

Upper Planting River Site

Prepared by Robert Wheeler of the
Copper Country Ancient Sites Conservancy

This site is registered with the State of Michigan and
designated 20 HO 286.

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A. Introduction

The subject of this report, the Upper Planting River site (UPR), is a Registered archaeological site located in Houghton County, which is on the Keweenaw Peninsula on the south shore of Lake Superior in Michigan's Upper Peninsula. This area is rich in copper deposits and contains many sites where ancient people lived, mined the metal, and learned to make tools that were invaluable for their survival. This was the first use of metal by mankind in North America, likely, the world, starting at least 9000 yrs ago. These ancient mining sites were found at all the historic mining sites of the copper boom of the late 1800s and early 1900s.

The UPR site is on private land, purchased by the author, near the Pilgrim River, which was historically called the "Planting River" due to Native American gardens found at the mouth where it enters Portage Lake. Twenty five years ago, petroglyphs that are obviously not natural, were observed on exposed bedrock on the property. Since the first stone markings were discovered on the UPR site, more than a dozen petroglyphs of unknown age have been found on exposed bedrock faces and on boulders in a nearby tumbled down cairn. Numerous ground stone tools have also been recovered with strong evidence of chipping, battering, and abrasions--clearly used by people. These artifacts were found while gardening, in a creek bed, and below previously existing ground surface through a limited excavation of part of the site carried out by the author in 2016. The site remains essentially intact.

The purpose of the following report is to document the author's initial evidence from the UPR site that suggests its use in ancient times. Detailed descriptions and photographs of the site and artifacts recovered to date are presented along with a photographic record of the site and a site map. It has been for some time, the intention of the author, to have the site professionally investigated to ensure adequate recovery of any artifacts, pertinent soil samples, and to document, protect, and preserve this site's past. This will also add to the current knowledge base of ancient sites and increase our understanding of the Native American people who lived in this area long ago.

B. Dedication

This site investigation is dedicated to my son, John Wheeler, who lived at this site most of his life and with much joy, had recognized its importance before his untimely death at 22 years of age.

C. List of Photos

Photos are organized by two systems, according to the map of the UPR site. The pictures of the petroglyphs are all organized numerically, but with a letter preceding each picture, according to the camera station for the photos, as shown on the site plan. The pictures of the stone tools are just numbered numerically.

Table 1

Photo Designation	Explanation	Page
GLO1	Portion of 1846 GLO Plat	7
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D. List of Tables

Tables are titled to reflect their photo designation.

Table 2

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E. Regional Geology

The geologic history of this area is long, complex, and fascinating. The Canadian Shield formed from 4.1 to 2.5 billion years ago, and is among the oldest exposed rock in the world. It makes up much of the near surface bedrock north of the Great Lakes and deeply underlies much of north central North America.

About a billion years ago, during the time of the Supercontinent Rodinia, the exterior of the continent was shifting and along with heat from deep in the earth split Earth’s crust, forming the Mid Continental Rift (MCR). Lava flowed from this deep crack in the earth for millions of years, making hundreds of distinct flows, one being the Greenstone Flow which is the thickest lava flow known on Earth, about 1300 feet thick. The Greenstone flow was a sea of molten lava for a thousand years. The lava floods from the rift stopped repeatedly, long enough for deposition of sedimentary rocks, which intersperse the basalt flows. The molten rock transported from deep in the earth to the surface caused a gravity imbalance that was corrected through a major settling of the central portion of the MCR area, forming a basin which was eventually filled by Lake Superior. New tectonic forces faulted the rift and caused the MCR area to be pushed upward.

After the rifting ended super saturated fluids circulated from deep in the earth through the cracks and voids of the basalt layers and adjacent to the sedimentary deposits. As these fluids moved upward , minerals (including elemental copper) deposited in the voids of the basalts and sedimentary rocks, resulting in the largest deposits of pure copper found on earth.

Rodinia’s breakup resulted in shallow seas for hundreds of millions of years. Sedimentary rocks formed from the remnants of earlier mountain ranges which shed themselves into ocean. Erosion, of course, is ongoing.

