CHAPTER 2

Continuing Investigations at the Crescent Bay Hunt Club Site (47Je904),
Jefferson County, Wisconsin

by Robert J. Jeske, Kathleen M. Foley Winkler, and Louise C. Lambert

Introduction

The Crescent Bay Hunt Club site (47Je904) is on the property of the Crescent Bay Hunt Club, which is located in Sumner Township of southwestern Jefferson County. The club owns approximately 140 acres of land with frontage along Lake Koshkonong (Figures 2.1 and 2.2). The legal description is the W 1/2 of NE 1/4 and the s 1/2 of SW 1/4 of NE 1/4 of Section 19, and in an irregular portion of the SW 1/4 of NW 1/4 of Section 20, Township 5 North, Range 13 East. With the exception of a few small lawns and cultivated areas, the property is in an undeveloped state with many forested stands, scrub brush, swamp, and beach. Four artificial ponds exist on the property.

The Crescent Bay Hunt Club site sits on top of a ridge that runs parallel to the western shore of Lake Koshkonong and is one of a large number of Oneota sites in the region (Overstreet 1978). The ridge is till-covered limestone bedrock that rises approximately 8 meters above the lower wetlands that lead to the Lake 180 meters to the east. Hanson (1996) notes that the area was ideally suited to prehistoric habitation due to the fact that the property is the “first extensive high ground to the west of the confluence of [Koshkonong] creek with Lake Koshkonong” and would be a good location for those
Figure 2.1 Location of Crescent Bay Hunt Club.
Figure 2.2  Current Environment of Crescent Bay Hunt Club.
seeking to “utilize wetland resources in conjunction with resources of Lake Koshkonong.”

**Previous Research**

Stout and Skavlem (1908), in their research of prehistoric habitation around Lake Koshkonong, documented a site which may be what is now known as the Crescent Bay Hunt Club site. Skavlem described several village sites, filled with pottery and fire cracked rock, and surrounded by remnants of Native American corn fields. Their description is verbal and not supported with a map, however, and there are a number of known Oneota sites in the vicinity. Archival work by the Wisconsin Historical Society, however, indicates that Stout and Skavlem’s description is likely the first known report of the site (Amy Roseborough, personal communication 2003).

In 1968, the University of Wisconsin-Madison conducted excavations at the club under the direction of David Baerreis, as part of a summer field session and fall semester introductory level archaeology course (Gibbon, n.d.). The weekend excavations recovered an Oneota house and several related features designated as JE244. The excavation recovered pottery, flakes, groundstone tools, bone, and shell as well as other materials (Gibbon n.d.). Guy Gibbon, a UW-Madison graduate student, was given the task of writing up the notes and basic data description (Gibbon, personal communication 1998). Although detailed maps of individual features and the house exist, no comprehensive site map showing the location of the excavation units in relation to a permanent marker survived, if one was ever produced. However, Gibbon’s typed notes,
In 1995, UW-Milwaukee personnel conducted survey on the property of the Hunt Club as part of SEWAP’s investigations in Region 9, and with the goal of producing a National Register of Historic Places nomination (Hanson 1996). A pedestrian survey of a small strip of cultivated field yielded Oneota ceramics and lithic material in an area believed to coincide with the location of the 1968 UW Madison excavations. This site was designated RO-7, and was recorded in the site files as 47Je904. No nomination was produced for the site and no further work was conducted until 1998.

In 1998 personnel from UWM, under the direction of Robert J. Jeske, returned to the field surveyed in 1995. The first goal of the 1998 project was to delineate the boundaries of the site. The 1968 excavations and 1995 survey had conducted research only in what had once been a cultivated field. A large strip of pine trees and scrub brush immediately north of Je904 had not been investigated by either research party. Our expectation was that cultural material from Je904 would continue north into these woods.

The second goal of the survey portion of the 1998 project was to ascertain whether Je904 and another previously recorded site, 47Je846 (Schmeling Knoll), were the same site or two distinct sites. The area of woods surveyed is located on a ridge on the western strip of the Hunt Club property and is approximately 150 m wide (north to south) and 300
m long (east to west) (Figure 2.2). The Schmeling site is located in a field north of the woods, and is recorded as an unknown prehistoric site in the state site files.

The 1998 survey was a shovel test survey of the eastern-most 220 m of the woods. The wooded ridge to the east of Je904 was not surveyed. Shovel probe survey was carried out along a 10 m grid, with probes being placed 10 m apart along transects spaced 10 m apart (Figure 2.3). Approximately 15 probes were placed along each of the 22 transects.

Each probe was approximately 35 cm in diameter and was dug to a minimum depth of 40 cm. Soil horizons and depths were recorded including color, texture and consistency. All soil from the probe was screened through 1/4 inch (6.3 mm) mesh screen to recover cultural materials. The presence of cultural material was recorded on forms, positive probes (i.e., those with cultural material) were marked with survey flags and plotted on sketch maps, and the materials collected. The materials were taken to the University of Wisconsin-Milwaukee Archaeological Laboratory for cleaning, analysis and curation.

The distribution of stone tools, debris and ceramics suggested that the site continued into the woods north of Je904 for approximately 130 meters, and west approximately 70 meters. Two distinct clusters of ceramic sherds in the southeast portion of the woods were separated by a cluster of negative probes. These clusters were approximately 40 meters north and northwest of the house located in 1968 and 1998. Altogether, it
appeared from the ceramics that the site of Je904 may be a small hamlet, composed of several houses around a plaza.

Human remains were discovered in one shovel probe, when cranial fragments and teeth were found in the screened material. The Burial Sites Office was notified immediately after the discovery. When the office was informed that shovel shaped incisors were recovered from the shovel probe, we were instructed to re-inter the remains into the shovel probe without any analysis or description. We complied with this directive.

In 2000, we returned to the woods to finish survey. Eleven survey transects were placed at 10 meter intervals immediately west of the 1998 surveyed area to complete coverage of the Hunt Club property north of the known site. A total of two pieces of cultural material, chert flakes, was recovered from this portion of the site. The surveys clearly indicate the western and northern extent of the site.

1998 Excavations

The site datum (500N, 500E) was placed in the woods due east of the cleared field where excavations were to take place. Once the datum was established, a block of 2 x 2 meter excavation units were shot in with a transit. A center line (500N) was shot across the cleared field, and starting 20 m west of the datum, stakes were placed every 2 m. Excavation units shared the center line and alternated on either side of it, forming a row of units 4 m wide and 16 m long in a checkerboard pattern. These units were given the
following designation: Unit 98-XX, where XX represents the unit number (e.g., Unit 98-03). The reason for this designation was to differentiate the 1998 units from those excavated in 1968, particularly if those units were re-located. A total of 10 2 x 2 m and a single 1 x 2 m units was excavated in 1998.

The plowzone in each unit was designated as Level 00 and was excavated in 10 cm increments. Each 10 cm block was removed by shovel-skimming and troweling. All soil was screened through 1/4 inch (6.3 mm) mesh screen. All cultural material recovered in the screen was collected, bagged and taken to the University of Wisconsin-Milwaukee Archaeology Laboratory for cleaning, analysis, tabulation, and curation. All material recovered in situ was handled in the same manner. The 00 level ended at the bottom of the plowzone.

After cleaning the floor of the units at the bottom of the plowzone, postholes and features were revealed in seven units. With the exception of trenches for profiling features and postholes, no excavation of Level 01 occurred. Unit 98-10 was the exception to this procedure. The sod and humus on the edge of the woods was called Level 00. Excavation was then carried out in arbitrary 10 cm levels. Excavation of the unit ceased at the top of Level 04.

A plan view, or map, was made of each unit, including soil stains, features, postholes, rocks and artifacts in situ. Also recorded was the top and bottom depth of each level, soil descriptions including color, texture, consistency and pH, and distribution of artifacts.
When excavation ceased, all four walls of each unit were profiled and the soils from each noticeable horizon and stain were similarly described.

Features and postholes were also excavated. First, a profile trench was demarcated so as to bisect the feature or posthole. The general soil matrix in the feature trench was removed by trowel in 10 cm levels and screened. Any material recovered was added to the general debris bag for that level. The half of the feature included within the profile trench was then removed and bagged as a soil sample. This process was repeated until the entire feature or posthole could be seen in profile. The trench wall with the feature was profiled and photographed. Then the remaining portion of the feature or posthole was carefully removed with trowel and collected as a soil sample. Another set of photographs was taken with the feature basined out.

In addition to features and postholes, 10 liter soil samples were collected during excavation. These samples included samples of different soil horizons. All of these soil samples were returned to the University of Wisconsin-Milwaukee Archaeology Laboratory for flotation analysis. In this process, individual bags of soil were placed into a flotation tank with water continuously flowing through it. The heavy fraction (materials such as stones, bones, flakes and pottery) settle in a fine screen in the bottom of the tank, while the light fraction (materials such as carbon, nuts and seeds) float to the top and wash out into a different fine screen. These materials are dried for several days and then bagged according to provenience. Additional soils analysis was conducted by Jesse E. Rawling 3rd (1998).
Results of 1998 Excavations

A highly important aspect of the work conducted at the Crescent Bay Hunt Club in 1998 is that the summer’s excavation relocated the 1968 excavations at the Hunt Club including the same house that was documented by Gibbon (Figures 2.5 and 2.6). A relatively small amount of lithic material was recovered from the excavations in 1998. A total of 41 chipped stone tools, 298 flakes, 119 nonflake debitage, 50 pieces of fire cracked rock compose the lithic assemblage. Most of the hafted bifaces are Madison Triangular points. A total of 23 rim sherds and 2701 other prehistoric sherds were recovered from the 1998 excavations. Sherds were almost entirely shell tempered and plain, with a small minority of decorated ware. Incising, stamping, possible negative painting and possible red-slippering are exhibited by the decorated sherds.

Altogether, the 1998 excavations provided a strong warrant (and incentive) to return for further work. The natural research plan was to investigate the concentrations of artifacts shown in the shovel probe distributions.

2000 Excavations at Crescent Bay Hunt Club

Once satisfied that the west and north boundary of the site was securely located, locations for excavation units were chosen. The initial plan was to place the units directly on the locations of positive shovel probes from 1998. This plan was largely successful, with a few complications.
First we had to relocate the site datum and the positive shovel probes. This was accomplished with a metal detector and visual location of orange survey flags that we had left in our positive probes. The final hurdle was to locate our squares within the concentration of flags within the woods. This step was more difficult. A number of the flags were missing--probably picked up by people wandering through the woods over the course of the previous two years. Nonetheless, enough were left standing in their holes to make a strong inference about the location of the ceramic sherd concentrations.

