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Elizabeth B. Garland
Western Michigan University

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Archaeological Survey of the Environs of 20CX65,
the Beaver Island Sun Circle, Charlevoix County, Michigan

AR #19

Elizabeth B. Garland

I. PROJECT BACKGROUND

In October of 1988 I was contacted by Terri Bussey of the Grand Rapids Inter-Tribal Council concerning the putative Sun Circle at Beaver Island. She came to my office at the University a few days later, bringing maps and photographs, and we discussed the site at some length. This comprised my first direct information about the site, my prior knowledge being confined to remarks by students who had seen stories in the Detroit press, and some conversation with professional colleagues at the Midwest Archaeological Conference at Urbana-Champaign a week or two earlier.

At Ms. Bussey's request I tentatively agreed to come to Beaver Island with a student field crew in early spring to carry out test excavation for the purpose of locating evidence of early historic or prehistoric activity in the vicinity of the Sun Circle. As a professional courtesy, I then wrote to Dr. Donald Heldman, Director of Archaeology, MISPC, whom I understood had carried out some limited excavation at the Sun Circle during the summer of 1988, in order to secure his agreement that I conduct more extensive testing. I also asked Dr. Heldman for information about any cultural materials he had found at or near the site. In a letter from Heldman to Garland, dated 6 December 1988, Dr. Heldman welcomed my plans to test excavate the presumed area of settlement near the Sun Circle (historically known as Peshawbestown), and provided information on his prior work, along with various interpretations of the Sun Circle. Heldman reported having excavated one 2 by 4 foot pit adjacent to and partially under the east side of the center stone in the Sun Circle. Using 1/4 inch mesh, he reported finding debitage in three strata: a black organically enriched layer

at the top, a grey loam below this; and a brown loam below the grey stratum. He stated in this letter that he had been unable to find charcoal in the top layer.

On January 24, 1989, I spoke by telephone with Dr. Earl Prah1 who had twice visited the site during the previous summer. Accompanied by Terri Bussey, he had examined a number of surface features in and near the Sun Circle. Prah1 stated that he excavated two 18 inch test squares, one 50 feet north and one 50 feet south of the center stone. He troweled out these tests and found nothing in either one.

Prah1 visited the site again shortly before Labor Day, 1988, accompanied by Dr. Charles Cleland. Cleland and Prah1 mapped the Sun Circle at this time, and placed several small test excavations in other areas. They redug Heldman's profile adjacent to the center stone, and concluded that the soil layers represented a podzol (Earl Prah1, personal communication). Prah1 and Cleland recovered no debitage or other evidence of human activity in their limited testing.

On February 1, 1989 I received from Earl Prah1 the lithic materials found by Heldman in his pit excavation near the center stone. I examined this material the following day and concluded that it is of wholly natural origin, consisting of spalls from patinated glacial chert pebbles and miscellaneous blocky fragments of chert lacking platforms.

Commentary to date concerning the Beaver Island Sun Circle, among archaeologists and in the press, has generated considerably more heat than light. As I informed Terri Bussey in October of 1988, my willingness to undertake test excavation would be narrowly focussed, with the following objectives:

1. Expanded test excavation in the vicinity of the Sun Circle seemed to be a first priority; in particular it would be useful to determine if prehistoric settlement had existed in the vicinity of the historic Ottawa village Peshawbestown, located near the Sun Circle.
2. The reported garden bed near the airport should be investigated.

3. I would be unable to do follow up work (if indicated) myself, due to prior commitments, but another archaeologist would perhaps do so.

II. FIELD WORK

On April 21, 1989 I went to Beaver Island with a crew of seven students from the Anthropology Department at WMU, who aggregate among them 11 seasons of archaeological field training. Several have had additional experience on contract archaeological surveys.

The field crew included:

Greg Walz, M.A. candidate
Lew Wissler, M.A. candidate
Brian DeRoo, M.A. candidate
Marc Custer, M.A. candidate
Dan Goatley, B.A.
Jeff Bonevich, Undergraduate
Karena Brown, Undergraduate

We conducted two days of field work on April 22-23. Living expenses and travel to and from Charlevoix were assumed by the Beaver Island Historical Society. All of us donated our time to this project.

