

CHAPTER II:
LANDSCAPE HISTORY

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Geological Development of the Keweenaw Peninsula

The landscape history of the Calumet unit is directly linked to the geological forces that formed the physical landscape of the region. The process that formed the geology of the Keweenaw dates back 1.1 billion years ago. The crust of the earth thinned and molten rock exploded from the earth's core onto the surface where it spread and solidified. This process occurred repeatedly for twenty-five million years depositing layer upon layer of dark basalt on the surface. Between the layers of basalt, levels of sand, rock, and pebbles combined to form conglomerate deposits. Geological changes continued and a series of compressions, faults, and uplift led to the formation of the Lake Superior basin. The edges of the basin in the Keweenaw were formed of rock layers that were exposed through the process of uplift, creating high ground. Native copper is found in many of the rim's exposed edges.¹

The copper was leached from deep within the earth in a hot liquid form under pressure that forced it into fractures, fissures, and porous rock. The presence of three types of cavities resulted in three forms of native copper known as conglomerate, amygdaloid, and mass copper deposits. *Conglomerate* copper is found in sedimentary rock; *amygdaloid* copper is found in basalts, and is almond shaped; and *mass* copper consists of large deposits found in fissures and fractures in the earth.² The settlement of copper within the earth was followed by a period of glaciation that lasted from 1.8 million years ago until about ten thousand years ago. Glacial activity scoured the surface of the earth, occasionally scraping up large pieces of copper and moving them across the landscape before depositing them upon the surface of the ground. These are referred to as *float* copper and they were the first specimens of copper discovered by humans.³

Indigenous Use

The Keweenaw Peninsula hosts one of the oldest known copper-working sites in North America, dating to the early Holocene. Prior to the 1800s, almost all copper used by American Indians in the eastern portion of the United States was obtained from the Lake Superior basin.⁴ Although historic activity has resulted in extensive ground disturbance at the Calumet unit, evidence of American Indian activities in the area has yet to be systematically investigated, and could offer additional information about indigenous land use in the Upper Great Lakes. Scholars have speculated that there may have been as

¹ Larry Lankton, *Hollowed Ground: Copper Mining and Community Building on Lake Superior, 1840s-1990s* (Detroit: Wayne State University Press, 2010), 8-9.

² Lankton, *Hollowed Ground*, 8.

³ Lankton, *Hollowed Ground*, 9.

⁴ John R. Halsey, "Miskwabik—Red Metal: Lake Superior Copper and the Indians of Eastern North America," *Michigan History* (Sept./Oct. 1983), 32-41.

1 many as 3,000 aboriginal mining pits on the Keweenaw Peninsula prior to the arrival of
2 European explorers.⁵

3
4 The majority of information available regarding indigenous activities at the Keweenaw
5 focuses on copper mining.⁶ While this focus is of pertinence to the development of the
6 copper mining industry that evolved on the peninsula, recent work focusing on a more
7 holistic understanding of the activities of indigenous people in the Lake Superior region
8 can be drawn upon to broaden our understanding of indigenous land use. Tim
9 Cochrane's recently published ethnohistorical work concentrates on north shore Ojibwe,
10 and provides a new perspective on the lifeways of these early inhabitants of the region.
11 He clarifies the importance of mobility in facilitating the use of particular landscapes on a
12 seasonal basis for hunting, trapping, fishing, gathering of natural resources such as maple
13 sugar, sweetgrass, and mining. This perspective encourages a shift in focus from seeking
14 evidence of specific habitation and use sites to developing an expanded understanding of
15 lifeways and land use across the regional landscape.⁷

16
17 The Lake Superior basin is dotted with archeological sites dating as early as 8000 years
18 before present (B.P.), when hunters survived on abundant herds of caribou, bison, elk,
19 and moose. Evidence indicates that people were present in the Keweenaw shortly
20 following the retreat of the last glacier. An archeological site located in northern
21 Keweenaw County containing copper beads, a crescent-shaped knife, awls, and a point,
22 has been dated to 7,800 B.P.⁸