A much greater problem involved the nature of the woods. The woods contain trees. Many of these trees were inconveniently located and had interfered with the ability of the 1998 survey crew to place shovel probes precisely in 10 m increments. The locations of the probes were generally quite close--usually within a meter or less of their idealized location plotted on the maps. What became more difficult was finding an area without trees near a positive probe that was at least 4 x 4 m in size. However, after some scouting and planning, we set our units up in a relatively compact area within the eastern concentration of ceramic bearing probes. Since we were interested in matching up the units with positive probes, the units do not fall directly on our preconfigured grid starting from 500 N, 500 E. A total of 10 2 x 2 m squares were defined and excavated (Figures 2.3 and 2.4).

The units were numbered sequentially, and designated with the prefix 00, to differentiate 2000 units from 1998 or 1968 units. The southwest corner of each square was then shot in using a transit. All measurements within the unit were taken from the
southwest nail, with depth measured by a datum nail directly behind the southwest corner nail.

Units were dug in natural levels, beginning with level 00, or humus level. Each level was subsequently dug until a new soil level was reached. However, excavators stopped and cleaned off floors and walls at 10 cm intervals so that notes could be taken and the units inspected for upcoming soil changes or any soil anomalies that might be apparent. All materials were screened through 6.3 mm hardware mesh. All cultural materials recovered from the screens were brought back to the laboratory for cleaning and analysis.
Figure 2.3  Location of Crescent Bay Hunt Club 1998/200 Excavation units.
Figure 2.4 Features and units, 2000.
When soil anomalies were defined, they were excavated as separate areas, until they disappeared or were defined well enough to be designated features. Features were excavated as described for the 1998 excavations. All feature fill was taken as a flotation sample.

The pine woods had been cultivated as late as the 1920s, but the exact date of the tree-planting is unknown. The Hunt Club purchased the property in 1940, and the woods were already planted. Members of the club suggested that the area had been in food crop cultivation until shortly before the purchase. In any event, we knew to expect a plowzone reworked into an A horizon. Indeed, some wall profiles do not differ radically from what one expects in an undisturbed A horizon, but others clearly indicate plowing and other disturbance.

Results of Fieldwork

Ten 2 x 2 m units were excavated, yielding 51 features and one burial (Figure 2.4). Due to the high number of features uncovered, especially those in the last days of scheduled excavation, not all 10 were completely excavated to sterile soil. They were, however, filled in. These units were uncovered in the 2002 field season and completed.

Features

Posts A total of 51 cultural features and one burial feature were exposed during the course of excavations. Of these some 35 are probable or possible postmolds, although some of these may be shallow basins. Several of these appear to be deep, conical post
pits. Others are straight or slanted narrow, tapering postmolds. These often have limestone chunks, apparently for chinking the post into place.

**Threshing pits** Five features are rectangular or subrectangular in plan view, straight walled and sided, and are range from 30-40 cm below the A/Ap horizon. The original depth of these may have been as much as 75 cm below ground surface. It is suspected that these may be related to features identified as wild rice threshing pits (Stout and Skavlem 1900).

**Basins** Three deep, circular basins were discovered. A number of small, circular basins, which may have been the very bottoms of medium size posts were recovered. In addition, two basins, one with granitic rock and one with limestone, were profiled in the walls of Units 00-4 and 00-5 respectively.

**Wall trenches** Three features are interpreted now as wall trenches. Feature 00-16, the trench in Unit 00-08 is a straight trough, 15 cm deep (although its original depth from ground surface would have been circa 50 cm). It is oriented roughly 23 degrees east of north, and lines up neatly with a similar feature (F00-42) in Unit 00-09--approximately 10 ms to the northeast. The 2002 excavations show that F00-16 and 42 are the same trench.

**Burials** A single burial, B00-01, was encountered at the bottom of F00-15. Portions of human crania and three teeth were recovered while cleaning the base of the deep
storage pit. Since the discovery occurred during the last days of recording the site prior to backfilling for the year, after consultation with the State Burial Office, the remains were left in place and we refilled the unit. Since long-term research goals required re-excavation of the unit in the future, we planned on complete recordation, in accordance to Wisconsin statute, in the 2002 field season.

**2002 Shovel Test Survey Results**—by Tim Dahlen and Robert J. Jeske

Data from the 1998 shovel probe survey at Crescent Bay Hunt Club revealed the presence of a “large, relatively intact late prehistoric site with clearly defined boundaries” (Jeske 1998:43). In 2000, excavation units were situated near positive probes located during the 1998 survey. Because the eastern-most 1998 transects yielded the greatest abundance of cultural material, it was determined that “the wooded slope immediately east of the surveyed area should be surveyed” (Jeske 1998:44) to determine site boundaries. As a result, this area received attention by the 2002 University of Wisconsin-Milwaukee field school students and staff.

**Shovel Probe Survey 2002**

The 2002 shovel probe transects were located immediately to the east and southeast of the 1998 and 2000 surveys (Figure 2.5). The earlier surveys began 10 ms north and west of the site datum (500N, 500E), with transects running east to west. In contrast, transects 1 to 13 of the 2002 survey ran south to north, with Transect 1, Probe 1 bordering the site datum. With this positioning, the first probe of each transect was 10 m
Figure 2.5 Location of Crescent Bay Hunt Club shovel probes transects.
east of the earlier survey making the combined surveyed area continuous. In addition, transects 14 thru 20 continued immediately south of Transect 1.

Following the methods used in the earlier surveys, transects and individual shovel probes were spaced at 10 ms. Transects contained anywhere from two to six shovel probes, contingent on the amount of flat surface along the edge of the ridge. Probes were approximately 35 cm in diameter and barring any physical constraints (rocks, roots, etc.) were dug to a minimum depth of 40 cm. Profiles of each probe were taken, noting the color, texture and consistency of all visible soil horizons. Soil removed from each probe was screened using 6.3 mm mesh screen. Positive probes were noted and recovered materials were taken to the University of Wisconsin-Milwaukee Archaeological Laboratory for cleaning (cf. Jeske 2000:8). Materials were then separated by kind, counted and weighed.

Although no statistically based spatial analysis has been done, impressionistically, three small clusters of cultural material can be seen in the 2002 surveyed area. Two of these are immediately east of the 1998 transects, and the other is southeast of this area (Figure 2.6), parallel to the open field. The largest of these clusters creates a half circle shape starting at Transect 4, Probe 1, bulging in the middle around Transects 8 and 9, Probes 4, and tapering off at Transect 12, Probe 1. Cluster 2 runs diagonally from Transect 1, Probe 1 to Transect 5, Probe 4. A final cluster runs parallel to the open field, creating a rectangular shape from Transect 14, Probes 2-4 to Transect 17, Probes 2-4.
Figure 2.6  Location of Crescent Bay Hunt Club positive shovel probes.
In most cases there is at least a 10 m area between the last positive shovel probe in a transect and the steep bank. Cultural materials also become less prevalent in the southern-most transects. Overall, 47 of the 87 shovel probes (54%) tested positive for cultural materials.

**Materials Recovered**

Lithic materials (tools, flakes, cores, and debris) follow roughly the same distribution pattern as is found in the general positive probe assemblage. Major clusters of lithic materials coincide with the general clusters already mentioned. A total of 36 of the 47 positive shovel probes (77%) yielded lithic materials (Figure 2.7).

Ceramic materials (Figure 2.8) were less abundant in the shovel probes but were by no means rare. Sixteen of the 47 positive shovel probes (34%) produced ceramic materials. However, it is clear from the figure that ceramics were much more concentrated in the northern portion of the surveyed area. The area to the south sees a sharp decline in the percentage of probes that yielded ceramics. In fact, only two probes south of the original 1968 excavation area yielded ceramics. None of the sherds collected from the 2002 probes had evident rim sections or decorative markings on them. When temper was identifiable it was universally shell.
Figure 2.7 Distribution of lithics, 2002 shovel probes.
Figure 2.8  Distribution of ceramics, 2002 shovel probes.
Faunal remains were recovered from 11 of the 47 positive shovel probes (23%) (Figure 2.9). With the exception of an unidentified tooth recovered from Transect 5, Probe 4, only one shovel probe yielded any faunal remains other than bone. In addition to bone, Transect 8, Probe 1 produced a small amount of mussel shell and fish scales. This same probe also generated 0.7 grams of charcoal, as well as historic glass and iron. One other probe, Transect 7, Probe 1, contained 13 bone fragments. Eight of these were burnt. In addition, a 0.1 gram piece of copper was recovered from this probe.

Only two others, three in all (not including T7-P7), of the 47 positive probes (6%) produced historic materials (Figure 2.10). Each of these yielded one artifact apiece—a small piece of iron and a small piece of clear glass. “The low density of historic items as well as no observable standing architecture suggests that there was no historic structure in the survey area, and that the materials could have easily been deposited by Hunt Club members and farmers” (Jeske 1998:43).
Figure 2.9  Distribution of faunal material, 2002 shovel probes.
Figure 2.10  Distribution of historic material, 2002 shovel probes.
Spatial Distribution of Positive Shovel Probes

The shovel probes at Crescent Bay Hunt Club provide good evidence for the site boundaries and for the distribution of materials within the site. Viewed as a whole, the site’s boundaries appear to be clear. The steep bank on the east to northeast side of the site is one obvious boundary. The combined 1995 through 2000 shovel probe data indicate the extent of the western, northern and southern limits of the site.

Although no statistical tests have been conducted, the spatial distribution suggests that the site contains internal structure, i.e., positive shovel probes seem to be clustered. The first cluster is the house and features recovered in the 1968/1998 excavations. The second cluster consists of positive shovel probes to the north and east of the house.

Transect 8, Probe 1, which yielded the greatest variety of materials (ceramics, flakes, bone, charcoal, fish scale, mussel shell, historic glass and iron) lies near the center of this large cluster. A third cluster is north and west of the house. Finally, a fourth cluster appears to the south and east of the house.