We arrived on the Island at 5:00 p.m. on April 21. Between 6:00 and 7:00 p.m. Terri Bussey lead us on a tour of a garden bed south of the airport, accompanied by members of the Beaver Island Historical Society and a number of invited visitors with an interest in interpretation of this feature. On Saturday morning we saw the Sun Circle and Peshawbestown areas for the first time, with Terri Bussey this time leading a somewhat larger tour for a period of almost two hours.

In this account I will use certain descriptive terms for locations within the site area which are now conventional among the various interested parties, but without subscribing to their inferred functions (Figure 1).

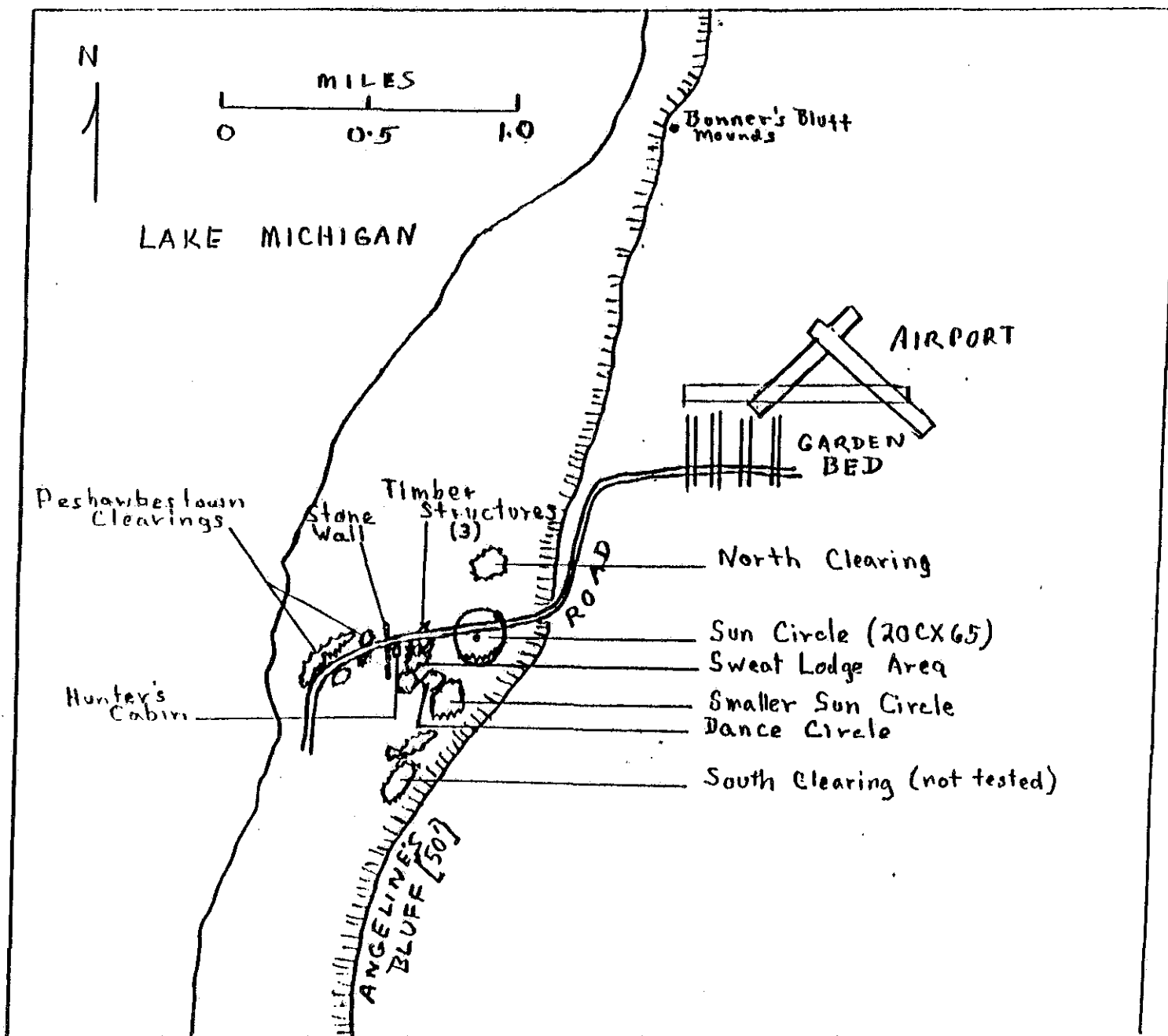


Figure 1. 20CX65 and Vicinity. Base map after Scherz et al(1988).
 Locations of clearings and other features are approximate.

Saturday, April 22

Clearing No. 1; Sweat Lodge area.

At 9:45 we began shovel testing by lining up at 5 pace intervals in a east-west row just south of the timbers on the west edge of the clearing. A hole of shovel width was excavated through the upper soil layers several inches into subsoil (B horizon). The test contents were turned out on the surface and troweled through. The loose soil then was returned to the pit. The excavators then moved forward 5 paces and repeated the test procedure. With 7 excavators we completed 9 rows, for a total of 63 shovel tests in this clearing.

The soil type at Clearing No. 1 and all other areas investigated in the immediate vicinity of 20CX65 is the Deer Park-Dune land association formed on undulating beach ridges and dunes (USDA 1974). The normal soil profile is a very dark grey A1 horizon overlying a lighter grey (leached) A2 zone of varying thickness. The B horizon is a brown sand. This is the same profile as was observed by Heldman in his excavation in the Sun Circle. The elevation at 20CX65 is 610 feet above sea level, which, allowing for some uplift, means that the landscape immediately below Angeline's Bluff dates to the Lake Nipissing stage of the Michigan-Huron basin (ca. 3000 B.C.).