23
24 The first recognizable human culture in the Lake Superior basin is the Plano tradition.
25 Information regarding the lifeways of the Plano tradition in the area is incomplete due to
26 the limited resources that have been discovered.⁹ During the late Archaic period, the
27 Superior basin cultures developed a more diversified material culture, a broader
28 subsistence base, and larger populations. Local subsistence strategies were intensified
29 and relationships between neighboring cultural groups were more structured. Groups
30 exchanged information and raw materials, including copper. The "Old Copper Culture"
31 began as early as 4,950 B.P. and continued until about 3,150 B.P. The center of
32 distribution was in northeastern Wisconsin; however, related artifacts are found
33 distributed widely beyond the core. The artifacts associated with this culture include the
34 most varied assortment of copper items from any time in Upper Great Lakes culture.
35 They include spearheads, knives, gaffs, adzes, awls, beads, and hooks.¹⁰ These hunters
36 lived in the forests along the shores of the Great Lakes basin. Their main source of food

⁵ Ron Morton and Carl Gawboy, *Talking Rocks: Geology and 10,000 Years of Native American Tradition in the Lake Superior Region* (Minneapolis, MN: University of Minnesota Press, 2000), 92.

⁶ Lankton, *Hollowed Ground*; Susan R. Martin, *Wonderful Power: The Story of Ancient Copper Working in the Lake Superior Basin* (Detroit, MI: Wayne State University Press, 1999), 183-214; and Halsey, "Miskwabik-Red Metal," 32-41.

⁷ Timothy Cochrane, *Minong: The Good Place, Ojibwe and Isle Royale* (East Lansing, MI: Michigan State University Press, 2009).

⁸ Martin, *Wonderful Power*, 142. B.P. is used herein to indicate the time "before present" using 1950 as the standard for the present date.

⁹ Caven P. Clark, *Archeological Survey and Testing at Isle Royale National Park, 1987-1990 Seasons*, 4-7.

¹⁰ Clark, *Archeological Survey*, 7-8.

1 was a wide variety of game, which they hunted using weapons they made from stone and
2 copper. The copper tools were especially useful and concentrated efforts were made to
3 obtain the mineral. The copper was sought and laboriously mined when it was located.
4 American Indians sunk pits in the ground using primitive tools identified as
5 hammerstones to break away the bedrock surrounding the mineral deposits.¹¹
6

7 Large copper deposits were present in the region, including Ontario and Michigan's
8 Keweenaw Peninsula and Isle Royale. The early miners applied a simple process
9 wherein copper deposits were identified through surface exploration, then separated from
10 the surrounding rock using large beach stones as hammers. Some lucrative sites were
11 worked for several generations, with pits being dug over twenty feet deep to follow the
12 vein of copper. These mine pits were excavated throughout the Ontonagon and
13 Keweenaw regions of the Upper Peninsula of Michigan, and also at Isle Royale.¹²
14

15 The Initial Woodland substage in the Lake Superior basin is essentially the Laurel
16 culture. Laurel has a geographical range from the northern plains across the Superior
17 basin, dating from about 2,950 B.P. to 1,250 B.P.¹³ During the Hopewellian period, Lake
18 Superior tribes continued to find a steady demand for copper among neighboring
19 groups.¹⁴ Evidence of Lake Superior basin copper is widely distributed among areas to
20 the south during the Middle Woodland substage.¹⁵
21

22 During the Terminal Woodland substage, extending from ca. 1,250 B.P. to contact with
23 Europeans around the middle of the seventeenth century, increasing numbers of local
24 groups emerged and a wide variety of styles were developed. There was a high rate of
25 interaction and trade among the many groups, who were extremely mobile. Hunting,
26 mining and trading continued into the late 1500s and early 1600s, ending just prior to the
27 arrival of Europeans in the region. By this time, the presence of Europeans on the
28 continent was affecting American Indian societies. Diseases and economic changes led
29 to alterations in traditions, and may have influenced the activities at the Keweenaw.¹⁶
30

31 Between 1660 and 1690, the French presence in the Upper Great Lakes grew and
32 missions, forts, and trading centers were constructed. A growth in the presence of French
33 trappers and traders in the Upper Great Lakes affected the American Indian population,
34 eventually leading to increased hostilities between local groups. As American Indian
35 groups acclimated to the European-directed trade economy, conflicts related to the
36 acquisition of furs, fur bearing territories, and/or strategic positioning as middlemen
37 between the French and other local groups caused intense hostility.¹⁷

¹¹ Larry Lankton, *Cradle to Grave: Life, Work, and Death at the Lake Superior Copper Mine*, (New York: Oxford University Press, 1991), 6-7; and Theodore J. Karamanski and Richard Zeitlin with Joseph Derose, *Narrative History of Isle Royale National Park*, (Chicago: Mid-American Research Center, Loyola University of Chicago), February 1988, 6-20.

¹² Karamanski and Zeitlin, *Narrative History of Isle Royale*, 7-20.