A somewhat different pattern develops when just the ceramics from both surveys are examined (Figure 2.11). Four clusters are discernable; however, the southeast cluster is much more diffuse. Only future excavation work will tell us exactly how the differences in material distribution relate to activity areas, intensity of occupation, site function and other aspects of spatial segregation in village sites.
Figure 2.11  Distribution of ceramics material, 1998-2002 shovel probes.
2002 Excavations

In June and July of 2002, the University of Wisconsin Archaeological Field School conducted four weeks of excavations at the Crescent Bay Hunt Club. A total of 23 undergraduate and graduate students took part in the excavations. These students worked under the direction of Robert J. Jeske, with the assistance of field supervisors Linda Naunapper, Chrisie Hunter, and Jody Clauter. The primary goal of the block excavation was to recover spatial information on site structure. In particular we were interested in finding out if the wall trenches discovered in units 00-08 and 00-09 in 2000 were, in fact, a single palisade wall trench.

A group of four units from the 2000 excavation, 00-07, 00-08, 00-09, and 00-10 were relocated and re-excavated to their original depths. A series of new 2 x 2 m units (02-01, 02, 03, 04, 08, 09, 10, 11 and 15) plus several small areas to connect units, were placed adjacent to and around these units for form a contiguous block excavation (Figures 2.12, 2.13). In addition, three 2 x 2 m units (02-05, 02-06, and 02-07) were placed near 2002 Shovel Probe 7, 1. which had yielded a large quantity of faunal remains, ceramics, lithics, and a piece of copper. A set of three 1 x 1 m units were placed in a line directly west of the main block excavation. These units were excavated to determine how accurate the shovel probe distributional data were. Finally, a portion of the OO horizon was excavated northeast form the block to follow out the palisade. This trench extended for 12 ms before work was terminated for the season.
Figure 2.12 Locations of excavations and positive shovel probes.
Figure 2.13  Block excavation 2002.
Excavation procedures for the 2 x 2 and 1 x 1 units followed the same procedures as in the year 2000. All features were excavated and sampled the same as in previous years. Laboratory procedures and flotation procedures also followed standard analyses at the UWM laboratory. However, the massive volume of feature fill that was brought back from the laboratory has not yet been fully processed. All of the material culture results discussed in the remainder of this report do not include flotation data, unless noted.

**Feature Analysis** --Chrisie L. Hunter, Anna Lampien, and Christina Zervic

Feature analysis is undertaken for a variety of reasons. The presence of features is an indicator of site integrity and is a direct correlation to prehistoric activity, allowing for reconstruction of prehistoric events (Binford 1970: 18, 41; McElrath et al., 1987: 33; Neumann and Sanford 2001: 15, 98,162). Just like artifacts, features are a cultural unit that provides valuable information about the people who created them (Neumann and Sanford 2001: 162). The analysis of features can provide information on cultural affiliation and chronology through the artifacts present in the features and structural differences that occur, which can sometimes be assigned to specific cultural periods (Flannery 1976: 6; Joukowsky 1980: 178; Kelly et al., 1987: 23; McElrath et al., 1987: 32; Neumann and Sanford 2001: 15). Furthermore, features may contain organic material that can be subjected to radiocarbon dating to provide a time frame of use (Joukowsky 1980: 180). Metric data obtained from feature analysis allows archeologists to make cross-cultural and site comparisons to gain a better understanding of prehistoric
behavioral patterns (McElrath et al., 1987: 32). Feature structure, function and spatial placement change through time and can be described as cultural development of behavior (Binford 1970: 16; Joukowsky 1980: 178). A detailed look at feature material and placement can provide information about subsistence, environment, seasonality, and artifact processing areas or activity areas, including the differentiation of utilitarian and specialized processing activities. Function of features, areas, and sites can lead to interpretations about prehistoric use of space, social and economic, and energy (e.g., the construction of houses) (Binford 1970: 41-42; Clarke 1979: 460-461, 469-470; Flannery 1976: 5, 34, 36-45; Kelly et al., 1987: 24). Moreover, the quantity and size of features can allude to duration and extent of use of the site by the inhabitants (Binford 1970: 61). Archaeologists can analyze the feature assemblage on a micro (within a site) or macro scale (between sites) depending on the research goal to better understand the behaviors discussed above (Binford et al., 1970: 22; Clarke 1979: 463-464; Flannery 1976: 36).

**Introduction and Methods**

A total of 61 features were identified in the field. Each feature was defined, photographed, and mapped in plan view. A trench was placed across the feature, in which two areas of the feature trench was then designated; feature fill and feature trench matrix (surrounding soil). By placing the trench across the feature, stratigraphic and structural information of the feature was obtained. The feature fill within the trench was bagged separately from the feature material not in the trench in case contamination from surrounding soil during feature bisection became an issue. This material was sent to the lab for flotation processing. The surrounding matrix within the trench was excavated in
10 cm arbitrary levels and screened through 6.3mm mesh screen and saved. This area was taken down 10 cm below the bottom of the feature in order to obtain accurate structural information of the feature. Approximately 1/3 to 1/2 of the feature was excavated within the trench. Once the feature was completely uncovered within the feature, a profile of the feature was mapped and photographed and soil information was obtained using Munsell charts. After excavation of the trench was complete, the remaining portion of the feature was basined and the feature matrix was then bagged and sent to the lab for flotation. Photographs of the basined feature were taken.

Flotation processing includes drying the feature matrix and then submersion into a FlotTech flotation machine for water separation. Light fraction and heavy fraction are collected and analyzed separately. To date only a few features have been completely processed and sorted. Analysis of the cultural material is currently being undertaken by graduate and undergraduate students under the direction of Robert J. Jeske.

In some cases, features were found to be natural instead of cultural during excavation, in which case excavation ceased (e.g., F02-24, F02-42) and no further mention of them will be given in the report.

Maps, field notes, photographs, Munsell charts and excavation forms were used to give a preliminary assessment of feature function (Figure 13). Some of the interpretations of features are preliminary until flotation and analysis of the material can be conducted. Further, only a limited area of the site has been excavated thus far, and
Figure 2.14  Munsell color/symbol key for features.
future excavation may change interpretations made in this report. Minor discrepancies
between plan view and profile Munsell readings are due to soil moisture, light conditions
and/or human error.

Features that were excavated have been given a preliminary volume estimate
until more accurate measurements can be obtained from flotation. Use of formulas was
based on feature shape. Figure is a key to the patterns used to differentiate soil and
cultural material.

<table>
<thead>
<tr>
<th>Feature Type</th>
<th>Volume Formula</th>
</tr>
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<tbody>
<tr>
<td>Portion of a cone</td>
<td>( V = \frac{H}{2}(a_1 + a_2) )</td>
</tr>
<tr>
<td>( a_1 ) = area of base ((\pi r^2))</td>
<td></td>
</tr>
<tr>
<td>( a_2 ) = area of surface ((\pi r^2))</td>
<td></td>
</tr>
<tr>
<td>( h ) = height (depth)</td>
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</tr>
<tr>
<td>Circular or elliptical basin</td>
<td>( V = 0.16\pi h(3ab + h^2) )</td>
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<tr>
<td>( a ) = maximum length of surface radius</td>
<td></td>
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<tr>
<td>( b ) = maximum width of surface radius</td>
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<tr>
<td>( h ) = height (depth)</td>
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<tr>
<td>Cylinder</td>
<td>( V = \pi r^2h )</td>
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<tr>
<td>( r ) = surface radius</td>
<td></td>
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<td>( h ) = height (depth)</td>
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Figure 2.15 Formulae for feature volume estimation (McElrath et al., 1987: 74).
*Feature F02-01* (Figure 2.16) was defined in unit 02-05, Level 02. In plan view this feature is a dark circular stain 190 cm in diameter. The boundaries are ephemeral, due to cultural modification and plowing. In profile the feature is a basin, extending 55 cm below Level 02. The southwestern border of the feature was overlapped by another feature, F02-32. This feature is divided into two zones. Zone 1 was a very dark grayish brown (10 YR 3/2) silt with a non-sticky texture, slight plasticity, and 15% mottling. Zone 2 is a very dark grayish brown (10 YR 3/2) silt with a very sticky texture, plastic, and 15% mottling. Broken pottery and faunal remains are copious suggesting the feature is a storage pit. A total of 533 liters of soil was processed for this feature.

Figure 2.16  Plan view and profile of F02-01.
Feature F02-02 (Figure 2.17) was defined in Unit 02-10, Level 01. It was seven sided in plan view with two rocks in the middle of the feature. It extended 45 cm east to west and 40 cm north to south. Profiling revealed a 44 cm deep, almost vertical walled pit. Soil samples taken indicate a very dark grayish brown (10YR 3/2) silty loam with 40% mottling of a dark yellowish brown color (10YR 4/4). There was also some light charcoal mottling near the top of the feature. Besides four large fire cracked rocks found within the top 20 cm on the south side of the feature, no other artifacts were found during excavation. Lack of cultural material in F02-02 and the overall shape suggests a large robust posthole, however flotation has not taken place yet. The total volume for this feature is 42.89 liters using an equation for a portion of a cone.

Feature F02-03 (Figure 2.18) was found in the western part of Unit 02-04 and the eastern part of Unit 02-03, Level 03. It extended 60 cm east to west and 67 cm north to south. Five areas were defined in plan view. Area A and B were a very dark grayish brown (10YR 3/2) silty loam with 2% mottling. Area A contained charcoal, one flake,
and one pottery sherd. It was later defined as a posthole, F02-26. Area B was concluded to be a rodent disturbance. Area C was a brown (10YR 4/3) silty loam with 10% mottling and poorly defined boundaries together with area D. Area D was a dark grayish brown (10YR 4/2) silty loam with 5% mottling which disappeared quickly. Area E was a very dark brown (10YR 2/2) silty loam with 2% mottling. Profiling revealed two shallow basins containing the matrix from areas E with distinct boundaries on top of area C. The rodent disturbance from area B is thought to have caused the pinching of this shallow basin leading to two smaller ones. The west basin was 4.5 cm deep, while the eastern basin was 6.2 cm deep. Area E yielded charcoal, bone and both shell and grit tempered pottery during excavation. No artifacts were recovered in area C. The amount of charcoal, artifacts and the oxidized soil from area C indicate that F02-03 was a possible hearth with many inclusions in it. Flotation is still pending. The total volume of this feature is estimated at 9.41 liters, using the circular basin formula.