In this clearing there are several piles about 1 meter high composed of large cobbles and boulders for which sweat lodge function has been suggested. We examined these and detected no evidence of fire blackening or cracking on any of the rocks. One of these piles is arranged in a crescentic shape with a depression about 1 meter in diameter and 50 cm deep within the arc of rocks. We excavated a small pit (ca. 50 x 100 cm) in this depression which had only a thin covering of lichen in the bottom and appeared to have been dug very recently. We recovered fragments of wood (see Table 1) and two possible fragments of fire cracked rock at a depth of 70 cm below ground surface (20 cm below the bottom of the depression). We speculated that the depression might have been dug as a hunting blind. There are numerous shotgun shells on the surface in this general area, although none were

observed at this particular location. Based upon superficial examination we can conclude nothing about the nature or function of these piles of rock other than that they are clearly man-made.

In addition to the materials summarized in Table 1, we recovered blocky fragments of chert in Clearing No. 1 at various locations; all of these appeared to be the result of natural fracture.

Table 1. Materials Recovered from shovel testing
in Clearing No. 1

<u>Location</u>	<u>Item</u>
Row 2 (vicinity of timbers on east side of clearing)	rim sherd of English tableware (probably a saucer); white with painted floral pattern and embossed floral rim design. Late 19th-early 20th century. sherds; white porcelain
Row 4	carbonized wood Birch (<i>Betula</i> spp.) 5 pieces/0.3 grams
Row 8	carbonized wood Pine (<i>Pinus</i> spp.) 1 piece/0.2 grams
Row 9	carbonized wood Pine (<i>Pinus</i> spp.) 2 pieces/1.0 grams
"Sweat Lodge" depression	2 possible fire-cracked rocks: 1 very light, weathered cortex fragment; 1 igneous spall unburned wood Northern white cedar (" <i>arborvitae</i> ") (<i>Thuja occidentalis</i>) 8 pieces/3.0 g carbonized wood resinous; unidentifiable 2 pieces/0.1 g

Clearing No. 2.