¹³ Clark, *Archeological Survey*, 6-8 and 166.

¹⁴ Karamanski and Zeitlin, *Narrative History of Isle Royale*, 13-14.

¹⁵ Clark, *Archeological Survey*, 6-8 and 166-167.

¹⁶ Clark, *Archeological Survey*, 6-9; and Karamanski and Zeitlin, *Narrative History of Isle Royale*, 13-14.

¹⁷ Clark, *Archeological Survey*, 15.

1
2 Although the first detailed map of Lake Superior was published in 1672 (see Figure II-1),
3 it does not accurately depict major land features in the vicinity.
4
5

6 **Early History: the Arrival of the Ojibwe**

7

8 The following section was taken from the Quincy Mine Historic Landscape Cultural
9 Landscape Report and Environmental Assessment.¹⁸
10

11 The Ojibwe have been identified with the Keweenaw and the Great Lakes for centuries.
12 Before the Ojibwe arrived, the Menomini controlled the Upper Peninsula of Michigan.¹⁹
13 The Menomini's neighbors were the Ojibwe to the east, Winnebago to the south, and
14 Dakota, Fox, Kickapoo, and Mascouta to the west. The Cree dominated lands north of
15 Lake Superior. Although each was a distinct cultural group, they had in common a semi-
16 nomadic way of life, occupying seasonal villages as hunters, fishers, and harvesters of
17 wild rice. By 1608, maps indicate that territories had shifted, largely in response to
18 displacement caused by Europeans acquiring – or appropriating – land, and the impact of
19 European diseases on Native populations. That displacement saw the Ojibwe move into
20 the U.P. in the 16th century, forcing the Menomini south.
21

22 The Ojibwe are an Algonquian-speaking people who once occupied more territory than
23 any other Native group in North America. Also known as Chippewa, the Ojibwe emerged
24 from an earlier, ancestral group called the Anishinabe (“original person”), whose
25 homeland was present-day New Brunswick, Canada.²⁰ Anishinabe and Ojibwe are at
26 times used interchangeably, but Anishinabe may also be used to refer specifically to the
27 ancient ancestral Ojibwe.²¹ Individual bands were identified by distinct names, such as
28 the Amikwa, Saulteur, Marameg, and others; then and now, they were united through
29 networks of clans. The Ojibwe likely arrived at the eastern end of Lake Superior some
30 time during the late 1400s, and settled Spirit Island, Wisconsin during the 1500s.
31 Conservative estimates date permanent Ojibwe occupation of the western Great Lakes by
32 the mid-to-late 1500s.²²
33

¹⁸ Quincy Mine Historic Landscape: Cultural Landscape Report and Environmental Assessment (Calumet: Keweenaw National Historical Park, 2010), 6-9. Authors of the Landscape History chapter of the Quincy report are Jo Urion and Steve DeLong.

¹⁹ Helen Hornbeck Tanner, ed. *The Settling of North America: the Atlas of the Great Migrations into North America from the Ice Age to the Present* (New York: Macmillan, 1995), 31.

²⁰ M. Nieves Zedeño et al., “Final Report: Traditional Ojibwe Resources in the Western Great Lakes: An Ethnographic Inventory in the States of Michigan, Minnesota, and Wisconsin,” (University of Arizona in Tucson, Bureau of Applied Research in Anthropology, 2001), 27.

²¹ Zedeño et al., “Final Report,” 26-27. According to Morton and Gawboy, the form one uses depends on the subject: ‘Ojibwe’ when discussing cultural things, ‘Chippewa’ in political and formal contexts, and Anishinabe ‘is what the Ojibwe call themselves, one Ojibwe to another.’ See Morton and Gawboy, *Talking Rocks*, 67.

²² Zedeño et al., “Final Report,” 28-29.

1 A major pre-contact trade center existed at present-day Sault Ste. Marie; it peaked
2 between [950 and 500 B.P.]²³ Given its location at a crossroads where three Great Lakes
3 come together, researchers have suggested that thousands of people congregated there
4 several times a year. Copper was likely one of the many items being traded and we can
5 assume that the Keweenaw's residents participated in these gatherings. Raw copper
6 changed hands, as did bracelets, beads, knives, and other finished items. Extensive trade
7 networks facilitated the dispersal of Keweenaw copper: it has been argued that "[n]early
8 all of the copper used by prehistoric Indians in eastern North America probably
9 originated in the Lake Superior basin."²⁴