Figure 2.18  Plan view and profile of F02-03.
**Feature F02-04** (Figure 2.19) was defined in Unit 02-03, Level 03. In plan view it is a 46 cm east to west and 38 cm north to south circle. In profile, it is a flat-bottomed shallow basin 13 cm deep, with step walls. The feature contained a very dark brown silty loam soil (10YR 2/2). There was a 2% mottling of charcoal but no other cultural remains were recovered during excavation. The conical shape and the presence of charcoal in this feature suggest a possible hearth or posthole although flotation has not been finished thus far. The volume for this feature is 18.01 liters using a cylindrical equation.

![Figure 2.19 Plan view and profile of F02-04.](image)

**Feature F02-05** (Figure 2.20) was defined in the SE corner of Unit 02-15 and the NW corner of 02-03, Level 03. Plan view showed a circular stain that extended 55 cm east to west and 47 cm north to south. The profile showed two features superimposed on each other. The top feature had a depth of 20 cm while the bottom one ran from about 20 cm to 40 cm below ground surface. The soil color of the top feature was a dark brown (7.5YR 3/1) silty loam with 15% mottling, while the bottom feature was a very dark gray (7.5YR
3/2) silty loam. The top feature contained no charcoal mottling, but included pottery and a small amount of lithics. The bottom feature contained little pottery. Area C was a concentration of fire-cracked rock contributing to the conclusion that the bottom feature could have been a posthole, while the top one was a basin built over it. Using a formula for an elliptical basin, the total estimated volume of feature F02-05 is 71.15 liters.

Figure 2.20 Plan view and profile of F02-05.

Feature F02-06 (Figure 2.21) was defined in Unit 02-03 as a diamond shaped stain on the top of Level 03 in the NW corner of the unit. The feature extended 32 cm east to west and 50 cm north to south and was 4 cm deep. Soil samples indicated a very dark grayish brown (10YR 3/2) silty loam with 5% non-charcoal mottling. The profile shows fairly straight edges on both sides. It has been interpreted as a posthole, but flotation is still pending. The total volume of F02-06 is 21.12 liters using a cylindrical equation.
Feature F02-07 (Figure 2.22) was identified in Unit 02-03 on top of Level 03. It ran 62 cm north to south and extended from the west wall of the unit 60 cm to the east. The feature profile is an irregular sided, slanted basin that was 20 cm deep on the south side and 11 cm deep on the north side. Soil samples taken showed a very dark brown (10YR 2/2) silty loam with no mottling. One sherd and a flake were found during excavation. This feature is possibly a slanted posthole. Using a cylindrical equation to calculate volume, F02-04 is roughly 18.01 liters.
*Feature F02-08* (Figure 2.23) was found in Unit 02-03 on top of Level 03 in the SE quadrant. Plan view showed a circular discoloration in the SE quadrant of the level with a diameter of 30 cm. The feature profile is a cone, 17 cm deep. Soil color is dark brown (10YR 3/3) silty loam with no mottling. Two sherds of pottery were found 6 cm below ground surface. This feature is interpreted to be a posthole. Using a circular basin formula, soil volume is anticipated to be 8.42 liters.

![Figure 2.23 Plan view and profile of F02-08.](image)

*Feature F02-09* (Figure 2.24) was defined in the NW quadrant of Unit 02-03, top of Level 03. In a circular shape it extends 26 cm east to west and 24 cm north to south. It is a shallow 3 cm below ground surface also. The soil is a dark brown (10YR 3/3) silty loam with no mottling. This feature was concluded to be a shallow posthole. Using a circular basin equation the volume for F02-09 is .72 liters.
Feature F02-10 (Figure 2.25) was discovered in the east half of Unit 02-04, Level 03. It runs out of the east wall 114 cm to the west and is 93 cm north to south. Profiling revealed a basin 18 cm deep. The soil was a very dark grayish brown (10YR 3/2) silty loam with 2% mottling. There were two bone concentrations in the top 3-6 cm. Other cultural materials from the pit were a high concentration of charcoal, some grit and shell tempered pottery, and a small copper adze or wedge (cf. Parkinson, this volume). Volume for this feature is 125.6 liters using a formula for a portion of a cone.
Feature F02-11 (Figure 2.26) was identified in Unit 02-01 Level 02. It protruded out of both the west and south walls. Because of the lack of time the unit was not expanded to include the entire feature. From the southern wall it ran 65 cm to the north. From the west wall it ran 58 cm to the east. It was also 35 cm deep. Due to the poorly defined edges the feature was excavated in a stepped configuration shown in figure 12. The soil from area A contained a black (10YR 2/1) silty clay loam with 2% non-charcoal mottling. Area B was composed of a very dark brown (10YR 2/2) silty clay loam with 15% charcoal mottling. Almost all of the cultural material was recovered in area A within the first 14 cm consisting of bone, lithic debris and pottery. Area B contained charcoal and fire cracked rock. The amount of charcoal and fire cracked rock lead to conclusions of a hearth where refuse had been deposited during or after use.

Figure 2.26 Plan view and profile of F02-11.
Feature F02-12 (Figure 2.27) was identified in Unit 02-01, Level 02. This circular feature spanned 100 cm east to west and 95 cm north to south. Profiling revealed a large symmetrical basin 43 cm deep. Soil from area A was a black (10YR 2/1) silty clay loam with 2% mottling. The bioturbation in area B of the profile was thought to have been caused by a rodent intrusion. Ceramics were found 25 cm below ground surface but no other artifacts were recovered. There was also a charcoal lens at the base of the feature that was covered by an ashy and greasy burnt soil. Because of the amount of charcoal and burnt soil found at the bottom of the feature and its circular shape, it is concluded that this was a hearth at one time. The total volume of this large basin is 193 liters, using the circular basin formula.

Figure 2.27 Plan view and profile of F02-12.
Feature F02-13 (Figure 2.28) was found in Unit 02-01, Level 02. It was 70 cm east to west and 100 cm north to south. Soil samples indicate very dark brown (10YR 2/2) silty clay loam with 5% mottling. This feature was not excavated.

![Figure 2.28 Plan view of F02-13.](image)

Feature F02-14 (Figure 2.29) was defined within Unit 02-01 in Level 02. This circular stain had a diameter of 12 cm and went 8 cm deep with 90-degree walls. Soil taken from the feature showed a very dark brown (10YR 2/2) silty clay loam with 2% mottling. No cultural material was found during excavation, but the feature fill was bagged for flotation. Currently it is determined to be a posthole. The total volume for F02-14 is 0.905 liters using a cylindrical equation.

![Figure 2.29 Plan view and profile of F02-14.](image)

Feature F02-15 (Figure 2.30) was in Unit 02-01, Level 02 as a circular stain in the NE quadrant of the unit. East to west it ran 13.2 cm and 12 cm north to south. Profiling
exposed a shallow sloped basin 6 cm deep. Soil was a very dark brown (10YR2/2) silty clay loam with 2% non-charcoal mottling. No cultural material was found during excavation. This is concluded to be a posthole. Volume for this feature is approximately .467 liters, using the circular basin formula.

\[ \text{Volume} = \pi \times \left( \frac{d}{2} \right)^2 \times h \]

where \( d \) is the diameter (10 cm) and \( h \) is the depth (6 cm).

\[ \text{Volume} = \pi \times \left( \frac{10}{2} \right)^2 \times 6 \approx 46.7 \text{ liters} \]

Feature F02-16 (Figure 2.31) was defined in unit 02-08, Level 03. A single dark stain 14 cm in diameter was mapped in plan view, due to time constraints it was not excavated. This feature is interpreted as a posthole.

Feature F02-17 (Figure 2.32) was defined in unit 02-08, Level 03. A single dark stain 14 cm in diameter was mapped in plan view, due to time constraints it was not excavated. This feature is interpreted as a posthole.
Feature F02-18 (Figure 2.33) was defined in unit 02-08, Level 03. A single dark stain approximately 11 cm in diameter was mapped in plan view, due to time constraints it was not excavated. This feature is interpreted as a posthole.

Feature F02-19 (Figure 2.34) was defined in unit 02-08, Level 03. A single dark stain 13 cm in diameter was mapped in plan view, due to time constraints it was not excavated. This feature is interpreted as a posthole.
Feature F02-20 (Figure 2.35) was defined in unit 02-08, Level 03. It was a 9 cm diameter circle in plan view, and in profile was a narrow, tapered, asymmetrical basin that extended 39 cm below level. The feature fill was a black (10 YR 2/1) silt, with a volume of approximately 1.4 liters. This feature is interpreted as a posthole that is part of a linear grouping of postholes that run parallel to F00-42, remnants of a palisade.

![Figure 2.35 Plan view and profile of F02-20.](image)

Feature F02-21 (Figure 2.36) was defined in unit 02-08, Level 03. A single dark stain approximately 11 cm in diameter was mapped in plan view, due to time constraints it was not excavated. This feature is interpreted as a posthole.

![Figure 2.36 Plan view of F02-21.](image)
Feature F02-22 (Figure 2.37) was defined in unit 02-08, Level 03. A single dark stain approximately 11 cm in diameter was mapped in plan view, due to time constraints it was not excavated. This feature is interpreted as a posthole.

![Plan view of F02-22.](image)

Feature F02-23 (Figure 2.38) was defined in unit 02-09, Level 02. A large dark circular stain 165 cm in diameter was defined in plan view. In profile the feature is a deep basin that extends 70 cm below Level 02, with a volume of 878 liters, using the circular basin formula. Feature fill is a very dark grayish brown (10 YR 3/2) silt. In the southwest portion on the surface of the feature there is a large rock in place and in the northeast portion, F02-31 was defined as a separate shallow basin that extends beyond the eastern boundary of F02-23. Charcoal and cultural material was encountered throughout the intact feature (Zone A). Zone B (10 YR 4/4, dark yellow brown) is a rodent burrow that was relatively fresh. Decomposing fibers and part of the skeleton of the rodent were recovered from this zone.. The concentration of decomposing burrow material was bagged separately from the rest of the feature and will be floated to recover any cultural material. This feature is tentatively interpreted as a storage pit, based on the recovery of ceramics and lithic debris and tool.
Feature F02-25 (Figure 2.39) was defined in unit 02-08/09, Level 03. The feature is 75 cm in diameter and is circular in plan view. The profile is a shallow basin, 17 cm in depth, with asymmetrical boundaries and with a volume of 38 liters. Feature fill was dark grayish brown (10 YR 4/2) silt with 45% grayish brown (2.5 YR 5/2) silt mottling, and 15% charcoal mottling. The feature contained chert debris, FCR, burned soil, and bone. This feature has been interpreted as a hearth and an associated post.
Feature F02-28 (Figure 2.40) was defined in unit 02-04/02-11, Level 03. The feature is 145 cm in diameter and is circular in plan view and a symmetrical basin in profile. The feature extends 65 cm below Level 03 and has a volume of 653 liters, using the circular basin formula. The feature fill is a very dark grayish brown (10 YR 3/2) silt with some charcoal mottling. At the surface of the feature, a broken copper tool, possibly the remains of an awl or fishhook was recovered. Pottery was recovered throughout the feature and at the bottom of the basin, a large rock was found in situ. This feature has been tentatively interpreted as a storage pit, based on the broken cultural material present.