This clearing is located between the Sweat Lodge area and the Dance Circle. About 25 shovel tests were placed at 5 pace intervals; nothing was found.

Clearing No. 3; Dance Circle

We dug in rows west to east; about 35 shovel tests were placed at 5 pace intervals. A small concentration of charred wood in one test prompted us to screen the adjacent soil, but there were no associations. Small fragments of spruce and pine, some uncarbonized, were found at two other locations.

Five pieces of broken grayish-white local chert were recovered in row no. 4. The material is a very poor quality and all fragments are blocky. The small pieces appear to be natural. The largest piece might be a core fragment, since it is fractured from several directions. However, given the poor quality of the chert and the absence of any positively identified debitage in the area, cultural modification of this piece must be regarded as doubtful.

Clearing No. 4; Smaller Sun Circle

This is a larger clearing than the first three; a 10 pace shovel test interval was adopted. We moved from east to west, placing about 50 tests. In row 3, six pieces of carbonized beech (*Fagus spp*) weighing 1.0 grams were recovered.

Clearing # 5

This is a small, clearing located southwest of the second (smaller) Sun Circle. Sand ridges delimit the clearing along the east and west sides. Shovel testing was carried out at 5 pace intervals from north to south. Nothing was found.

South Clearing

This is a large, flat cleared area located south and east (toward Angeline's Bluff) from clearing No. 4. A brown blanket had been left on the ground near the middle of this clearing

shortly before our arrival; its significance, if any, was unclear to us. We did not test this clearing, which Terri Bussey informed us was south of the area of interest.

Sun Circle

At 2:30 Saturday afternoon we did some directed testing (at locations selected by Terri Bussey) within the large Sun Circle. Using a soil augur we first established a soil profile in an area believed to be undisturbed: Dark grey humus, light grey (A2) leached zone, brown (B horizon) grading to yellow sand to a depth of 67 cm below surface.

We were requested to test a low ridge about 2 m long, 1 m wide, and 20 cm high in the northeast quadrant of the circle. A series of these ridges is visible in aerial photographs and at least some of them are visible on the ground. Across the first ridge tested we encountered rock at 5-15 cm below surface in a number of probes. We then dug a shovel-wide trench across the center of this concentration of rounded gravel which ranged in size from small pebbles to large cobbles. In no respect was the rock sorted as to size or shape, as might be expected if the rock had been placed there by human agency. It looked like a natural beach deposit such as can be observed along the modern shoreline. At a depth of 30 cm we reached the bottom of the gravel. Probing below the gravel revealed undisturbed yellow subsoil to a depth of 60 cm.

Later comments by an observer to the effect that we had not dug deep enough (to encounter the presumed burial) led me to offer to open a deeper and wider excavation at this location the following day, but this offer was not accepted.

We then probed the next ridge to the northeast, encountering rock at varying depths below surface. Where the probe could be deeply inserted it revealed sterile yellow subsoil.

Some excavation and probing was also done at a small circular pile of rocks with a pine tree growing out of it near the outer perimeter of the circle in the north-northeast quadrant. What appeared to be flat rocks placed on the side of the "mound" were shown to be spalls off a large rock near the center. Probing was done on the western side, on the south side

near the center, and also at an angle under the large rock from west to east. In all cases undisturbed sterile yellow sand was encountered. There was no evidence of human activity, and this cluster of rocks could in my judgement be a natural deposit.

A fourth feature within the Sun Circle was also tested. Infra-red aerial photographs show a white circular area about 10 m north of the road in a northwest direction from the center stone. This circular area, about 3 m in diameter, proved to be a large ant colony; identification of which was confirmed in 5 augur probes. Light sand at the surface and the near-absence of vegetation due to soil movement evidently caused this spot to stand out in the infra-red photographs. We disturbed several smaller ant colonies with the same circular structure and lack of surface vegetation during testing along the Peshawbestown road the following day.

In my view the large rocks comprising the Sun Circle and the various clusters or lenses of rock located within it, rocks which are encountered at the surface and at different depths below the surface, can best be explained as natural shallow water and beach deposits pertaining to the former Lake Nipissing shoreline.

