936), pp. 32-51.
- _____. *The Ojibwa of Berens River, Manitoba: Ethnography into History*, edited with a preface and after word by Jennifer S. H. Brown. Toronto: Harcourt Brace Jovanovich College Publishers, 1992.
- Henry, Alexander. *Travels and Adventures in Canada and the Indian Territories between the years 1760 and 1776 in two parts*. New York: I. Riley, 1809.
- Hickerson, Harold. *The Chippewa and their Neighbors: A Study in Ethnohistory*. New York: Holt, Rinehart and Winston, 1970.
- _____. "The Sociohistorical Significance of Two Chippewa Ceremonials." *American Anthropologist*. (Volume 65, Number 1, 1967), pp. 67-85.
- _____. "Notes on the Post-Contact Origin of the Midewewin." *Ethnohistory*. (Volume 9, Number 4, 1963), pp. 404-423.
- Hinsdale, Wilbert B. *Archaeology Atlas of Michigan*. Michigan Handbook Series, No. 4. Ann Arbor: University of Michigan Press, 1931.
- Hoffman, Walter James. "The Midewiwin; or 'Grand Medicine Society' of the Ojibwa." In *Bulletin of the Bureau of American Ethnology, Seventh Annual Report, 1885-1886*. Washington, DC: Government Printing Office, 1891.
- <http://www.trygglandoffice.com/maps.html>.
- Hubbard, Bela, and Bernard C. Peters. *Lake Superior Journal: Bela Hubbard's Account of the 1840 Houghton Expedition*. Marquette, Michigan: The Northern Michigan University Press, 1983.
- Hultkrantz, Ake. *The Religions of the American Indian*, translated by Monica Setterwall. Berkeley: University of California Press, 1979.
- Johnston, Basil H. *Ojibwa Heritage*. New York: Columbia University Press, 1976.
- _____. *Ojibwa Ceremonies*. Toronto: McClelland and Stewart, 1982.
- Dennis Jones, "The Etymology of Anishinaabe," (*Oshkaabewis Native Journal*, 1995, Volume 2, Number 1), pp. 43-48.
- Jones, Peter. *History of the Ojebway Indians*, reprint of 1861 edition. Freeport, New York: Books for Libraries Press, 1970.
- Kelton, Dwight H. *Indian Names of Places Near the Great Lakes*. Detroit: SN, 1888.
- _____. *Indian Names and History of the Sault Ste. Marie Canal*. Detroit: SN, 1889.
- Kemp, David D. "Thunder Bay." *The Canadian Encyclopedia*. Edmonton: Hurtig Publishers, 1988.
- Kinietz, Vernon. *Chippewa Village: The Story of Katikitegon*. Bloomfield Hills: Cranbrook Institute of Science, Bulletin Number 25, 1947.
- _____. *Indian Tribes of the Western Great Lakes, 1615-1760*, reprint of 1940 edition. Ann Arbor: University of Michigan Museum of Anthropology, 1965.
- Kohl, Johann Georg. *Kitchi-Gami: Life Among The Lake Superior Ojibway*, reprint of 1860 edition. St. Paul: Minnesota: Minnesota Historical Society Press, 1985.
- Kroeber, Alfred L. "Review of Archaeology Atlas of Michigan." *American Anthropologist*. (Volume 35, Number 1, 1933), pp. 180-181.
- LaFernier, Susan. *Letter from Susan LaFernier, President, Keweenaw Bay Tribal Council to Steve Wilson, Office of Geological Survey*, 15 October 2007.