Figure 2.40 Plan View and Profile of F02-28.

Feature F02-31 (Figure 2.41) was defined in unit 02-09, Level 03. This feature was found in association with F02-23. This features eastern boundary extends into the eastern wall of the unit and due to time constraints was not completely uncovered. The semi-
circle stain is 27 cm across with a profile of a shallow basin that extends 28 cm below Level 03, with an approximate volume of 22 liters, using the circular basin formula.

There are three zones that compose this feature. Soil in Zone A is a very dark grayish brown (10 YR 3/2) silt, with light charcoal mottling and distinct boundaries. Zone C is a very dark grayish brown (10 YR 3/2) silt with diffuse boundaries and light charcoal mottling. Zone D is a very dark gray (10 YR 3/1) silt with diffuse boundaries and light charcoal mottling. Zone B is the subsoil (10 YR 4/4), dark yellowish brown, silty clay surrounding the feature. The boundaries for this feature is complicated by the overlapping nature of F02-23. Pottery was recovered from the vicinity of the overlap and may have come from F02-23.

Figure 2.41 Plan View and Profile of F02-31.
Feature F02-32 (Figure 2.42) was defined in unit 02-05, Level 02. It was a circular stain 135 cm in diameter, and in profile it was a moderately deep basin, extending 56 cm below Level 02, with an approximate volume of 460 liters. The western border was disturbed by bioturbation. The eastern border of the feature was diffuse due to its overlap with F02-01. The feature fill was divided into three zones. Zone 1 was a very dark grayish brown (10 YR 3/2) silt with slight plasticity, 15% mottling and 2% charcoal mottling and a gradual boundary. Zone 2 feature fill was also a very dark grayish brown (10 YR 3/2) silt that was plastic, had 15% mottling and 2% charcoal mottling and a gradual boundary. Zone 3 was a rodent disturbance and was a black (10 YR 2.5/1) silt that was plastic and had clear boundaries. This feature contained large quantities of faunal remains and pottery, and is interpreted as a storage or processing pit.

Figure 2.42 Plan View and Profile of F02-32.
Feature F02-33 (Figure 2.43) was defined in unit 02-10, Level 02. The feature was a circular stain 9 cm in diameter. In profile it is narrow and tapered, extending 16.5 cm below Level 02, with a volume of 2.6 liters. The feature fill was a reddish black (2.5 YR 2.5/1) silt with heavy brown (10 YR 4/3) mottling. This feature is a posthole

![Plan View and Profile of F02-33](image)

Figure 2.43 Plan View and Profile of F02-33.

Feature F02-34 (Figure 2.44) was in unit 02-10, Level 02. The feature is a semi-circular stain extending from the western wall of the unit. It is 36 cm across and in profile it is a shallow, asymmetrical basin that extends 10 cm below Level 02, with an approximate volume of 4 liters. The feature fill is a dark grayish brown (10 YR 4/2) silt with charcoal mottling. One pottery sherd was recovered in excavation. This feature is interpreted as a shallow basin of unknown use.

![Plan View and Profile of F02-34](image)

Figure 2.44 Plan View and Profile of F02-34.
Feature F02-40 (Figure 2.45) was defined in units 02-02/02-15/02-16, Level 03. The feature is oval in shape, with a diameter of 1 m. In profile it was an asymmetrical shallow basin that extends 35 cm below Level 03, with an approximate volume of 220 liters. Feature fill was a very dark grayish brown (10 YR 3/1) silt with charcoal mottling. This feature contained copious amounts of widely distributed, large and small pottery sherds, ceramic concentrations, faunal remains and one Madison Point. It is tentatively interpreted as a storage or cooking pit.

Figure 2.45  Plan View and Profile of F02-40.
Feature F00-42 (Figure 2.46) was defined in the 2000 excavations as a wall trench. Excavations this year focused on defining the extent of this feature to determine if one or more wall trenches existed in this portion of the site. It has been determined this feature is a palisade wall based on the length of the wall trench uncovered and the structure of the trench itself. After cross-sectioning the trench, postholes were found at set intervals down the center of the trench. The trench is 20 cm wide and extends 10 cm below Level 03 in units 02-08, 02-15, 02-02, 00-08, and 00-09. The feature fill is a very dark grayish brown (10 YR 3/2) silt. The postholes are set approximately 36 cm apart and extend 39 cm below Level 03. A plan view diameter measurement for postholes in this feature is not possible due to the same soil matrix of both post and wall trench, but an estimate of 15 cm is based on the profile view. Towards the end of field season, this feature was followed out by excavating a 50 centimeter wide trench beyond the units to identify the length and direction in which the palisade wall would turn. Unfortunately, time ran out and our goals were not met. However, approximately 15 meters of the wall trench was uncovered. Future excavation of this feature to determine length and direction the wall will continue in 2004.
Figure 2.46  Plan View and Profile of F02-42.
Feature F02-43 (Figure 2.47) was defined in Unit 02-01, Level 02. This feature was a circular stain of dark soil at the southeast corner of the unit. In plan view, it measured 100 cm by 65 cm and in profile it measured 127 cm wide and 67 cm deep. The soil was dark brown (10YR 2/2), with lighter soil (10YR 3/4), (possible rodent disturbance) through a small part of the feature. All the soils had a silty loam, were slightly sticky, granular, and 1%-2% mottling. This feature was interpreted as a basin. Pottery and charcoal were found in excavation. Plan view on right, profile on left.

Figure 2.47 Plan View and Profile of F02-43.

Feature F02-44 (Figure 2.48) was defined in Unit 02-04, Level 01. This feature was a 10 cm diameter circular stain. In profile, it was a cone 12 cm wide and 20 cm deep with a total volume of .911 liters. The soil was very dark grayish brown (10YR 3/2), silty loam, was very sticky, very plastic, granular, with 3% mottling. Charcoal, a piece of pottery, and a biface tip were found. Plan view on right, profile on left. It is one of a series of postholes along the stockade trench.
Feature F02-45 (Figure 2.48) was defined in Unit 02-04, level 01. In plan view, this feature was a small round area darker than the surrounding soil and 10 cm in diameter. In profile, it was 21 cm deep and 10 cm wide. A total volume of 1030 cm was calculated. The feature was determined to be a posthole. The soil was very dark grayish brown (10YR 3/2 silt loam, which was sticky, plastic, granular and had 3% mottling. No cultural material was found in this feature. Plan view on right, profile on left.

Feature F02-46 (Figure 2.48) was defined in Unit 02-04, Level 01, near the west wall and angles slightly south. In plan view it is oval, approximately 17 cm x 12 cm. It measures 10 cm wide by 35 cm deep and had a total volume of 1.717 liters. The feature fill was a very dark grayish brown (10YR 3/2) silt loam, with a slightly sticky consistency, plastic, granular structure, and had 2% charcoal mottling. The plan view is on the left, the profile is on the right. It is one of a series of postholes along the stockade trench.

Figure 2.48  Plan View and Profile of F02-44, F02-45 and F02-46.
**Feature F02-47** (Figure 2.49) was defined in Unit 02-04, level 01. In plan view, this feature was a 10 cm diameter, circular, darker soil located on the east wall of the unit, next to feature 02-44. In profile, it is 16 cm deep and 10 cm wide. It had a total volume of .685 l. It was a very dark grayish brown soil (10YR 3/2), like feature 02-44 and 02-45. This feature, interpreted as a posthole, may be a double post hole, with F02-44. The soil was a silty loam, slightly sticky, plastic, and granular with no mottling. No cultural remains were found.

![Figure 2.49 Plan View and Profile of F02-47.](image)

**Feature F02-49** (Figure 2.50) was defined in Unit 02-01, Level 02, and only defined in profile. It is 35 cm wide and 25 cm deep at the southeast most part of the feature. At the east most part of the feature, there is what appears to be a posthole that extends down another 20 cm.

![Figure 2.50 Plan View and Profile of F02-49.](image)
**Feature F02-52** (Figure 2.51) was defined in Unit 02-02, level 01. Only a profile is supplied, it was 14 cm wide and 10 cm at its deepest with a total volume of 128 cm. It is an apparent posthole just 2 cm west of trench F00-42, and is in line with post holes from adjacent North units. The posts were spaced from 30 cm to 65 cm along the west side of the trench. This feature had very dark brown (10YR 2/2), silty loam, and was slightly sticky, plastic, and granular with no mottling. Charcoal and burnt soil were found.

![Figure 2.51 Profile of F02-52.](image)

**Feature F02-54** (Figure 2.52) was in Unit 02-08, level 03. This feature is interpreted as a posthole within the palisade wall; part of a linear series of postholes extending below the trench. The feature is 35 cm by 24 cm in plan view; in profile it is 43 cm deep by 35 cm wide. The total volume is .95 liters. The soil is very dark grayish brown (10YR 3/2), with a silty loam, was non-sticky, non-plastic, granular, with very heavy mottling, and had a pH of six. No cultural materials were found. The profile is on the left and the plan view is on the right.

![Figure 2.52 Plan View and Profile of F02-54.](image)
Feature F02-55 (Figure 2.53) was defined in Unit 02-08, level 03. Only a plan view is included for interpretation is 70 cm in diameter. This feature was not excavated.

![Plan View and Profile of F02-55.](image)

Figure 2.53 Plan View and Profile of F02-55.

Feature F02-56 (Figure 2.54) was defined in Unit 02-04, level 01. The feature was located at the bottom of F02-10 like postholes 26, 44, 45, 46, and 48. In plan view, it is a dark, circular stain with a diameter of 5 cm; in profile, it has a flat floor and straight walls, with dimensions of 7.5 cm wide and 5.5 cm deep with a total volume of 156 cm. The soil was a very dark grayish brown (10 YR 3/2) silty loam, slightly sticky, plastic, granular, with no mottling. Charcoal, one pot sherd, and one piece of chert were found.