Since the time of Rodinia, numerous land masses have been pushed up against and onto the Canadian Shield bedrock creating what is now the NA continent.

The Ice Ages began about 2 MYA and some 10 or 12 cycles of Glacial and Interglacial periods have occurred. As glaciers moved across this area much of the overburden and eroded

bedrock was pushed south and this exposed the once buried copper.. Copper eroded from the bedrock, being heavy, tended to be left behind, and copper imbedded in the bedrock was exposed.

The Interglacial period that we find ourselves in began with the final retreat of the glaciers about 10 KYA. (1) pg 150-160, (2), (3), & (4) pg 7-13

F. Post Glacial Environment

As the last glaciers retreated from this area about 10,000 years ago, lakes were formed along the south face of the melting ice sheets. A number of changing factors affected the location and elevation of these lakes including: glacial retreat exposing lower outlets, isostatic rebound which raises ground elevation, and down cutting of outlet channels. Lake Superior's water levels were lower than today's from shortly after the glacial retreat in the Minong and Lake Houghton stages. During the Nipissing Stage, about 6KYA, water levels rose to approx. 40 feet above today's level. Water levels then dropped until about 4KYA when it reached near modern levels.

The revegetation of this area began as the ice retreated, beginning with exposed bedrock interspersed with sandy soil areas and silty (glacial till) soil areas. The normal vegetative secession is from lichens to grasses, then shrubs and bushes to conifers and deciduous trees. This secession was relatively quick on glacial till soils and slower on sandy soils. The very sandy and large grained soils with little water holding ability, often would remain vegetated by conifers. This is because water loving, nitrogen fixing plants, were often required to enrich the soil to promote the growth of proper soil fungi to enable plant succession.

From about 10KYA for some 3 thousand years much of the present day Upper Peninsula was tundra, because of ecological inertia, lingering permafrost and only wind blown seeds being present. Sometime about 7KYA conifers became more abundant until they dominated the landscape. Predominant species were: Black and White Spruces, White and Jack Pines and later Hemlock.

By 3KYA many deciduous plants had migrated northward until mixed hardwoods and White Pines dominated the area, including White Birch, Aspen, Oaks and Maples, continually evolving into the forests we have today. (1) pg 1-58, (6) pg 81-124 & 167-206

G. Human Habitation

The first people in this area were likely exploring for mineral resources and followed the large mammals (caribou, mastodons, possibly elk and mammoths), just after the glacial retreat approx. 10KYA. Exposed areas of bedrock were interspersed with deposits of gravel, sand and mud which filled lower areas and valley floors. Many different minerals were available including nodules of knappable stone, cobbles of varying characteristics and deposits of native copper.

Copper was found both as "float" (eroded, transported and deposited by glacier) and in the original deposited position, within voids in the bedrock. Use of copper in this area goes back at least nine thousand years to just after the glacial retreat. (17) & (18)

Native American people have lived here ever since, possibly only seasonally for some time. The initial population here was likely small, then grew through the archaic and into the Woodland Era and beyond. (5) pg 59

H. Regional Archaeology

The archaeological record of this area is sparse for the Paleo and Archaic timeframes. The nearest professional recorded ancient sites known to this author are:

The Planting River site (20.HO.17) at the mouth of the Pilgrim River. The location of the gardens was derived from the Government Land Office (GLO) surveys of 1846. A reference by George Sanders from 1845 states, "at the mouth of the Alder River [period reference to the Pilgrim], there are old Indian fields of many acres in extent, situated on the table land nearly one hundred feet above the level of the lake. From thence is a rich view of Portage Lake and the high hills surrounding. The corn hills were still easily discerned, though the Indians had long since ceased to cultivate them, having gone to the station at the Ance."

Another note on the Original GLO Survey Plat is "Sand Rock Very Much Altered" which appears in a curve and passes adjacent to the location of the UPR site. See photo GLO1.