- _____. "Testimony." Presented in the matter of *The Petitions of the Keweenaw Bay Indian Community, Huron Mountain Club, National Wildlife Federation, and Yellow Dog Watershed Environmental Preserve, Inc., on permits issued to Kennecott Eagle Minerals Company*, May 2008.
- Lafleur, L. J. "On the Mide of the Ojibway." *American Anthropologist*. (Volume 42, Number 4, 1940), pp.706-708.
- Lambert, Bernard J. *Shepherd of the Wilderness: A Biography of Bishop Frederic Baraga*. Chicago: Franciscan Herald Press, 1967.
- Landes, Ruth. *Ojibwa Sociology*. Columbia Contributions to Anthropology, Volume XXIX. New York: Columbia University Press, 1937.
- _____. *Ojibwa Religion and the Midewiwin*. Madison: University of Wisconsin Press, 1968.
- _____. *The Ojibwa Woman*, reprint of 1938 edition. New York: AMS Press, 1969.
- Leitch, Barbara A. *A Concise Dictionary of Indian Tribes of North America*. Algonac, Michigan: Reference Publications Inc., 1979.
- Limbrick, Hubert M. *Tales of the tom-tom: from the land of the Sleeping Giant*. Thunder Bay, ON: Central News Co., 1970.
- Lussier, Beverly. *Letter from Beverly Lussier to Whom It May Concern*, 5 December 2007.
- Lévi-Strauss, Claude. *Structural Anthropology*. New York: Basic Books, Inc., 1963.
- Lovisek, Joan. "Transmission Difficulties: The Use and Abuse of Oral History in Aboriginal Claims." In H. C. Wolfart, ed., *Papers of the Thirty-Third Algonquian Conference*. Winnipeg: University of Manitoba Press, 2002.
- McClurken, James M., and Larry Nesper. *Cultural and Economic Importance of Natural Resources Near the White Pine Mine to the Lake Superior Ojibwa*. A Report for the Great Lakes Indian Fish and Wildlife Commission, June 1998.
- McKenny, Thomas L. *Sketches of a Tour to the Lakes, of the Character and Customs of the Chippeway Indians, and of the Incidents Connected with the Treaty of Fond du Lac*. Barre, MA: Imprint Society, 1972.
- Macklem, Patrick. *Indigenous Difference and the Constitution of Canada*. Toronto: University of Toronto Press, 2001.
- Michon, Jean-Louis. "La Grande Medecine des Ojibways." *Societe Suisse des Americanistes, Bulletin*, 1964.
- _____. "La Grande Medecine des Ojibways." *Societe Suisse des Americanistes, Bulletin*, 1972.
- National Register of Historic Places Staff. *National Register Bulletin 15*, finalized by Patrick W. Andrus, edited by Rebecca H. Shrimpton. "How to Apply the National Register Criteria for Evaluation." Washington, D.C.: U.S. Department of the Interior, National Park Service, 2002.
- Olsen, Brad. *Sacred Places North America, 108 Destinations*, second edition. Canada: CCC Publishing, 2008.
- Ontario Division of Mines. *Geoscience Report*. Toronto: Ontario Division of Mines, 1976.
- Overholt, Thomas W., and J. Baird Callicott. *Clothed-in-Fur and other Tales, An Introduction to an Ojibwa World View*. Maryland: University Press of America, 1982.
- Papp, Howard Dorsey. *The Ojibwe Midewiwin: A Structural Analysis*. Unpublished Ph.D. Thesis, University of Minnesota, 1996.