![Plan View and Profile of F02-56.](image)

Figure 2.54 Plan View and Profile of F02-56.
Feature F02-57, 58, 59, 60 (Figure 2.55) were defined in Unit 02-08, level 01. They were not excavated but were mapped in plan view. In plan view, Feature 02-57 was circular shape with a diameter of 12 cm, F02-58, was circular and 15 cm in diameter, F02-59 was circular about 15 cm in diameter and F02-60 was circular with a diameter of 15 cm. They are part of a series of postholes on the east side of the palisade wall.

Figure 2.55 Plan View of F02-57, 58, 59 and 60.

Feature F02-61 (Figure 2.56) was defined in Unit 02-09, level 01. This feature was not excavated and only includes a plan view of a circular shape with a 10 cm diameter. It was interpreted to be a posthole found along side F02-09 at a depth of approximately 48 cm. It is part of a linear series of postholes running through the palisade trench, F00-42.

Figure 2.56 Plan View of F02-61.
Feature **F00-48** (Figure 2.57) was defined in Unit 02-03, Level 01. Most of this feature was excavated in Unit 00-07 during 2000, so in 2002 only a profile was done. The feature appears to be a storage pit with measurements of 28 cm deep and 11 cm wide. It was located on the west wall of 02-03. The feature was black (10 YR 2/1), with a silty loam, slightly sticky, very plastic, granular, and 35% mottling. No cultural remains were found.

![Plan View of F00-48](image)

Figure 2.57 Plan View of F00-48.

Feature **F00-11** (Figure 2.58) was defined in Unit 02-09, Level 01, and was a continuation of a feature excavated in unit 00-09 during 2000. In plan view, it is 80 cm wide and 20 cm deep. The feature matrix was a very dark grayish brown (10YR 3/2), silty loam, non-sticky, slightly plastic, granular and no mottling with a pH of 5.2. There were high concentrations of charcoal within the feature, some small bits of bone, and one pot sherd. The feature was probably a wild rice threshing pit.

![Plan View of F00-11](image)

Figure 2.58 Plan View of F00-11.
Feature F00-17 (Figure 2.59) was defined in Unit 02-01, Level 02. It is interpreted to be a storage pit. In the feature, there were several pieces of pottery, including one large rim sherd (17 cm) with punctate-filled incised chevrons. Several flakes were also found. The profile is a basin and measurements were 68 cm wide and 26 cm deepest. In plan view, measurements were 55 cm deepest and 70 cm wide. Soil was very dark brown (10YR 2/2), silty clay loam, slightly sticky, slightly plastic, granular, and 5% mottling.

Figure 2.59  Plan View of F00-17.

Lithic Analysis—Robert J. Jeske and Louise Lambert

Stone tools  The sample size of lithic tools from the 2003 excavations is very small, with only 15 shaped tools (Tables 2.1-2.4). The small number must be recognized as an artifact of the small amount of material actually screened. Since only 16 square meters of 00 level material was screened, it is not unexpected that few stone tools were recovered. However, the complete 01 and 02 levels of the units were screened, for additional a total of approximately 41 square meters. Although flotation analysis, when completed, will
certainly add to the total number of tools, it is clear that the 2003 lithic data follow the
trends in low density seen in the 2000 and 1998 excavations.

All but two of the tools are made from locally available Prairie du Chien or Platteville
cherts, while two are made from quartzite, which appears to be Hixton. Raw material
quality is quite good for an Oneota site. Nearly half the assemblage is bifacial in form,
including six Madison Triangular points. The other biface has a steep edge angle and is
probably a scraper. Of the bifaces, two were considered to be medium and the other five
were considered to be highly refined. Three typical Oneota humpback or thumbnail
scrapers were recovered and two other tools also had steep edges that probably allowed
them to function as scrapers. The 50/50 ratio of triangular points to scrapers is more like
what one might expect from later Oneota sites, but the small total number of tools makes
this result insignificant. A total of 46% of tools were found broken, and there is no
evidence of reworking on any of the tools.

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Debitage Analysis—Robert J. Jeske and Louise Lambert

As with stone tools, the amount of debitage will increase significantly as flotation is completed. From screened context however, a total of 701 flakes were recovered and analyzed. The flake characteristics are consistent with previously recovered materials from the site (cf. Lambert 2000; VanBeckum and Jeske 2000). Overall, the majority of flakes are roughly split between hard hammer flakes and bipolar or flakelike pieces,
suggesting a significant amount of bipolar reduction may have taken place at the site (Table 2.5). Debitage is small: nearly 12% of flakes are smaller than 8mm, while only 12% are larger than 25mm (Table 2.6). Raw material, like tools, is overwhelmingly local chert and the quality of material is generally good--44% good, 25% fair (Tables 2.7-2.8). There is evidence for a large amount of heat alteration (38%), and most flakes have little to no cortex--72% have no cortex and 25% have less than 50% on their dorsal surfaces (Tables 2.9-2.10).

| Table 2.5 Debitage Form from Crescent Bay Hunt Club 2002 excavations. |
|---------------------------------|-----|-----|
| Type                           | Count | %   |
| Free hand flake                | 159  | 22.7|
| Bipolar flake                  | 6    | .9  |
| Flakelike                      | 194  | 27.7|
| Nontflake                      | 341  | 48.7|
| Indeterminate                  | 1    | .1  |
| Total                          | 701  | 100.1|

| Table 2.6. Distribution of lithic debris by Size Category, 2002 excavations. |
|-----------------|-----|-----|
| Size Category   | Count | %   |
| <8              | 81   | 11.6|
| 8mm to 12.5mm   | 167  | 23.9|
| 12.5mm to 25mm  | 368  | 52.6|
| Greater than 25mm | 84  | 12.0|
| Total           | 701  | 100.1|
### Table 2.7 Debitage Raw Material from Crescent Bay Hunt Club 2002

<table>
<thead>
<tr>
<th>Type</th>
<th>Count</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local cherts</td>
<td>692</td>
<td>98.8</td>
</tr>
<tr>
<td>Hinton Quartz</td>
<td>8</td>
<td>1.1</td>
</tr>
<tr>
<td>Quartz</td>
<td>1</td>
<td>0.1</td>
</tr>
<tr>
<td>Total</td>
<td>701</td>
<td>100</td>
</tr>
</tbody>
</table>

### Table 2.8 Debitage Raw material quality from Crescent Bay Hunt Club 2002

<table>
<thead>
<tr>
<th>Type</th>
<th>Count</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>308</td>
<td>43.9</td>
</tr>
<tr>
<td>Fair</td>
<td>176</td>
<td>25.1</td>
</tr>
<tr>
<td>Poor</td>
<td>213</td>
<td>30.4</td>
</tr>
<tr>
<td>Indeterminate</td>
<td>4</td>
<td>0.06</td>
</tr>
<tr>
<td>Total</td>
<td>701</td>
<td>100</td>
</tr>
</tbody>
</table>

### Table 2.9 Heat altered debitage from Crescent Bay Hunt Club 2002

<table>
<thead>
<tr>
<th>Type</th>
<th>Count</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present</td>
<td>266</td>
<td>37.9</td>
</tr>
<tr>
<td>Possible</td>
<td>50</td>
<td>7.1</td>
</tr>
<tr>
<td>Absent</td>
<td>345</td>
<td>49.2</td>
</tr>
<tr>
<td>Burned</td>
<td>39</td>
<td>5.6</td>
</tr>
<tr>
<td>Indeterminate</td>
<td>1</td>
<td>0.1</td>
</tr>
<tr>
<td>Total</td>
<td>701</td>
<td>99.9</td>
</tr>
</tbody>
</table>
Ceramic Description—*Robert J. Jeske*

Ceramic sherds recovered from Crescent Bay Hunt Club were extremely similar to previously recovered materials. A total of 1956 number of sherds were recovered from screened context, of which 1919 were body sherds and 37 were rim sherds. Rim sherds represented Carcajou and Grand River Plain types, as well as a possible new type, Crescent Bay Punctate (Figure 2.59). A large Carcajou Plain rim sherd yielded food residues that provide a calibrated radiocarbon date of A.D. 1240-1290 (Figure 2.59).

One difference in the 2002 excavations is that a total of 25 sherds, including 4 rim sherds number of Late Woodland Madison ware sherds were recovered from a single shovel probe and excavation unit on the east side of the site. The Late Woodland sherds, however, seem to be a very restricted occurrence in that portion of the site. The large amount of flotation that remains to be done will enlarge the total number of sherds that we will eventually report from the 2002 excavations.

<table>
<thead>
<tr>
<th>Amount of Cortex</th>
<th>Count</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>505</td>
<td>72.1</td>
</tr>
<tr>
<td>Less than 50%</td>
<td>176</td>
<td>25.1</td>
</tr>
<tr>
<td>50% to 99%</td>
<td>19</td>
<td>2.7</td>
</tr>
<tr>
<td>100%</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>701</td>
<td>99.9</td>
</tr>
</tbody>
</table>

Table 2.10. Distribution of lithic debris by Amount of Cortex, 2002 excavations.
Figure 2.60. Ceramics from Crescent Bay Hunt Club. Upper: Carcajou Plain, Lower: Provisional Crescent Bay Punctate.
Radiocarbon Dates

One radiocarbon sample was submitted to Beta Analytic Laboratory. The sample was taken from food residue on the surface of a Carcajou Plain rim sherd recovered from Feature F02-40 (Figure 2.59). Dr. Kathryn C. Egan-Bruhy of CCRG identified the material, which was subjected Accelerator Mass Spectrometry dating (Table 2.11).

The conventional age obtained is 750 ± 40, which provides a one-sigma calibrated date of A.D. 1240-1290 (two-sigma date of A.D. 1210-1300). The date fits squarely within the sequence obtained from previous excavations (Jeske 2000), and is consistent with expectations for a Carcajou Plain rim sherd.