Also noted on the Original GLO Survey are five "Indian Campgrounds" along the Portage Lake shore within three miles of the UPR site, an Indian "Sugar Camp" approximately 4 miles south and "Hay stacked by the Anse Mission Indians" approximately 5 miles southeasterly.

Lac Labelle Site 20KE20. Approx. 25 miles northeast from UPR, this multicomponent site includes dates between 7870BP-1500BP (17). Martin recovered many finished copper implements (needles, beads, points, knives), and a large number of unfinished, worked copper pieces. Textiles of plant fibers and leather, cordage likely from milkweed were also recovered. (21) pg 153, (5) pg 183

Duck Lake approx. 50 miles southeast. Mark Hill documents trade indications of copper and lithic use at an Archaic site. (20) pg 191-229

Gorto Site by Buckmaster and Paquette, about 75 miles to the southeast. This is an Early Archaic cremation site with many projectile points some burnt and broken, others whole and perfect, many of these points are Hixton Silicified Sandstone. (5) pg 75, (7) pg 101

Silver Lake, Deer Lake et al., Carr, Paquette and others, several sites about 70 miles southeast, with many Late Paleo diagnostic projectile points found on exposed bottoms of drawn down reservoirs. (8) pg 31

Lake Huron 300 miles south east Archaic underwater evidence of caribou hunting on Alpina Ridge, archaic debitage. (21)

Pompeani et al., Lake sediment core study on the Keweenaw Peninsula suggesting that the age of ancient copper mine use and local annealing activities can be determined through trace element increases found in lake sediments. (18) & (19)

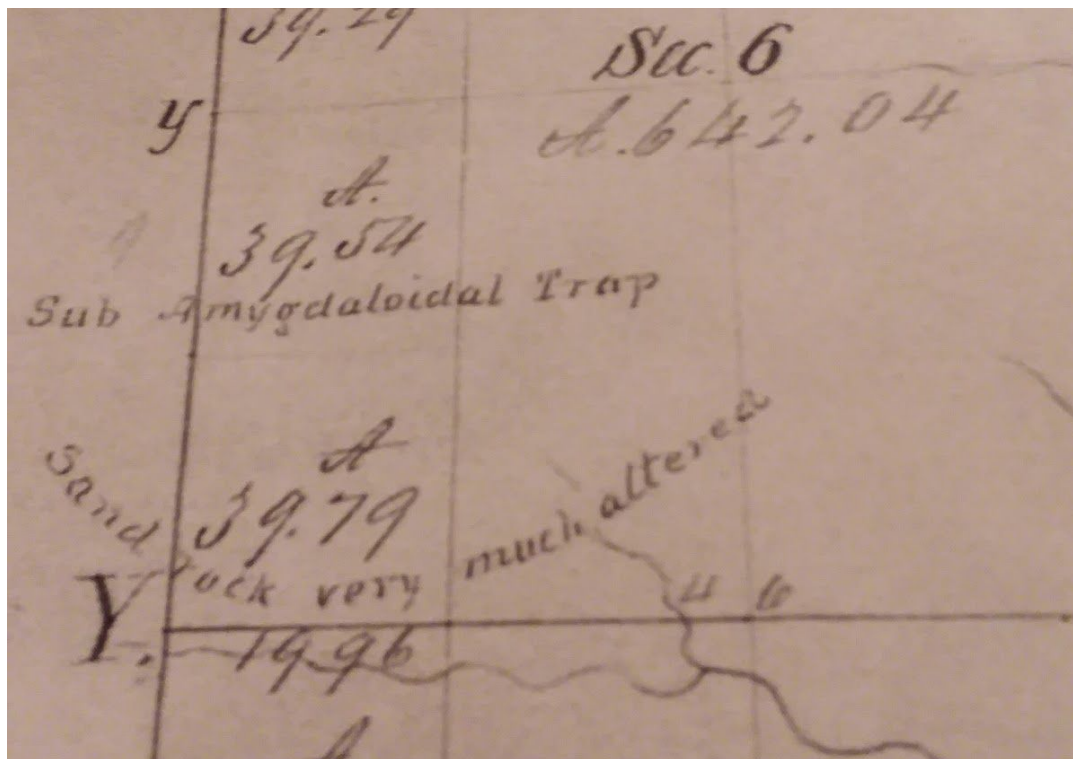


Photo GLO1

I. Regional Documented Rock Art

Sanilac Petroglyphs, Sanilac Mi. described as “Woodland Naturalistic” similar to others in the Upper Mississippi Valley 3KYA to contact. Anthropomorphic, some stylistic, human hands and feet, four legged animals, birds, tracks, spirals. (5) pg 249 & (14)