Clearing Number 6; the North Clearing

Following testing in the Sun Circle we were led to the clearing north of the Sun Circle by Terri Bussey, accompanied by Mike Petosky of Traverse City. The terrain here is very hummocky, characterized by elongate, generally oval ridges. One curving ridge about 10 meters long was probed in several places to a depth of 60 cm, each time showing a subsoil of undisturbed yellow sand. Several of the hummocks were probed with the same result.

Shovel testing was done on a 10 pace-grid and revealed much variation in soil texture. Some tests holes were very rocky, others revealed only sand. Nothing was recovered except 3 pieces (1.4 grams) of charred conifer bark near the surface in one shovel test.

Sunday, April 22

At 8:30 a.m. we began investigation of the garden bed located south of the airport in the SW 1/4 of Sec. 8 and the NW 1/4 of Sec. 17 of Peaine Township, at an elevation of 670 feet. This location is about 1 mile northeast of 20CX65 and is transected near its southern margin by the road that leads to Peshawbestown (Figure 1). The pattern is one of relatively narrow, flat north-south strips about 1.7 meters wide alternating with wider flat areas about 4.2 meters across. The furrows that delimit the "ridges" are about 12 inches in depth below surface.

This pattern of alternating wide and narrow strips separated by furrows is very regular, and extends by rough estimation about 250 meters in a north-south direction and a comparable distance east-west. Parts of the area are covered by aspen and scrubby low vegetation; parts are clear. We excavated two east-west profiles across the ridge and furrow pattern.

The first was excavated along the north side of the road adjacent to the drainage ditch. The profile at this location evidenced disturbance by ditch construction. A second profile was then started in the interior of the bed, while some of the crew began identification of the large burned out tree stumps in the area. It had been noted in aerial photographs that the furrows curved around stumps in one or two instances, and this was confirmed on the ground. Before the second trench was completed we observed some smaller rotted stumps of what appeared to be fruit trees in the narrow strips. Further examination revealed that these were apple trees and that indeed some of them near the eastern edge of the garden bed had been recently pruned. It was observed that the wide strips allowed growing room for the mature trees. The apple trees were planted in the narrow strips at an interval of about 7 meters, as measured in one location.

The second profile revealed a layer of humus about 10 cm thick overlying yellowish brown subsoil. The humus layer was even in thickness across the entire profile of one wide

strip and two narrow ridges bounded by furrows. The soil association is Kalkaska-Leelanau (0-6 percent slopes). This soil has low fertility and is poorly suited to row crops, and in particular is listed as unsuitable for corn agriculture (USDA 1974: 54, 58).

The observation that furrows curve around prominent stumps which are only partially rotted out and which retain clear evidence of burning suggest that the furrows were dug by a plow in the not too distant past. The "function" of the furrows is not altogether clear. It is unlikely to be for moisture drainage in these sandy soils. Frost drainage is a possibility, but is perhaps unnecessary for apple cultivation in this climate. The furrows may simply serve the purpose of keeping the rows straight. The wide strips between rows would provide growing room and allow for carts or other vehicles to enter the orchard for removing fruit. Since returning from Beaver Island I have noted apple orchards in southwestern Michigan laid out in exactly this same pattern of alternating wide and narrow strips, the trees planted in the narrow strips bounded by continuous furrows.

At 10:30 Sunday morning we returned to Peshawbestown to continue test excavation. We examined a stone wall (Figure 1) composed of large cobbles and boulders about 1.5 meters high and 1.5 meters across at the base, which extends approximately 15 meters north of the road and an undetermined distance (in excess of 30 meters) into the woods to the south. The road apparently cut through this wall, resulting in piling up stones on either side in gate-like fashion. Shovel testing south of the road revealed buried barbed wire on the west side of the wall. Barbed wire and a post with both square cut common nails and wire nails was found along the wall segment on the north side of the road. The age and purpose of this wall is unclear. It is possible that the posts and barbed wire are later additions. A much deteriorated tin can with a rolled seam, possibly a paint can, was also found near the wall south of the road. It probably post-dates 1920.