- Parker, Patricia L., and Thomas F. King. *National Register Bulletin* 38, revised edition. Washington, D.C.: U.S. Department of the Interior, National Park Service, 1998.
- Perkins, Mary Ellen. *Discover Your Heritage: A Guide to Provincial Plaques in Ontario*. Toronto: Ontario Heritage Foundation, 1989.
- Peters, Bernard C. *Lake Superior Place Names: From Bawating to the Montreal*. Marquette, Michigan: The Northern Michigan University Press, 1996.
- Pietzel, John H. *Lights and Shades of Missionary Life: Containing Travels, Sketches, Incidents, and Missionary Efforts, During Nine Years Spent in the Region of Lake Superior*. Cincinnati: Western Book Concern, 1860.
- Rohrl, Vivian J. "A Chippewa Funeral." *Wisconsin Archaeologist*. (Volume 48, Number 2, 1967), pp. 137-140.
- Rogers, Edward S. "Cultural Adaptations: The Northern Ojibwa of the Boreal Forest 1670-1980." In *Boreal Forest Adaptations: The Northern Algonkians*, A. Theodore Steegmann, Jr., editor. New York: Plenum Press, 1983.
- Rogers, Edward S., and J. Garth Taylor. "Northern Ojibwa." In *Handbook of American Indians*, Volume 6, *Subarctic*, June Helm, ed. Washington: Smithsonian Institution, 1981.
- Roufs, Timothy G. *The Anishinabe of the Minnesota Chippewa Tribe*. Phoenix: Indian Tribal Series, 1975.
- Sam, Dorothy. *Letter from Dorothy Sam, Mide Priestess, to Susan LaFernier, President Keweenaw Bay Indian Community Tribal Council*, 27 April 2006.
- Schenck, Theresa M. "*The Voice of the Crane Echoes Afar*": *The Sociopolitical Organization of the Lake Superior Ojibwa, 1640-1855*. New York: Garland Publishing, Inc., 1997.
- Schoolcraft, Henry R. *The Indian in His Wigwam, or Characteristics of the Red Race of America*. New York: W. A. Graham, 1848.
- Schoolcraft, Henry Rowe. *The American Indians, their History, Condition and Prospects, from Original Notes and Manuscripts*, new revised edition. Buffalo: George H. Derby and Co., 1851.
- _____. *Personal Memoirs of a Residence of Thirty Years with the Indian Tribes of the American Frontiers: With Brief Notices of Passing Events, Facts and Opinions A. D. 1812 to A. D. 1842*, reprint of 1851 edition. New York: AMS Press, Inc., 1978.
- _____. *Narrative of an Expedition through the Upper Mississippi to Itasca Lake, the Actual Source of this River; Embracing an Exploratory Trip through the St. Croix and Burntwood (or Broule) Rivers; in 1832*. East Lansing, Michigan: Michigan State University Press, 1993.
- Simms, S. C. "The Metawin Society of the Bungees or Swampy Indians of Lake Winnipeg." *Journal of American Folklore*. (Volume 19, 1906), pp. 330-333.
- Smith, Theresa S. *The Island of the Anishnaabeg: Thunderers and Water Monsters in the Traditional Ojibwe Life-World*. Moscow, Idaho: University of Idaho Press, 1995.
- Smith, Theresa S., Blake Debassige, Shirley Cheechoo, James Simon Mishibinjima, and Leland Bell. "Beyond the Woodlands: Four Manitoulin Painters Speak their Minds." *American Indian Quarterly*. (Volume 18, Number 1, 1994), pp. 1-24.
- Smythe, Charles W. *Assessment of Request for the Repatriation of the Ontonagon Boulder by the Keweenaw Bay Indian Community*. A Report prepared for the Repatriation Office, National Museum of Natural History, Smithsonian Institution, January 31, 2000.

- Soltis, Ann McCammon. *Letter from Ann McCammon Soltis, Director, Intergovernmental Affairs, Great Lakes Indian Fish and Wildlife Commission, to DEQ/DNR Kennecott Comments, Office of Geological Survey*, October 17, 2007.
- Stanich, Susan, and Janet Blix. *Indisers' Guide to the Lake Superior Region*. Duluth, MN: Duluth News-Tribune, 1996.
- Tanner, ed., Helen Hornbeck. *Atlas of Great Lakes Indian History*. Norman: University of Oklahoma Press, 1987.
- Tilson, Tim J. *Letter from Tim J. Tilson to Whom It May Concern*, 6 December 2007.
- Verwyst, Chrysostom P. "Geographical Names in Wisconsin, Minnesota, and Michigan, Having a Chippewa Origin." *Collections of the State Historical Society of Wisconsin*. (Volume 12, 1892), pp. 390-398.
- _____. *Life and Labors of Rt. Rev. Frederic Baraga*. Milwaukee: M. H. Wiltzius & Co., 1900.
- Vescey, Christopher. *Traditional Ojibwa Religion and Its Historical Changes*. Philadelphia: The American Philosophical Society, 1983.
- Walling, Regis M., and Reverend N. Daniel Rupp, eds. *The Diary of Bishop Frederic Baraga, First Bishop of Marquette, Michigan*. Joseph Gregorich and Reverend Paul Prud'homme, S.J., translators. Detroit: Wayne State University Press, 2001.
- Warren, William W. *History of the Ojibway People*, reprint of 1885 edition. St. Paul: Minnesota Historical Society Press, 1984.
- Williamson, Pamela, and John A. Roberts. *First Nations Peoples*, second edition. Toronto: Emond Montgomery Publications, 2004.
- Winchell, ed., Newton H. *The Aborigines of Minnesota*. St. Paul: Minnesota Historical Society, 1911.