Peterborough Petroglyphs southern Ontario Over 900, Many Anthropomorphic, some with Fertility Indications, Sun Images, Snakes, Birds, Turtles, other Animals, Boats. (10)

Jeffers Petroglyphs 5,000 YA to contact, anthropomorphs, thunderbirds, turtles, southwestern Min. (15) & (16)

Hensler Site Dodge County Wisconsin. Spirals, Anthropomorphs, Thunderbird, and a Complex Geometric designs. (11) pg 397

Copper Harbor petroglyphs Controversial, Distinctive, single line style “Bear” and “Ship” petroglyphs along with several others. The “Ship” appears to be an Old World image, the “Bear” is a known Native American image. Bear, Hand and Man are very similar to “Munje” Petroglyphs of Dubuque Co., Iowa (23). (12) & (13)

J. Site and Local Description

The Upper Planting River Site is situated on a raised, exposed bedrock outcropping of Jacobsville Sandstone (see photo A), on a small tributary of the present day Pilgrim River.

During the original land survey of the 1850's Douglas Houghton referred to this river as "The Planting River" with Indian gardens being found at the mouth of the river.



Photo A

Jacobsville Sandstone is consistent, durable and workable and was used extensively as building stone both locally and for export, primarily in the late 1800's.

The Keweenaw Fault and the edge of the basalt bedrock formations are a short distance (approximately 300ft) to the west of the UPR site. The Keweenaw Fault, now difficult to detect at the surface, would have been a prominent geologic feature before vegetative recolonization of this area. The copper bearing formations with both modern and prehistoric mining activities are between 1 and 2 miles northwest of UPR. Before tree coverage this site would overlook Portage Lake and Canal to the southeast. A small nearly permanent creek flows to the east through the UPR. This site is along the northeast edge of present lawn and may have been subsurface until exposed during lawn construction. Soil in the general area is a glacial till comprised mostly of sand and sandstone pieces of varying sizes. Current vegetation cover is primarily a mature Oak forest at the site with residential lawn to the south and mixed forest regrowth over farm fields to the north.

K. Petroglyphs

The Five Line Petroglyph (Photos C1, C2 & C3) is deeply incised, wide, U-shaped (in cross section) and geometric. Photo C2 shows petroglyph snow filled. The Five Line petroglyph appears to be on raised bedrock, future excavation of surrounding soil to determine actual setting. In Photo C1 the three vertical incisions I call “rays” because they seem to radiate from a single position, above the petroglyph. The center “ray” is the deepest and widest, and extends over the horizontal rock face, to the vertical face, and points, northerly, to the rock cairn. The easterly, or furthest right, “ray” in the photo, is oriented north-south. The two parallel lines cut across the “rays” but not to their full depth. The circular hole to the upper right and other holes adjacent, may be a natural feature.



Photo C1



Photo C2

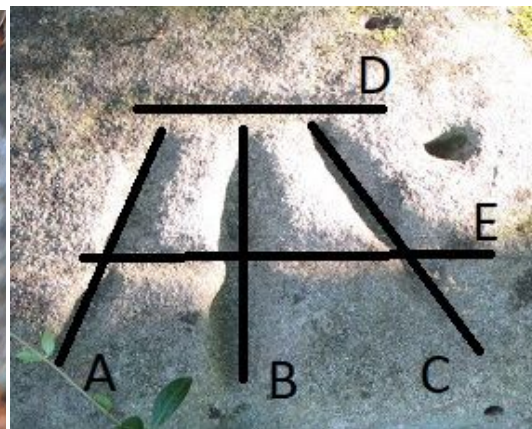


Photo C3

Table C

Line	Length (meters)	Width (meters)	Depth (meters)	Azimuth (MAG)
A	0.192	0.024	0.006	51
B	0.183	0.046	0.021	28
C	0.168	0.037	0.009	4
D	0.168	0.024	0.003	121
E	0.265	0.034	0.009	121