<table>
<thead>
<tr>
<th>Feature</th>
<th>Lab # (Beta)</th>
<th>Material Dated</th>
<th>Conventional C14 Age</th>
<th>1 Sigma Calibration</th>
<th>Probability Distribution</th>
<th>2 Sigma Calibration</th>
<th>Probability Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>F02-40#</td>
<td>180695</td>
<td>Food Residue</td>
<td>750±40</td>
<td>AD 1240-1290</td>
<td>100</td>
<td>AD 1210-1300</td>
<td>.991</td>
</tr>
</tbody>
</table>

Analysis of the Crescent Bay Hunt Club Burials --Kathleen M. Foley Winkler and
Robert J. Jeske

During the 2002 field school excavations at the Crescent Bay Hunt Club (47Je904), a burial containing 3 individuals was uncovered in Unit 02-11, and was originally identified as a food storage pit based on a rounded plan view truncated as it extended into the west wall of the excavation unit. The feature portion within the unit was excavated and the feature mapped in the wall of the excavation unit (see field methods for standard excavation procedures on pit features). In profile, the feature also resembled a food storage pit. However, the broken ends of several poorly preserved leg bones, possibly human, were partially exposed in the bottom portion of the pit. The excavation unit was expanded to the west and excavated until the feature was completely exposed. The complete plan view of the feature indicated an elongated oval, and as the western portion of the feature was excavated, additional bones were uncovered, identified, and determined to be human.

The State Burial Office was consulted, as per Wisconsin Statute, and permission to examine the bones was given so that race, sex, and age could be determined. During this process, it became clear that more than one individual was represented in the grave. Dr. Leslie Eisenberg of the State Burial Office made a site visit and aided in examination and interpretation of the remains. In all, the remains of three individuals were identified in the single grave. Two other burials, discovered in the 1998 and 2000 field investigations but not excavated and recorded, were known to exist close to the triple burial and permission was granted to obtain information from these burials to aid in interpretation of
this portion of the site. Information concerning number of individuals, age, sex, overall health, cultural affiliation, and insights into the mortuary practices of the occupants of Crescent Bay Hunt Club were obtained (Table 2.12). Due to time constraints only one of the two other known burials (CBHC B00-01) was examined in 2002.

**Crescent Bay Hunt Club Burials**

*B02-01*

This burial contained three individuals (Table 2.12). Dirt was removed from around the bones to allow for identification and recordation. Because of the poor quality of bone preservation, the bones themselves were left in place as much as possible. Portions of the skulls and the mandibles of Individual 02-01 and Individual 02-02 were temporarily moved to allow for age and sex determination. After determinations were made, the skull and mandible were returned to their original position in the grave.

Artifacts recovered from the Feature 02-27 include a Madison Triangular point and 2 flakes, as well as shell tempered ceramic sherds. While they are associated with Feature 02-27, their shallow depth indicates that they are part of incidental fill and midden that covered the grave after it was filled. There were no grave goods or funerary items found in direct association with the bodies.
<table>
<thead>
<tr>
<th>Individual</th>
<th>Body Position/ Orientation</th>
<th>Remains Recovered</th>
<th>Age (years)</th>
<th>Sex</th>
<th>Overall Health</th>
</tr>
</thead>
<tbody>
<tr>
<td>02-01</td>
<td>Semi-flexed with the knees bent, tibias and fibulas located under the femurs. Oriented in a northwest-southeast direction, with the head towards the northwest.</td>
<td>All teeth except the right premolar, $P_1$. All cranial bones and joint surfaces recovered. Left and right clavicles, scapulas, ischium, ilium, acetabulum, and neural arch C1. Middle third diaphyses of all long bones. Distal and proximal epiphyses of the humerii and radii. Proximal epiphyses of the ulnas and femurs.</td>
<td>25-45</td>
<td>Male</td>
<td>Dental caries, abscesses, enamel hypoplasias, and a missing maxillary premolar (see left) lost premortem.</td>
</tr>
<tr>
<td>02-02</td>
<td>Oriented in a northwest-southeast direction with the head towards the northwest. The face points south. Lying on its back in the right arm of 02-01.</td>
<td>Left cranial bones and joint surfaces with the exception of the sphenoid, zygomatic, and palatine. Left clavicle, vertebral centrum, a few unsided ribs, an the middle third diaphyses of the left humerus, femurs, tibias, and fibulas. All deciduous teeth were present, as was the left molar, $M_1$. Unerupted left premolars, $P_1$ and $P_2$ were present.</td>
<td>6 – 9</td>
<td>N/A</td>
<td>Dental caries observed in left premolars, $p_1$ and $p_2$.</td>
</tr>
<tr>
<td>02-03</td>
<td>Oriented in a northwest-southeast direction, with the head towards the northwest. Positioned face down on the left shoulder of 02-01, with the left arm of 02-01 around it.</td>
<td>Left and right parietals, occipitals, maxillas, and palatines. Right premolar, $p_1$, canine, $c_1$, and incisor, $i_1$, as well as the right canine $c_1$.</td>
<td>0.5-0.75</td>
<td>N/A</td>
<td>Dental caries.</td>
</tr>
<tr>
<td>00-01</td>
<td>Oriented east-west with the head towards the west. The body is positioned on its right side with the face pointing south. It is tightly flexed.</td>
<td>Proximal epiphyses of left humerus and femurs. Diaphyses of all long bones, except the right humerus. Two unsided metatarsals and 4 unsided ribs. Three molars, right $M_2$ and two unsided, 1 unsided premolar, and the right incisor, $I_1$.</td>
<td>20-35</td>
<td>Male</td>
<td>Heavy dental attrition.</td>
</tr>
</tbody>
</table>
**Individual 02-01**

Individual 02-01 was in a semi-flexed position, on his back, with the knees bent and the tibias and fibulas folded under the femurs. The grave appears to have been dug too small to fit the body. He was positioned in a northwest-southeast orientation with his head propped against the northwest wall, facing southeast. The right arm was semi-flexed and was holding Individual 02-02; the left arm was also semi-flexed and was holding individual 02-03.

Skeletal remains for the adult, 02-01, included all of the cranial bones and joint surfaces. Post-cranial bones identified consisted of left and right clavicles, both scapulas, ilium, ischium, acetabulum, and neural arch C1. The ribs, though present, were very poorly preserved. The diaphyses of all long bones were identified, however, epiphyses were only accounted for in the humerii, radii, and proximally in the ulnas and femurs. The epiphyses for the left and right humerii and left radius were badly weathered or missing. The proximal epiphyses for the femurs were in poor condition as well. The hand and foot bones were not accounted for, although the feet are thought to be located under the femurs and long bones, as the legs of the individual were flexed. The missing carpals and phalanges of the hands were most likely lost to natural decomposition in the soil.
The sex of 02-01 is male. While the skull and pelvis are generally the best indicators of sex, the 02-01 pelvis was not in good enough condition to be used (Hollimon 2000; Maples 1994; Rhine 1998; Walsh-Haney 1999). The skull and circumferences of the femoral mid-shafts were used instead. The supraorbital margin of the frontal bone was blunt, the glabella and nuchal crest of the occipital are moderate, and the mastoid processes of the temporal bones were large, all of which are consistent with a male. The mandible had a squared eminence and a flared gonial angle; the width of the ascending ramus was 37 mm on the right, and 39 mm on the left; these characteristics are also consistent with a male identification. The midshaft circumference of the left femur was 90 mm, the right was 89 mm, which are also strong indicators that adult 02-01 was a male (Ruff 2000; Thomas 1995; White 2000).

The epiphyses, pubes, vertebrae, ilium, and ribs were unusable for age estimation, thus tooth wear and suture closure had to be relied upon for aging (Bennett 1993; Brothwell 1965, 1989; Loth 1989; Masset 1989; Mays 1998; Meindl 1989). While there are many difficulties associated with these two methods, the lack of suture closure and tooth wear suggests an age range of 25-45 (Cox 2000; Stewart 1979; Whittaker 2000).

Severe enamel hypoplasias, abscesses, multiple caries, and a missing maxillary premolar (lost premortem) demonstrate that this individual suffered long term nutritional stress and malnutrition (Larsen 1997; Milner and Smith 1990; Morse 1978; Williams 1994). A high incidence of dental caries is not unexpected in Native American populations eating a diet heavily reliant on carbohydrates such as maize and wild rice;
both of which have been recovered from features at Crescent Bay (Fisher et al. 1931; Hedman and Hargrave 1999; Ortner and Putschar 1981; Ubelaker 1980). Caries and tooth decay result from the fermentation of sugars from the carbohydrates during mastication and digestion. The simple sugars are acted upon by lactic acid-producing bacteria present in the mouth, which then dissolves the inorganic salts that compose enamel (Fisher et al. 1931). The extreme nature of the hypoplasias, caries and abscesses observed in Individual 02-01, however, suggest that more than a high carbohydrate diet adversely affected his overall health. It is highly likely that this individual was poorly fed and in bad health for much, if not all, of his life.

**Individual 02-02**

Individual 02-02 is a child. The bones were very poorly preserved. The body had been placed in a loosely flexed fashion on its right side, on top of Individual 02-01’s right torso, with the right arm of 02-01 laid across the shoulders of 02-02. The child’s head was oriented to the southwest.

Portions of the frontal, parietal, occipital, maxilla and mandible were in good enough shape to be examined. Post cranially only the left clavicle, vertebral centrum, a few ribs, and the middle third of the diaphyses of the left humerus, femurs, tibias, and fibulas were observed. All of the other bones were too badly weathered to be identified individually. All deciduous teeth were present, as were (developing but as yet unerupted) the two left premolars, $P^1$ and $P^2$, and the erupted left molar, $M^1$. Based on the presence of all the deciduous teeth, no erupted permanent canines or premolars, and presence of erupted $M^1$,
this individual is estimated to be approximately 6 to 9 years old (El-Nofely and Iscan 1989; Steele and Brothwell 1988). No sex determination was made for 02-02 as it virtually impossible to do so with infants and juveniles (Bass 1995; Bass et al. 1971; Buikstra 1976; Scheuer and Black 2000; Schwartz 1993).

Like individual 02-01, the child suffered from severe malnutrition. Dental caries were observed in the left premolars, p\textsubscript{1} and p\textsubscript{3}, and an abscess had already formed in the palatine process of the left maxilla.

**Individual 02-03**

The remains from individuals 02-03 were in very poor condition. The infant was placed face down on the upper left torso of 02-01, and the left arm of 02-01 had been placed over the infant’s body. The extremely thin and fragile cranial bones were crushed and subsequently molded around the adult’s left humerus and ribs. Only the left and right parietals, occipitals, maxillas, and palatines were observed and recorded. The right maxillary premolar p\textsubscript{2}, canine c\textsubscript{1}, and incisor i\textsubscript{2}, as well as the right canine c\textsubscript{1} were present. The age of this infant is estimated at 6-9 months (Bass 1995; White 2000). As was the case with 02-02, no attempt to sex the infant was made.