10
11 Historic Ojibwe culture revolved around acquiring and preserving enough food during
12 the summer to support themselves through harsh winters.²⁵ In late fall, they built up
13 stores of wild rice, maple sugar, and dried fish and game. Bands split into family units
14 and traveled to winter hunting camps, which passed down from father to son.²⁶ After
15 setting up camps, men trapped and hunted large game. Women sewed, repaired fishing
16 nets, and worked on other indoor tasks. In spring, the bands moved to maple sugar
17 camps and made birch bark canoes before reuniting for the summer in large villages close
18 to lakeshores and rivers. There, they fished, gathered plants, and gardened; potatoes and
19 pumpkins were popular vegetables.²⁷ Medicinal plants and berries were harvested in
20 August, as was wild rice. In early fall, men would go duck hunting and trapping, make
21 preparations to winter camps, and the cycle would repeat.

22
23 In the 1650s, Ojibwe informants told French explorers, priests, and traders that their
24 ancestors were not the Keweenaw's ancient copper miners.²⁸ This is to be expected, as
25 their arrival in the upper peninsula has been dated to the 16th century and mining had
26 been occurring for thousands of years before. Yet copper had undeniable significance in
27 Ojibwe culture: 17th century Jesuit missionaries documented the Ojibwe's spiritual
28 beliefs about the metal as well as the places it was found.²⁹ Records also confirm the
29 spiritual importance of copper in the 19th century. It was carried in medicine bundles,
30 and was particularly valued and revered. Considered a sacred gift, offerings would be
31 left when copper was removed from the ground.³⁰ Johann G. Kohl, a German traveler
32 who lived with the Ojibwe during the mid-1800s, noted that explorers and traders would
33 ask the Ojibwe for the locations of metal deposits.³¹ Given the number of artifacts that

²³Tanner, *The Settling of North America*, 28.

²⁴Halsey, "Miskwabik – Red Metal," 2.

²⁵Zedeño et al., "Final Report," 42-43. Unless otherwise indicated, all ethnographic information comes from the Ojibwe ethnography prepared by Zedeño et al.

²⁶Morton and Gawboy, *Talking Rocks*, 73. That winter territory was inherited indicates that while land was occupied seasonally, its ownership and use was determined through longstanding sociopolitical frameworks. Therefore, it is logical to assume that the Keweenaw, as with other Ojibwe-controlled territories, was associated with certain families and bands during the winter.

²⁷Morton and Gawboy, *Talking Rocks*, 71.

²⁸Arthur Thurner, *Strangers and Sojourners: A History of Michigan's Keweenaw Peninsula* (Detroit: Wayne State Press, 1994) 20.

²⁹Zedeño et al., "Final Report," 66.

³⁰Zedeño et al., "Final Report," 67.

³¹Zedeño et al., "Final Report," 67. Given the spiritual importance copper had in Ojibwe culture, it is not surprising that they did not always reveal locations to Europeans and Americans. In fact, the Jesuits admit

1 have been found in Historic Period archaeological sites, other Native groups continued to
2 value copper for its practical and ornamental applications.³² Regardless, new enterprises
3 in the 17th century drew attention to a much different resource.³⁵

4 5 **The Fur Trade**

6
7 In 1621 the French explorer Samuel Champlain sent Etienne Brule on a mission to learn
8 the Ojibwe language and build trading relationships with the many independent Ojibwe
9 bands.³⁴ By the mid 1600s the Ojibwe had allied themselves with the French and were
10 well-engaged in the fur trade. The Keweenaw was certainly rich territory: in 1659, the
11 explorers and traders Radisson and Groseilliers paddled along the south shore of Lake
12 Superior to Keweenaw Bay, where they encountered an industrious population of
13 beavers, pieces of native copper, and a convenient, well-established portage route that
14 made traveling across the lake much easier.³⁵ Ten years later, Jean Talon, the man in
15 charge of the colony of New France (French Canada, founded by Champlain), sent Louis
16 Joliet to “find the copper mine from which pieces of pure copper had been brought.”
17 Although he failed to locate it, his journey was one among many which opened the door
18 for French priests to establish thriving missions around Lake Superior.³⁶

19
20 The resources of the Superior basin factored greatly in the Ojibwe’s success in the fur
21 trade. They established permanent communities, with key locations at La Pointe and
22 Keweenaw Bay;³⁷ another settlement is believed to have existed on the shores of Portage
23 Lake although its location remains unclear.³⁸ The creation of these settlements
24 transformed Ojibwe society from “mobile bands into village-centered sociopolitical

to having used “artifice” in order to learn from the Ojibwe “secret[s] which they did not wish to reveal.” See Volume LIV, Chapter XI, “Of the Copper Mines Which are Found in Lake Superior,” accessed online at <http://puffin.creighton.edu/jesuit/relations/>.