The T petroglyph is a narrow “V” in cross section and may have been made with metal scraper or chisel. (see Photo B1) This petroglyph differs from others at this site in that it appears to be scratched into the rock as opposed to other petroglyphs being pecked and ground smooth. The T petroglyph is likely on raised bedrock, but could also be on a sandstone boulder, future excavation will determine this.



Photo B1

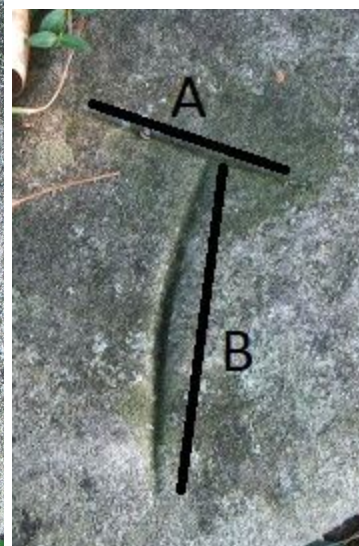


Photo B2

Table B

Line	Length (meters)	Width (meters)	Depth (meters)	Azimuth (MAG)
A	0.12	0.01	0.003	337
B	0.13	0.01	0.006	55

The “Bedrock Panel” is a series of nine major petroglyphs found linearly along approximately fifteen feet exposed bedrock. The southerly point of exposed Jacobsville Sandstone bedrock has several petroglyphs (see Photo E1 and E2). Starting at the southerly point are two wider Elliptical Grooves, much smaller than others found on site which may be due to erosion as they are in a more exposed location. Easterly of these two are three nearly parallel narrow grooves of varying length. These are found on the southerly facing aspect of bedrock at approximately forty-five degrees to the horizontal. These three become deeper, longer, and better defined going northeast, again likely due to erosion. Between these grooves is found an area of pecking of significant size. This may have been the beginning of an elliptical groove and possible cupule which was left unfinished.



Photo E1

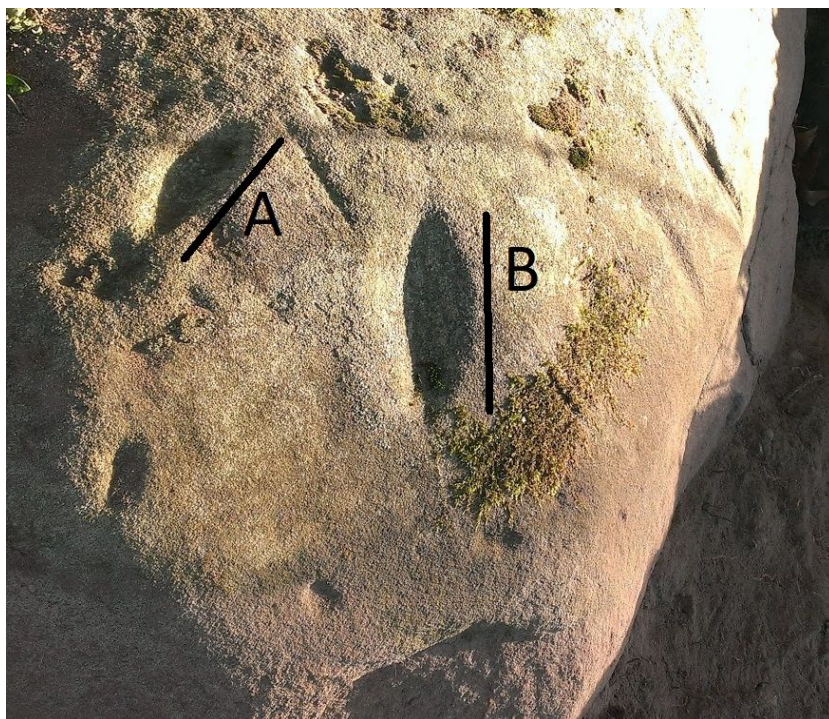


Photo E2



Photo F1



Photo F2

Between Petroglyphs C and G, there are a number of small dimples or depressions, one being quite deep, all of which might be natural.