At 11:15 we began shovel testing the clearings along the north side of the Peshawbestown road located west of the wall. These clearings are interspersed with trees and

shrubs. Shovel testing was not very regular due to vegetation, but a 5 pace interval was attempted. Clay pigeons and shotgun shells were numerous on the surface. About 40 shovel tests were dug and nothing was found.

At 11:45 we continued down the Peshawbestown road to the beach at McFadden Point, where we ate our lunch, observed the beautiful landscape/seascape and pondered what we had seen during the previous day and a half.

Our observations at McFadden Point provided us with some highly relevant illustrations of uniformitarian geological processes. Along the modern beach ridge are stretches of sand interspersed with cobble pavements including occasional very large boulders. Underwater near the present shoreline many large, partially buried, widely spaced boulders could be seen to form any geometric pattern desired. These formations are extremely similar to the Sun Circles and to rock concentrations observed by us within the large Sun Circle. Behind the modern beach ridge is a wide swale containing numerous hummocks of the same size and shape and spaced at the same interval as those seen in the North Clearing (No. 6) the previous day. Shoreline geological processes were the same in Nipissing times as they are today.

At 1:00 p.m. we resumed shovel testing along the Peshawbestown road. We tested cleared areas along the north side of the road down to a point where the road turns south and descends down the bluff. We then crossed to the south side and tested a clearing about 30 by 30 meters, fairly flat and roughly circular. This clearing, like those on the north side, were lichen covered dune sands interspersed with juniper and spruce trees. None of the clearings exhibited evidence of disturbance. Nothing whatever was found.

We then returned to the open spot where our vehicle had been parked during lunch the day before. We began to test this area located between the road and our first tests made in Clearing No. 1. The remains of two structures represented by fallen timbers are present on each side of this area. The first two shovel tests, placed on the east side of the clearing

two meters from the road and one meter apart both produced cultural material; window glass in test no. 1; a leather shoe upper and a trap chain in good condition in test no. 2. These materials, clearly of relatively recent origin, were returned to their respective test holes.

It is possible that in the future an archaeologist will undertake excavation of historically known late 19th–early 20th century Peshawbestown, to which these materials pertain. The only definite cultural materials found in two days of testing in the vicinity of 20CX65 were in immediate proximity to these two timber structures. Our objective was not to excavate these known sites, but to look for evidence of earlier and possibly more extensive settlement. We did not find such evidence.

At 2:00 p.m. Sunday, we went to the Bonner's Bluff Mound site located in the NW 1/4, NW 1/4, NW 1/4 of Section 8, Peaine Township. This is Fitting's (1973) site No. 6. We walked the cultivated field near the mounds but found no artifacts or "good" flakes amidst the abundant broken chert. The mounds themselves appear to be natural features, although Fitting's description of the now overgrown south profile leaves ample room for doubt.

At 2:45 p.m. we returned to the CMU Biological Station to prepare for a 5 o'clock flight to Charlevoix.

III. CONCLUSIONS AND RECOMMENDATIONS

The archaeological survey conducted in the environs of 20CX65 on Beaver Island permits the following conclusions:

1. We were unable to demonstrate the existence of historic Peshawbestown in areas outside of the immediate vicinity of the extant fallen timbers, which were observed in 3 locations along the road west of the Sun Circle. We did not test next to the contemporary hunter's cabin, where one or two additional structures from the historic village might have been located. However, we conducted extensive testing in clearings

of purported residential settlement on both sides of the Peshawbestown road and found no evidence whatever of structures or of earlier historic or prehistoric occupation or activity. As detailed above, we also tested all the clearings of purported ceremonial function and several additional cleared areas south of the Sun Circle without finding a single piece of convincing evidence for human activity of any kind. The fragments of carbonized wood, all from species of trees presently growing in the area, could be the result of intentional clearing or of natural fires. In Clearing No. 1 at Peshawbestown the carbonized wood fragments probably relate to the historic village. No camp debris, modern or ancient, accompanied any of these occurrences of burned wood. The entire ground surface examined by us over the two day period was remarkably free of debris of any kind, with the exception of shotgun shells and clay pigeons which were seen principally along the Peshawbestown road.