**Individual 00-01**

The second burial, B00-01, was discovered Unit 00-08 during the 2000 excavations (Mollet and Jeske 2000). The burial was identified when human teeth were discovered while profiling a food storage pit (F-00-15). F00-15 was located immediately adjacent to
a suspected stockade trench. The burial was not recorded in detail, but left as intact as possible, per instructions by the State Burial Office. The burial was at a depth of approximately 80 cm below datum at the bottom of the feature, which contained dark grayish-brown soil and some charcoal, burnt soil, and mottling. The burial was interpreted at the time as a body that had been disturbed by the digging of F00-15 or as a body that had been placed in the bottom of F00-15 when it was filled in with habitation refuse. No identifiable grave goods were associated with the burial.

Unit 00-08 was reopened during the 2002 excavations in order to document the stockade. Because of the nearby burial 02-01 and the lack of recordation in 2000, permission from the State Burial Office was sought and obtained to uncover and record B00-01.

As with B02-01, dirt was removed from around the bones, but bones were moved only to the extent necessary for identification and recordation. After dirt was removed from around the bones, it was apparent that Individual 00-01 was tightly flexed and positioned in an east-west orientation with the head towards the west. He was lying on his right side, with his face oriented to the south. The bones were in extremely fragile condition, and many were missing.

The skull was not complete, and all vertebrae were missing. Three molars, the right M² and two unsided, 1 premolar, and the right incisor I¹ were found. All of the roots were absent. The teeth were all worn but contained no caries. The few cranial bones
observed were reduced to powder stains or tiny fragments, as were the pelvis and sacrum. The proximal epiphyses were found for the left humerus and both femurs only. No distal epiphyses were recovered. The diaphyses for all long bones were recovered, with the exception of the right humerus. Two metatarsals and four ribs were identified. Carpals, metacarpals, and phalanges were either missing or reduced to stains.

The sex of the individual was determined to be male based on a left femoral midshaft circumference of 105 mm. The left humeral head was 50 mm in width. A femoral midshaft circumference over 90 mm is an excellent indicator that an individual is male (Bass 1995; Black III 1979; Ubelaker 1978). Age is based on dental attrition and is tentatively put at 20-35 years (Bang 1989; Brothwell 1989; Schwartz 1993).

Based on the pattern of missing bones, it appears that Individual 00-01 was originally buried in a grave, and subsequently disturbed by the digging of F00-15. However, it is still possible that the body may have been deposited in the base of F00-15, then disturbed by an animal. Although no definite bioturbation was noted in the excavation of F00-15, the dark soil matrix may have made a small animal burrow impossible to identify.

Two artifacts, a chert uniface and a small, shell tempered, smoothed-surfaced ceramic sherd, were near the body. The sherd was located in the top southwest corner of the grave feature. The chert uniface has a steep edge angle and is a typical thumbnail scraper, not uncommon in Oneota midden deposits. It was found near the legs bones of the individual. Several pieces of burned sandstone were also recovered near the body.
Because of the level of prehistoric disturbance, it is not clear if the sherd, scraper, and sandstone were associated with the burial of the individual or were part of the feature fill that was accidentally incorporated when the burial was disturbed.

**Mississippian Mortuary Practices**

There appear to be few, if any universal patterns to Upper Mississippian burial practices. The variation in Upper Mississippian mortuary practices makes it impossible to discuss a single mortuary program, although many Oneota burials share similarities with each other and with neighboring Langford tradition as well as Middle Mississippian burials. Oneota cemeteries in southeast Wisconsin are recognized as exhibiting an absence of mounds, interments within habitations, and few grave goods (Birmingham and Eisenberg 2000; Boszhardt 1994b). While the majority of burials are extended, they may also be flexed, semi-flexed, or bundled. Interments may be primary or secondary, and burials may be individual or multiple. They may be in habitation areas, below house floors, in garbage middens, removed from the community, or in natural knolls (Black III 1979; Charles 1995; Goldstein 1980; Harn 1994; Langford 1930; Overstreet 1995). Flexed, semi-flexed, and bundle burials are the most frequently observed, and occasionally multiple individuals are interred within a single burial (Hall 1962; Santure 1990a).

Upper Mississippian burials may contain grave goods such as shell spoons, ceramic vessels, and lithic tools, or be devoid of artifacts altogether (Barrett and Edwards 1933; Boszhardt 1994a; Goldstein 1995; Highsmith 1997). Among the historic Algonquian
tribes around Lake Michigan, fires were burned at the graveside for four days to guide the spirit of the deceased into the afterworld (Berres 2001; Brown et al. 1967). There is evidence for such burning at the Langford tradition Gentleman Farm site in the Upper Illinois River Valley (Brown et al. 1967), but no evidence of graveside fires was found at Crescent Bay.

There is little of the structure seen at Middle Mississippian mortuary sites. Burial of the dead in lines or groups and along axes, primarily in north-south orientations with the heads facing south, as described by (Goldstein 1980) for her Middle Mississippian samples does not exist at Wisconsin Oneota sites. The shape of Middle Mississippian graves may be round, rectangular, or oval and may be lined with either stones or logs (Goldstein 1980). Elaborate burials including charnel houses, large mounds, and sacred landscapes are seen at Middle Mississippian centers such as Cahokia and Aztalan (Barret 1930; Fowler 1997; Richards 1992). Inequality and hierarchies based on social rank and status, and sexual divisions are observed in the spatial organization and type of burials, and grave goods (Arnold and Wicker 2001; Brown et al. 1967; O'Gorman 2001). Few of these elaborations are seen in Oneota mortuary sites. Interestingly, one of the defining characteristics of southeast Wisconsin Oneota burials, the absence of mounds, is very different from contemporary neighboring Langford Tradition sites such as Robinson Reserve (Fowler 1952; Lurie 1992), Fisher (Langford 1927), Gentleman Farm (Brown et al. 1967), and Material Service (Bareis 1965), or at Illinois Oneota sites such as Norris Farms #36 (Milner et al. 1991).
Discussion of Crescent Bay Mortuary Program

The burials at the Crescent Bay Hunt Club appear to be representative of southern Wisconsin Upper Mississippian mortuary practices, such as we know. All of the individuals were typical of other Upper Mississippian burials in that they were primary interments buried in an underground cemetery, within a habitation area, and had few, if any grave goods.

Overall, poor preservation of the human remains from the Crescent Bay Hunt Club (47Je904) resulted in only a cursory study of the bones. It was, however, possible to establish that individual 02-01 was most likely a male between 25-45 years old. He had suffered severe malnutrition. The juvenile 02-02 was 6 to 9 years old and also displayed signs of dental decay. The infant associated with the first two diseased individuals was 6 to 9 months old. It is not clear if the infant suffered from malnutrition before its death. Individual 00-01 was approximately 25-30 years old, but so little remained of the body that it was not possible to determine if he suffered from any malnutrition. The teeth that were recovered showed moderate wear on the crowns, but no signs of severe dental defects.

Although no osteological evidence links the deaths of the individuals at Crescent Bay Hunt Club directly to violence, other aspects of the site do suggest that they died as a result of, or in the context of, a violent and unsettled social setting. The intergenerational pathologies exhibited at Crescent Bay indicates that the occupants experienced sustained stress, possibly environmental or epidemic, but also possibly from
external aggressors (cf. Milner et al 1991). The presence of a palisade wall at the site suggests that Crescent Bay occupants felt physically threatened by outsiders (Buikstra and Milner 1989; Milner and Smith 1990; Santure 1990b). The group burial of an adult, child and infant in a small grave near the palisade also indicates an unusual or unseemly cause of death. Violence or catastrophic disease may be implicated, and it is possible that these individuals were closely related.

The occupation at Crescent Bay coincides with the Middle Mississippian occupation of Aztalan, located 10 km to the north (Figure 2.60), and overlaps with the early and later occupations at Carcajou Point, five kilometers to the east on the shore of Lake Koshkonong. Crabapple Point is a historic site with an early Oneota component several kilometers to the southwest on the shore of Lake Koshkonong (Spector 1975). A number of researchers have suggested that the occupants of Aztalan forced an Oneota abandonment of the Lake Koshkonong region (e.g., Goldstein and Richards 1992; Overstreet 2002). Clearly the presence of people associated with Middle Mississippian culture did not result in the hypothesized hiatus in Lake Koshkonong occupation, but it is quite possible that subsistence territories around Lake Koshkonong were circumscribed at this time. Because of the threat of violence, the ability of Crescent Bay occupants to obtain enough resources to sustain themselves is unknown. A scenario of conflict-induced nutritional stress has been proposed for the occupants of the Oneota Norris Farms #36 site, which is contemporaneous with Crescent Bay and is in a similar cultural setting of being in the vicinity of Middle Mississippian sites—albeit in the Central Illinois River Valley (cf. Milner et al. 1991).
Figure 2.61 Radiocarbon dates, Crescent Bay Hunt Club and nearby sites.
Faunal data show that the occupants of the site were not taking advantage of terrestrial mammals in a significant fashion, but were eating large numbers of fish and turtles (Hunter 2002). In addition, ethnobotanical data indicate that there is a relatively low diversity of wild plant foods present in feature fill at the site, compared to other Upper Mississippian sites (Egan-Bruhy 2000; Hunter 2002). The lack of deer and of wild plant foods, coupled with the high reliance on locally available aquatic fauna, maize and wild rice suggest that Crescent Bay occupants may have been forced to exploit a smaller territory than necessary for the procurement of food.

Alternatively, it may be that the individuals in Burial 02-01 are not representative of the population at Crescent Bay. With no data on health from three of the five known individuals, and meager mortuary data of any other sort, the idea of a nutritionally stressed population at the site must remain a working hypothesis in need of testing. While the discoveries of the burials has lent some insights into the lives of the past inhabitants of Crescent Bay, the answers to many questions about the lives of the Oneota people on the shores of Lake Koshkonong still lay buried. The data we do have support the notion of intergroup hostilities and social disruption associated with disparate cultures occupying the region. Future research at the site will seek answers to these questions, and explore the role the Crescent Bay Hunt Club occupants played within the cultural and biological environment of the 13th and 14th century in southeastern Wisconsin.