The final petroglyph presently exposed on this panel is the “Exclamation Point” (see Photo F1). The “Exclamation Point” consists of a deep, smooth, Elliptical Groove in line with a deep pecked cupule and a shallower linear groove adjacent to and at about forty degree angle. This elliptical groove is similar to grooves found in the cairn (pg. 13) in sandstone boulders.

The Jasper/Quartz debitage chip (stone tool UPR08, see Photo UPR08A.) was found approximately 1.5 feet from the cupule and may be associated with the “Exclamation Point”.

Table EF

Label	Length (meters)	Width (meters)	Depth (meters)	Azimuth (MAG)
A	0.07	0.04	0.006	62
B	0.14	0.07	0.01	25
C	0.11	0.02	0.003	323
D	0.15	0.02	0.009	323
E	0.18	0.09	0.01	N/A
F	0.23	0.03	0.009	310
G	0.12	0.02	0.006	275
H	0.09	0.09	0.05	N/A
I	0.13	0.06	0.02	315

In addition to the Elliptical Grooves in the Bedrock Panel, six full Elliptical Grooves, and two partial grooves are found exposed on these boulders (see photo H2). Five of the grooves are of similar dimension (see table EG) and are found in relative proximity in the central area of the cairn. The sixth groove is the longest, widest, and shallowest groove and is found further downhill in the line of the tumbled down cairn boulders.



In Bedrock

On Boulders of Rock Cairn

Elliptical Grooves

Photo EG

Table EG

Elliptical Groove #	Length (meters)	Width (meters)	Depth (meters)
1	0.13	0.06	0.02
2	0.14	0.07	0.01
3	0.15	0.07	0.03
4	0.17	0.07	0.03
5	0.15	0.10	0.04
6	0.12	0.07	0.02
7	0.14	0.08	0.02
9	0.23	0.11	0.02
10	0.07	0.04	0.006

Note that Elliptical Groove 1 is part of the “Exclamation Point”, labelled “I” in Table EF, Elliptical Groove 10 is labelled as “A” in table EF and Photo F2, Elliptical Groove 2 is labelled as “B” in Table EF and Photo F2, and that Elliptical Groove 8 was not measured as it is only a partial, degraded due to weathering.

L. Tumbled Down Rock Cairn

Over 25 exposed Jacobsville Sandstone boulders make up the presently exposed portions of the now tumbled down cairn (see Photo H1 and I1). Many other sandstone faces are exposed at ground level surface, some may be bedrock, others boulders. Excavation or detailed GPR will help to determine this. This cairn appears to have been centered above the majority of Elliptical grooves and then tumbled down hill to the south east.



Photo H1



Photo H2



Photo I

M. Stone Artifacts

A number of worked stone artifacts have been found at the UPR site and other sites in the vicinity. The worked stone artifacts at the UPR site are found on both bedrock and in freestanding pieces. A future report will describe these tools in greater detail.

The most significant stone artifacts found by number are handstones (see photos UPR01, UPR02, UPR04A&B, UPR06, UPR15). These are not formally made tools, but rather strategically made, apparently from lake cobbles, therefore all have individual characteristics but have significant similarities. (22) pg 22

Most of these handstones are of dense, heavy, igneous or metamorphic rock. Often these tools have a blunted end and a “sharper” end. The blunted end is often at a shallow angle to perpendicular. Most have at least one “tabletop flat” surface with grooves or striations which are oriented along the long axis of the handstone. Many have corner edges some with striations. Evidence of usage includes negative scar marks where chips have been removed, some of which may have been intentionally placed to improve grip. Individual tools may indicate more specific usage. For example, UPR01 may be primarily a hammer and UPR04 primarily a smoother.