2. The areas tested within the Sun Circle and the North Clearing produced no evidence of human disturbance or activity of any kind. Natural geological processes could, in my opinion, account for all the features examined, including the Sun Circles themselves. Large, scattered partially buried boulders occur in many wooded areas in the Nipissing beach formations near 20CX65 as well as on the present shoreline of Lake Michigan.
3. The piles of rocks in Clearing No. 1, and the stone wall with associated posts and barbed wire clearly are cultural features. The wall may have had additional fence components forming an enclosure; this possibility was not investigated. The purpose of the piles of rocks is unknown. While it is possible that they were placed there for use in sweat purification ritual, our limited testing did not provide evidence for such activity in this area.
4. The garden bed south of the airport is an apple orchard. We concluded that the furrows were made with a plow, based principally upon the observation of furrows

curving around stumps, suggestive of plowing. No large stumps were observed in the furrows. The soils at this location are not suited to corn agriculture. James Strang's account of garden plots on Beaver Island (cited in Fitting 1973:8) raises the possibility of 17th century native or colonial agriculture on the island, something which is as yet undemonstrated. A Mississippian hoe of non-local(?), tabular chert is in the possession of the Historical Society. This artifact is without provenience, having been found in the basement of a house after the owner's death (personal communication, Alvin LaFreniere). The hoe was probably carried to Beaver Island; when and by whom is unknown.

Finally, I would like to make some recommendations for future archaeological study on Beaver Island. As demonstrated by Jim Fitting's 1973 survey report, there is much of archaeological interest on the Island. While we were there, Fitting's site No. 4 was relocated and potsherds and lithics were recovered. We observed a rim possibly from a Juntunen phase collared vessel, dating A.D. 1200-1400 (McPherron 1967), and examples of Bois Blanc and Norwood chert, which serve to relate this site both to the Straits area and to the Norwood chert source on the mainland opposite Beaver Island.

I find it interesting that all of Fitting's ceramic sites are on the east side of the island, in the direction of major interaction with the mainland. Is it possible that proto-historic sites were also located on the east side, and that settlement on the west side, such as at historic Peshawbestown, were in response to dislocation caused by colonial patterns of settlement? This could explain why no evidence of an earlier or larger Peshawbestown was found in our survey. It is noteworthy also that the General Land Office surveyor (records in possession of the Beaver Island Historical Society) noted an Indian village and corn field at the northwestern tip of the Island.

It is evident that patterns of prehistoric and historic settlement on Beaver Island need to be studied on an island-wide basis. A site location survey employing a stratified sampling procedure based on soil type and topography might be very informative. The native people of Beaver Island interacted still more widely within the Upper Great Lakes region, which was characterized by major cultural change particularly at the interface of history and prehistory in the 17th century, and in earlier and later times as well.

The major immediate threat to archaeological resources within the area surveyed by us is the planned widening of the Peshawbestown Road which will impact the historic village house sites west of 20CX65. It is hoped that archaeologists from Central Michigan University might consider conducting field work on Beaver Island. CMU's fine Biological Station on the island might serve as a major inducement for such an undertaking.

Acknowledgements

I would like to thank the Beaver Island Historical Society, in particular, Shirley Gladish and Alvin LaFreniere, for their cordial reception and support while on the island. Although the results of our work were preponderantly negative, we nonetheless value the opportunity for first hand assessment of the Peshawbestown area.

I am grateful to Brian DeRoo for identification of the botanical remains, and to Lee Ann Claussen for typing this report. Finally, I thank Terri Bussey for her encouragement to come to Beaver Island. Her deep and abiding interest in Native American history and prehistory of Michigan will continue to be a positive factor in stimulating others to seek answers to the complex and sometimes intractable problems encountered in study of the non-literate past.

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