³² Much like historians, who organize the past into time periods of similar cultures and events in order to aid our understanding of the past (for example, the Middle Ages, the Renaissance, and the Gilded Age), archaeologists divide prehistory into a chronology of traditions based on similarities and differences in materials found at archaeological sites. Traditions are further divided into phases. Broadly speaking, the Paleo-Indian tradition begins approximately 9500 years before present (BP), and leads into various stages of the Archaic tradition (roughly 8000 BP) and the Woodland tradition (some 2000 BP). During the Historic tradition (which began approximately 500 BP), many of the First Nations we know today were established. See Martin, *Wonderful Power*, 142.

³³ *Quincy Mine Historic Landscape: Cultural Landscape Report and Environmental Assessment*, 6-10.

³⁴ Carl O. Sauer, *Seventeenth Century North America* (Berkeley, CA: Turtle Island, 1980), 121. See also Russell M. Magnaghi, *A Guide to the Indians of Michigan’s Upper Peninsula* (Marquette, MI: Belle Fontaine Press, 1984), 1.

³⁵ Sauer, *Seventeenth Century North America*, 123. According to Radisson, the beavers had felled so many trees that there was not enough fuel to build a fire. The portage route is followed to this day, but by watercraft through the Portage Lake Shipping Canal instead of on foot via an overland trail.

³⁶ Sauer, *Seventeenth Century North America*, 132-133. One of the early missions included Saint-Esprit, which was established by Father Claude Allouez in 1655 for the Ottawa and Huron living at Chequamegon Bay in 1665. Father Rene Menard, another Jesuit missionary, unsuccessfully tried to establish a mission at Keweenaw Bay in 1661. See Magnaghi, *A Guide to the Indians of North America*, 2-3.

³⁷ Zedeño et al., “Final Report,” 30.

³⁸ Burt’s survey drawing identifies “Indian clearings” on the north shore of Portage Lake, near the current day site of the Quincy Smelting Works.

1 entities.”³⁹ Their success initiated other changes, including challenges: the Iroquois,
2 allies of the British, began encroaching on Ojibwe territory in the mid 1600s, sparking a
3 war which the Ojibwe eventually won in 1662.⁴⁰ Events of the 17th and 18th century are
4 characterized by war, threats of war, and the growing complexities of expanding trade
5 networks.⁴¹

6 7 **Treaties and American Mining** 8

9 19th century records that document ancient mine sites indicate that prehistoric inhabitants
10 knew the area well. The Portage Lake waterway that provides today’s travelers with a
11 shortcut across Lake Superior provided the same benefit thousands of years ago, albeit
12 with a portage; it follows that people got to know the area they traveled through. As the
13 Ojibwe settled in the area in the 16th century, they too traversed and explored the area,
14 becoming familiar with its resources.⁴²

15
16 British explorer Alexander Henry attempted to start a mine near Ontonagon in the 1770s.
17 Although early efforts such as his were “doomed to failure,” they drew attention to the
18 Keweenaw’s native copper resources.⁴³ The Ontonagon Boulder, a 3,700 pound mass of
19 pure copper found near the banks of the Ontonagon River, further intensified interest in
20 the Keweenaw, particularly after it was taken east in 1843. In addition to mining and
21 trading copper, the Peninsula’s early residents played a role in the fur trade. Priests and
22 preachers came to minister to the Ojibwe and early European-American settlers. As the
23 fur trade waned, the federal government secured title to the land, American mining
24 efforts intensified and settlements became permanent.
25

26 In the course of prospecting in 1847, the Minesota [sic] Mining Company found a six-ton
27 mass of copper at the bottom of a twenty-six foot deep ancient shaft.⁴⁴ The mass was
28 supported by timber bracing, and had been worked extensively. The labor, tools, and
29 technology required to extract copper from such a depth is indicative of a specialized
30 mining system. Extraction was straightforward. Fire was used to heat copper-rich rock,
31 and when it got hot enough, water was poured over it. This cracked the encasing rock to
32 the point where stone tools could be used to break it away and remove the copper.⁴⁵ The
33 hammers used by prehistoric miners ranged in size from small hand-held tools to others
34 weighing forty pounds.⁴⁶ People cleared debris from work sites using wooden shovels,
35 baskets, and leather bags. Some pits were modest in size, reaching only a few feet deep,

³⁹Zedeño et al., “Final Report,” 30.