“Strategically designed manos are pecked or ground into specific shapes. Some are designed with *comfort features* such as *finger grips* (roughened areas to make smooth stone easier to hold) or *finger grooves* (depressions that make wide tools more comfortable to grip). Other manos have the nonworking surface configured to fit comfortably in the hand, a modification seen on manos sometimes referred to as ‘turtlebacks’”. (22) pg 103

The following photos represent some of these “Northern Handstones” featuring a prominent flat side with striations. Blunted end is to the left in UPR01, 2, 4 & 6 photos.



Photo UPR01



Photo UPR02



Photo UPR04A



Photo UPR04B (showing opposite face, "Turtleback"))



Photo UPR06



Photo UPR15

In addition to the petroglyphs on the bedrock and boulders, loose pieces of sandstone that seem to be shaped by people have also been found both at the UPR site and another site in Baraga County. Stone artifact UPR03 was found in proximity to handstones UPR01 and UPR02 (see map) and at the glacial till surface. This sandstone rock shows opposite concave and opposite convex and an unnatural appearance of symmetry.

Other artifacts recovered from the UPR site include a human modified agate and a chip of jasper/quartz debitage. The agate (UPR05. Photos A&B) has been ground and smoothed in two places and has the appearance (author's opinion) of a duck. This artifact was found in garden soil, leading to questions of its age.



Photo UPR05A



Photo UPR05B

The jasper/quartz chip (UPR08) is apparently debitage from a nodule used for chipped stone tools. This artifact was recovered during the 2015 excavation. This piece (The “Point”) has a basalt matrix on one side and is translucent quartz with red and yellow swirls on the other side, making this piece aesthetically pleasing. Photo UPR08B shows the “Bulb of Percussion” created from intentional human “flaking” of the jasper/quartz nodule. The “Point” was found approximately 1.5 feet from the cupule and may be associated with the “Exclamation Point”(see Photo F1).

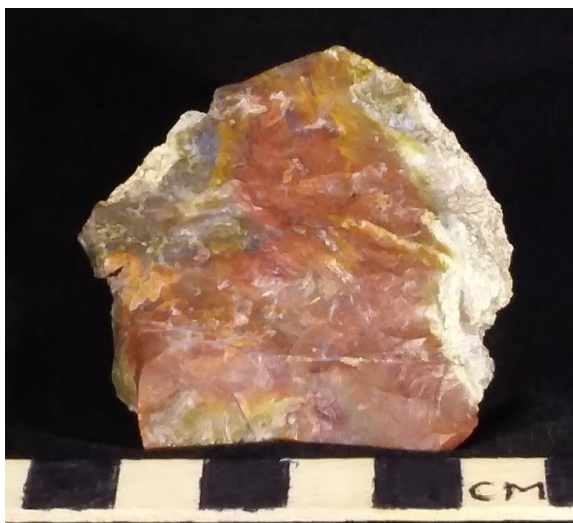


Photo UPR08A



Photo UPR08B

This author has recovered several similar “Northern Handstones” at a number of sites around the Copper Country and these will be the focus of a future report.

N. 2015 Excavation

On October 8th 2015 Betzi Praeger, Robin Mueller, Larry Furo, Bob Nemiroff, and Bob Wheeler conducted an investigation to expose more bedrock shown on the site plan. This excavation is approximately 20 feet along the bedrock, averaging one foot deep and 20 square feet in total area. All removed soil was sieved using a quarter inch mesh hardware cloth. All soil encountered was sandy or sandy gravel. Clean sandy loam was found adjacent to the rock face with sandy glacial till defining the major substrate soil. Sandstone cobbles are also present. Two possible artifacts were recovered. A probable handstone (UPR09) was recovered from the main body of the dig. A debitage flake (UPR08) was recovered in the cleft between a broken off piece of bedrock and the parent rock (See map). This jasper/quartz flake was found face down in a very clean sandy loam. This likely came from a quartz nodule that was used to knap flake stone material (Personal conversation with Dr. Bill Rose). This stone flake fits very nicely into the cupule of the “Exclamation Point” and was found approximately 1.5 feet away from the cupule. This jasper/quartz piece was described previously on page 22.