7.0 Conclusions

This report reflects considerable careful research by a number of well-qualified professionals into historical land use, prehistoric and historic-period archaeology, and traditional cultural properties for the Eagle Project area. The authors reviewed the extensive record of consultation and communications among Kennecott, EPA, DEQ, DNR, KBIC, and other interested tribes. All of the authors visited the project area to observe the rock outcrop and its setting. The work revealed no historic properties eligible for listing in the National Register of Historic Places. Specifically, the research does not support the assertion that the rock outcrop at the project area is eligible for listing in the National Register.

Dr. Emily Greenwald's detailed historical research found no mention of the rock outcrop in historical records dating before the 1970s, and the records from the 1970s and later related to logging and mineral exploration on and around the rock outcrop. None of the records identify the outcrop as Eagle Rock or Migi zii wa sin. Dr. Greenwald's interviews with geologists, foresters, and others who have worked on the site in the 1970s, 1990s, and since 2000 revealed no evidence of ceremonial use of the rock outcrop until very recently.

Dr. Christopher Bergman's intensive Phase I archaeological survey for the project revealed no archaeological sites that are eligible for listing in the National Register of Historic Places. The archaeological assessment identified a handful of isolated potential quartz flakes, which could not be placed into a prehistoric context. The archaeological investigation for KBIC identified a pit feature (20MQ251) near the summit of the rock outcrop, a human or game trail on the rock outcrop, and two shallow semicircular depressions in the APE outside the rock outcrop. Dr. Bergman did not find that the pit, the trail, or the depressions were related to traditional cultural activity, and the Office of the State Archaeologist concluded that the project will not affect the pit because Kennecott will not conduct any surface activities on the rock outcrop.

In addition, Dr. Bergman noted that during the 2004 and 2005 non-continuous field seasons, the archaeological field team observed no cultural activity or material remains in the vicinity of the rock outcrop that suggested the area was being actively used for spiritual or ceremonial purposes. Dr. Bergman pointed out that various objects, such as tobacco ties near the top of the rock outcrop, appeared after his 2005 work in the project area began.

Drs. Paul Driben and Gail Thompson conducted their investigation into traditional cultural properties with respect to the criteria for evaluating properties for listing in the National Register of Historic Places (36 CFR Part 60). They also considered *National Register Bulletin 15* ("How to Apply the National Register Criteria for Evaluation"), *National Register Bulletin 38* ("Guidelines for Evaluating and Documenting Traditional Cultural Properties"), and the *Secretary of the Interior's Guidelines for Archaeology and Historic Preservation*, which discuss the use of historic contexts and provide guidance for identifying resources and assessing their National Register eligibility.

Drs. Driben and Thompson considered the documents that KBIC and other tribes provided to EPA as part of the consultation process, including the KBIC THPO's report titled "Assessment of Migi zii wa sin (Eagle Rock)," documents submitted on behalf of KBIC and other tribes to the state of Michigan as part of the state permit process, and KBIC members' sworn testimony as part of the Michigan DEQ contested case hearing challenging Kennecott's state mine permits.

The authors also paid careful attention to numerous sources in the ethnohistoric, ethnographic, and historic records, which contain a wide variety of information about traditional Ojibwe culture. Their methods consisted of examining and analyzing information in each of the sources to determine whether the APE vicinity contains any places that have a special historical significance in traditional Ojibwe culture, and could be eligible for listing in the National Register.

As a result of their visit and their analysis of a wide variety of source materials, Drs. Driben and Thompson concluded that no National Register-eligible traditional cultural properties are present in the APE vicinity and that the research does not support the assertion that the rock outcrop at the project area is eligible for listing in the National Register. Because no historic properties are present, there is no need to consider project effects.