⁴⁰Zedeño et al., “Final Report,” 32.

⁴¹*Quincy Mine Historic Landscape: Cultural Landscape Report and Environmental Assessment*, 6-10.

⁴²While ethnographic research has been conducted with Great Lakes Ojibwe, work with the Keweenaw Bay Indian Community needs to be completed to understand its history more fully.

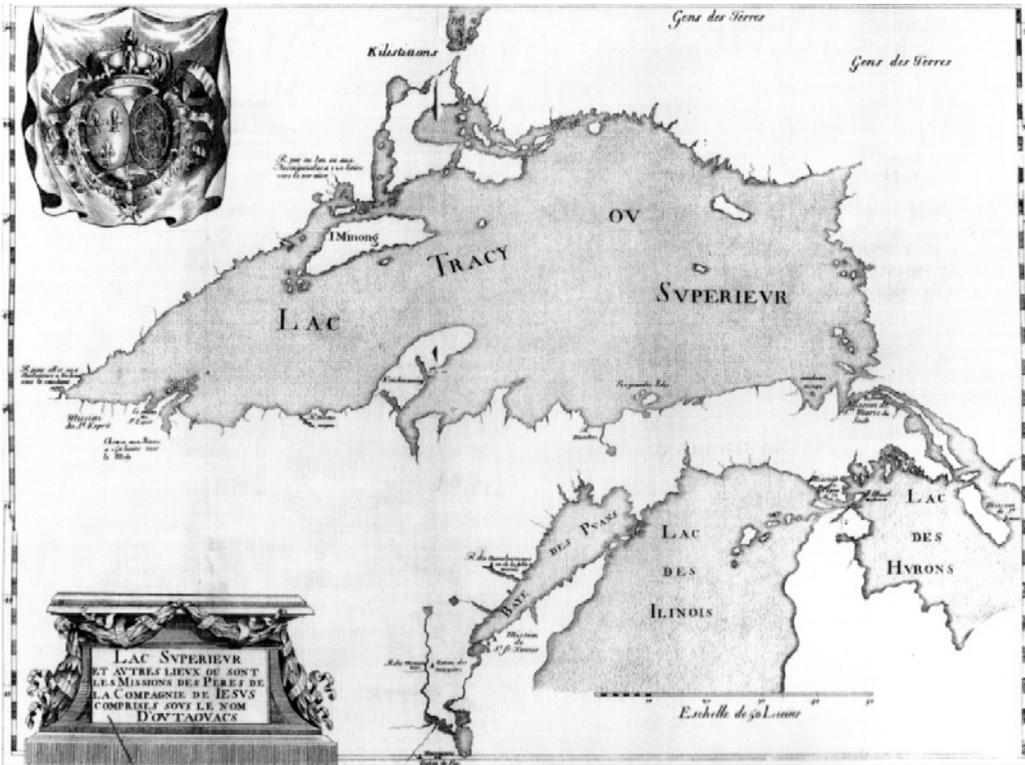
⁴³Lankton, *Cradle to Grave*, 7.

⁴⁴Naturally, Minesota [sic] personnel removed the boulder. See Lankton, *Cradle to Grave*, 10.

⁴⁵Many sources describe these techniques. See Halsey, Martin, and Thurner’s *Strangers and Sojourners* for a broader discussion. Charles W. Whittlesey in “Ancient Mining on the Shores of Lake Superior,” *Smithsonian Contributions to Knowledge* (Vol. 13, Contribution No. 155, Washington DC), pp. 1-29 also provides location-specific details.

⁴⁶Halsey, “Miskwabik –Red Metal,” 115.

1 but others were much larger, including one fifteen feet deep with a diameter of 120 feet.⁴⁷
2 Stores of raw copper were kept in caches; one such cache was said to have led to the
3 discovery of the Calumet conglomerate lode.⁴⁸
4



5
6 **Figure II - 1: First detailed map of Lake Superior, 1672**
7 (source: Gale and Gale, 1995, 10)
8

⁴⁷ Whittlesey, "Ancient Mining on the Shores of Lake Superior," 6. Unfortunately, he did not provide its location.

⁴⁸ Thurner, *Strangers and Sojourners*, 90. Edwin Hulbert, who staked claim to the Calumet conglomerate in 1864, denied later reports that it was in fact an ancient mine, not a cache.