O. Ground Penetrating Radar Testing

In the fall of 2015, Jeremy Shannon, Assistant Professor of Geology at Michigan Technological University, and his Remote Sensing Class attempted and were unable to perform GPR testing at this site due to equipment failure. On the same day this party performed a Seismic Refraction Survey to determine soil depth to bedrock. The line shown on the map depicts where this test was performed, results showed consistent bedrock slope, between four and five feet of soil depth to bedrock. Professor Shannons Remote Sensing class returned in the fall of 2016 and successfully deployed GPR equipment which showed depth to bedrock at about 5 feet consistently over a 3 meter by 11 meter area as shown on the map.

P. Summary

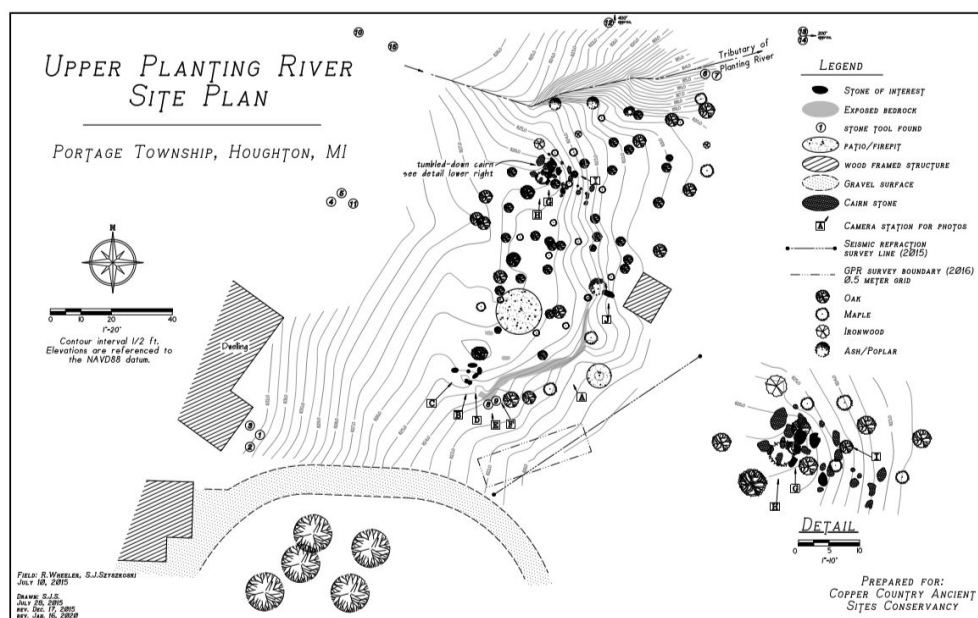
This report outlines evidence recovered that indicates use of this site in ancient times. On this site are over a dozen petroglyphs of unknown age both on exposed bedrock faces, and on long emplaced boulders, of a tumbled down cairn. A few of these petroglyphs have been found below the pre-existing ground surface.

A number of ground stone tools have been found here, clearly used by people, showing evidence of chipping, battering and abrasion. Also an agate with obvious grinding/polishing marks and a jasper/quartz piece of debitage showing breakage patterns indicating flaking. These artifacts were found while gardening, in the creek bed and in the scope of a small excavation in 2016, on this site.

This site is essentially intact and areas of likely in situ evidence are present. It is my goal to have this site professionally investigated.

Q. Site Plan

Steve Szyszkoski, Registered Professional Land Surveyor, prepared a site plan with topography and feature locations, using survey grade GPS and Nikon total station.



R. Acknowledgements

Thanks for support and encouragement from Betzi Praeger, Bob Nemiroff, Fred Rydholm, Tim Scarlett, Seth Depasqual and Peggy Hill. Thanks also to Leo Wheeler for helping me organize and edit this report.

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